

**INFLUENCE OF DIGITAL TRANSFORMATION STRATEGIES
ON PERFORMANCE AMONG PAINT MANUFACTURERS IN
KENYA**

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DECLARATION

I, Lawrence Maiteri Wanjihia, hereby declare that the MBA research project titled “Influence of Digital Transformation Strategies on Performance among Paint Manufacturers in Kenya” is my original work and has not been presented to any other institution, college or university for examination.



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SUPERVISOR'S APPROVAL

This research project prepared by Lawrence Maiteri Wanjihia titled “Influence of Digital Transformation Strategies on Performance among Paint Manufacturers in Kenya” has been submitted for examination with my approval as the appointed University Supervisor.



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DEDICATION

I wish to dedicate this research project to my father, the late Wilson Wanjihia Maiteri whose dedication and commitment towards my education instilled in me a passion to pursue knowledge and excellence. May his legacy live on.

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ABSTRACT

Digital transformation has been one of the most pervasive areas of concern for business leaders in the last decade. No organization or sector has been immune to the impact of digital transformation and consequently digital transformation has become a strategic priority as organizational leaders have set out to seize and harness it as a competitive advantage. Digital transformation in organization has been driven by advancements in technology like the universal reach and use of mobile telephony, cloud computing, advanced data analytics, artificial intelligence, blockchain technology and robotics. However digital transformation is not merely about technology but must be accompanied by a change of mind set, organizational practices and must be embedded in the overall organizational strategy in order to yield sustained improved performance of the organization. This study was anchored on the Diffusion of Innovations Theory and supported by Kotter's Theory on Change Management and Contingency Theory. The paint manufacturing industry has continued to experience growth for the last ten years attracting new entrants increasing the intensity of competition in this sector. The number of paint manufacturers in the country has increased significantly from ten players in 2005 to over seventy industry players in 2020. The major competitive strategy priorities pursued by paint industry players are cost reduction, quality, speed and innovation. The need to compete effectively coupled together with evolving consumer tastes and preferences, requirement to produce and distribute thousands of pigment colours and the high level of fragmentation in the paint distribution network have triggered digital transformation among paint manufacturers. Empirical review carried out revealed that while several studies have been undertaken to study the influence of digital transformation on performance of organizations in the country, none had been carried out in the manufacturing sector. The study undertook to investigate the extent of digital intensity and leadership transformation intensity among paint manufacturers and the influence this has had on their performance. This study employed a cross-sectional survey targeting all the 40 paint manufacturers identified in Nairobi County and its immediate environs. A questionnaire was utilized to gather primary data from employees of paint manufacturers and the data was then analysed using descriptive statistical techniques. The research established that digital intensity and leadership transformation intensity have a strong correlation with performance of paint manufacturers in Kenya and that 43.2% of the performance could be attributed to these two factors. The research study concluded that organizational change that is driven by the top leadership and is based on technological changes has a greater influence on the performance of paint manufacturers than simply deploying various digital technologies without an overarching and cohesive vision and leadership. The study recommended that paint manufacturers must continue to pursue strategic organizational changes and develop organizational capabilities in order to fully derive the benefits of the digital initiatives that have been put in place as this was established in the study to have more influence on the performance of paint manufacturers. The study is expected to be of immense value to industry practitioners undertaking digital transformation in their organizations. This study will provide insight for policy makers on the digital transformation strategies implemented effectively among paints manufacturers and provide guidance in formulation and implementation of policies that enable and support the manufacturing sector in the country. This research study recommends that case studies be carried out on some of the key paint manufacturers in the country to provide more detailed and elaborate information on their specific approaches to digital transformation and their effectiveness in producing the desired outcome.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Digital transformation has been one of the most pervasive areas of concern for business leaders in the last decade. One of the most significant challenges currently encountered by companies is the exploitation and assimilation of novel digital technologies. No organization or sector has been immune to the impact of digital transformation (Nadkarni & Prügl, 2021). Consequently digital transformation has become a strategic priority as organizational leaders have set out to seize and harness it as a competitive advantage.

Digital transformation refers to the changes in a company's processes, products, organizational structure and business model that are brought about when organizations adopt digital technologies (Hess, Matt, Benlian, & Wiesböck, 2016). According to a research undertaken in 2019 by Enterprise Risk Management Initiative of the North Carolina State University that surveyed top executives and board members representing organizations of different types and sizes, the top enterprise risk factor identified is the failure by established organizations to transform swiftly enough so as to effectively compete with younger companies and start-ups that were digital from their very onset.

While digital opportunities open up new frontiers and opportunities for organizations to improve the efficiency of their internal processes and enhance relationships with customers, they are not a guarantee of improved organizational performance (Tabrizi, Lam, Girard, & Irvin, 2019). Digital transformation is not merely about application of technology but must be accompanied by a change of mind set, organizational practices and must be embedded in the overall organizational strategy in order to succeed.

This study was anchored on the Diffusion of Innovations Theory and supported by Kotter's Theory on Change Management and Contingency Theory. The classic diffusion of innovation theory ascribes organizational usage of a new product to its characteristics (Rogers, 2003). Diffusion of Innovations theory is useful in understanding the factors that impact organizational adoption decisions as well as postadoption usage and impact with respect to digital technological advancements (Zhu, Dong, Xu, & Kraemer, 2006). The authors pinpoint the four most important innovation characteristics that impact adoption decisions in the context of digital transformation strategies as comparative advantage, compatibility, cost and security.

The study was based on the eight step model by Kotter (1996) that is one the most comprehensive models for organizational change. The model highlights the critical steps that must be implemented effectively for an effective organizational transformation to take place. The most successful organizations are those that are able to achieve the dual objectives of integration and differentiation (Lawrence & Lorsch, 1976). Organizations are open systems that interact with their environments and the chief concern of leadership must therefore be to identify and achieve the ‘best fit’ that balances the internal objectives to the requirements and demands from the external environment (Morgan, 2006).

1.1.1 Digital Transformation Strategy

Digital transformation is the organizational change brought about and forged by the broad and ubiquitous diffusion of digital technology. Digital transformation is moving organizations to adopt more organic and malleable structures to facilitate continuous adaptation (Hanelt, Bohnsack, Marz, & Antunes Marante, 2020). Organizational leaders must develop and implement strategies to improve operational performance as they encounter the challenge brought about by digital transformation and the requirement to compete effectively in the industries (Hess et al., 2016).

The most basic stage of digital transformation is digitization which refers to the conversion of the medium in which data is stored, transmitted and processed from analogue to digital by use of innovations in the field of digital technology. The second stage, known as digitalization, involves the use of digital technologies to improve efficiency of business processes. Digital transformation is a much broader concept than the first two and incorporates the entire organization and not just specific departments or processes (Bumann & Peter, 2019). Digital transformation involves the devising of new ways of undertaking business that generate additional revenue streams and value creation (Unruh & Kiron, 2017). Digital transformation occurs when new models of value creation and business processes restructure the economy. Digital transformation is a system wide shift that modifies organizational practices at a large scale.

The main technologies that have driven digital transformation include advancements in telecommunication technology leading to increased interconnectivity of devices, the universal reach and use of mobile telephony, cloud computing, advanced data analytics, artificial intelligence, blockchain technology, robotic and 3D printing (Verhoef et al.,

2021). The emergence of these digital technologies has reduced entry barriers, completely mutating the competitive landscape as global and relatively young players are now able to penetrate retail markets previously dominated by well-established traditional players. The emergence of digital technologies is also changing consumer behaviour in terms of decision making, their interaction with businesses as well as other consumers. Digital transformation is moving organizations to adopt more organic and malleable structures to facilitate continuous adaptation (Hanelt et al., 2020).

Digital transformation however is not about technology (Tabrizi et al., 2019) but about strategy. Strategy is the key driver of digital transformation and not technology (Kane, Palmer, Phillips, Kiron, & Buckley, 2015). Digital transformation should be directed by the overall organizational strategy, the firm must first define the strategic objectives and then decide on which digital assets and technologies to adopt. While the four growth strategies are applicable for digitally transformed firms, there are three additional growth strategies that are unique to these firms (Verhoef et al., 2021). Platform-based market penetration and platform diversification are growth strategies only available to digitally transformed companies enabling these companies to create growth in previously untapped markets with new product and service assortments.

Westerman, Bonnet, & McAfee (2014) identified three main areas where companies are undergoing digital transformation. The first area is in improving the manner in which customers interact and relate to the organization in order to enhance customer satisfaction and drive revenue growth and improve the company performance. Hanelt et al., (2020) established in their study that digital transformation increases connectedness between a firm and its customers leading to more customer focused and customer centric organizations enabling organizations to adopt quickly to changing and diverse customer needs. The second area identified in the transformation of operational processes. Organizations have deployed digital technologies to improve operational efficiencies, reduce costs, enhance worker interactions, improve product design and production processes that overall enable the organization to create value for its customers (Verhoef et al., 2021). Westerman et al., (2014) points out that companies are not only transforming how they work internally but also modifying the businesses and creating new business models altogether.

Peter, Kraft, & Lindeque (2020) identify seven action fields for digital transformation that are strategic in helping organizations to grasp the various dimensions in digital transformation. The strategic action fields can be distinguished into external and internal perspectives. External perspective strategic actions fields deal with the market and value creation and include selecting and executing new technologies, digital product development, customer centricity and cloud computing. Internal perspective strategic action fields focus on organizational leadership on digital transformation and process redesign. The last strategic action field is digital marketing that provides the critical connection the company value creation activities and the market.

1.1.2 Digital Transformation Maturity

Digital maturity consists of two main elements, digital intensity and leadership transformation intensity (Westerman, Tannou, Bonnet, Ferraris, & McAfee, 2012). Digital intensity refers to the extent of investments in technology undertaken by an organization to change its operations in terms of internal processes, how it engages its customers and other stakeholders and in the evolution of its business models. The study identifies leadership transformation intensity as the other key dimension of digital maturity and this refers the extent to which business leaders formulate and communicate a clear vision along with a coherent course of action along with alignment in the organization to support these objectives. A key finding from this study was that companies that had achieved digital transformation, that is, they had a high level of both digital intensity and transformation management intensity were 26% more likely to post better financial performance as compared to the industry average.

Firms that achieve digital maturity have sustained superior financial performance arising from improvements in product quality, lower costs due to improvements in efficiency of internal processes and superior customer service (Gurumurthy, Schatsky, & Camhi, 2020). The benefits are not limited to financial performance but also extend to the broad social responsibility like reducing impact to the environment and increasing diversity in the workplace. Gurumurthy & Schatsky, (2019) established in their study that firms with higher maturity of digital transformation were significantly more likely to perform better on leading financial parameters when compared to the industry average resulting from superior customer satisfaction, increased revenue growth and cost savings due to enhanced efficiency in internal processes.

Following, study that involved over 1,200 executive level organizational leaders, Schatsky (2020) established that organizations with higher digital transformation maturity were three times more likely to perform better than companies with lower digital transformation maturity. These companies reported levels of employee engagement and increased revenue growth. Kane (2017) emphasizes that business leaders must focus their thinking on digital maturity rather than on digital transformation as this will encourage a process approach and enable business leaders to direct their organizations to quickly adopt and compete effectively in an increasingly digital world.

1.1.3 Paint Manufacturing Industry in Kenya

The Kenyan construction industry reported annual growth rates of between 5% and 7% from 2015 to 2019 mostly driven by an increase in government expenditure on the infrastructure segment (Kenya National Bureau of Statistics, 2020). According to the report the total number of residential and non-residential buildings completed by the private sector in Nairobi County increased by 10%. The National Housing Corporation and the State Department for Housing initiated construction of 9,834 units in 2019 under the Affordable Housing pillar of the Big Four agenda of the Kenyan government. The paint manufacturing industry reported an 8.3% growth in 2019. The Kenyan market sales volumes in 2020 were projected to get to 91.5 million litres with a forecasted growth in 2021 to 125 million litres (Umidha, 2020).

The largest paint manufacturers in the country include Crown Paints, Basco Paints, Solai Paints, Kansai Plascon and Glory Paints (Thuita, 2019). Kansai Paints, a leading global corporation paint manufacturer based in Osaka, Japan entered the Kenyan market in 2017 following a successful acquisition of Sadolin Paints in 2017 indicating the vibrancy and attractiveness of the Kenyan paint manufacturing industry. The number of paint manufacturers in the country has increased significantly from 10 players in 2005 to over 70 industry players in 2020 (Rakesh, 2020). A vast majority of the paint manufacturers focus on the lower end products. Two players dominate the industry, Crown Paints and Basco Paints with Kansai Plascon and Solai aggressively attempting to increase their market share in the industry. The major competitive strategy priorities pursued by the majority of the paint industry players are cost reduction, quality and speed (Chomba, 2017). The study established the major order winners

influencing customer decision making in the paint industry as price, product quality, reliability, product availability and brand image. Innovation is a key competitive strategy being pursued by some of the industry players.

The residential sector accounted for 90% of the consumption in 2020 with the commercial sector accounting for only 10%. Crown Paint Ltd in particular has a network of over 1,500 retailers in the country (Rakesh, 2020). The retail sector in Kenya has a very high level of segmentation consisting of independent family-run businesses and is a high source of inefficiency (Berman, 2019). Fuelled by the construction boom, the number of hardware stores in urban areas across the country have proliferated (Construction Review Online, 2015). These small sized entrepreneurs have progressively been able to compete against larger distributors as they are located closer to construction sites, have limited operational overhead and have strong relationships with developers, masons, painters, plumbers and electricians. Consumer tastes and preferences are quickly evolving and this is key challenge for the industry as they have to produce thousands of hues and colours to offer customers a wide variety of paints.

1.2 Research Problem

Firms that have achieved a higher calibre of digital maturity have significantly better financial results than their industry counterparts with a lower level of digital transformation maturity (Gurumurthy & Schatsky, 2019). This is largely because these digitally mature firms possess unique organizational and digital capabilities that enable them to pinpoint and exploit new opportunities, expand into new income areas and respond swiftly to changing market trends and customer requirements. These clear benefits have made digital transformation strategies to be a top priority for many organizational leaders (Hess et al., 2016), however a vast majority of these transformation initiatives fail to achieve the intended objectives (Nadeem, Abedin, Cerpa, & Chew, 2018) highlighting the need for more studies in these field.

Digital transformation is impacting and disrupting a wide range of industries and in particular banking, medical healthcare, automotive, manufacturing and telecommunication (Nadeem et al., 2018). Mwangangi (2017) undertook a study to assess the impact that digitalization has had on the Kenyan banking industry. The main finding from the study was that there is a clear connection between the extent of digitalization and the financial achievement of the firm. The study however did not

highlight how the digitalization efforts were accompanied by leadership and organizational transformation.

Chege, Wanyembi, & Nyamboga (2020) highlight leading companies in Kenya that have undertaken digital transformation successfully having developed critical digital capabilities in terms of organizational talent and skills, enhanced business processes as well as cultural and leadership transformation. The definitive problem that business leaders face in Kenya is the lack of set of specific and coherent course of action to ensure that digital transformation drives sustainable growth and performance. The papers highlights nine Kenyan companies that had successfully undertaken digital transformation eight of which are in the telecommunication and financial services category and only one company in the manufacturing industry. There is need to further investigate the influence of digital transformation in the manufacturing industry in Kenya.

Digital transformation is not about technology (Tabrizi et al., 2019), neither is it limited to creating a separate digital division or channel in the organization it is about supporting the organization's broad ambition so as to achieve its vision (Kane, Palmer, Phillips, Kiron, & Buckley, 2016). Kenya has emerged as a leader in the African continent in terms of digital transformation, nevertheless the country lags behind in comparison to more economically developed countries in Asia and Europe (Banga & Velde, 2018). Kenyan policy makers should also aim to create digital capabilities and administer digital transformation in the manufacturing sector through targeted actions.

While there have been a lot of studies conducted on digital transformation in the financial services and telecommunications sector, there is a need to carry on the impact digital transformation is having on other sectors of the economy like manufacturing and building materials industry. The goal of this study was to single out digital capabilities initiated and developed by paint manufacturers. How do these initiatives support the business strategies and what influence have they had on their performance? This research also seeks to establish leadership and cultural transformations undertaken to bolster and support these initiatives.

1.3 Research Objectives

The key objectives of this study were as follows

- i. Investigate the degree to which paint manufacturers in Kenya have implemented various digital technologies to enhance customer engagement and improve on the efficiency of their internal processes.
- ii. Determine the extent to which paint manufacturers have undertaken leadership transformation and developed organizational capabilities to achieve digital transformation.
- iii. Ascertain the influence of digital transformation on the performance of paint manufacturers in Kenya.

1.4 Value of the Study

This study aimed to provide insight on digital transformation practices adopted by paint manufacturers in the country and the impact such practices have on performance. There have been few studies undertaken to ascertain the influence of digital transformation on the manufacturing sector and this study was aimed at filling that knowledge gap and provide future scholars and researchers with analysis and resources to facilitate their studies.

The study aimed to provide crucial insight to industry players on what are the critical factors that make some digital transformation initiatives succeed and some to fail. The research aimed to provide industry practitioners in Kenya undertaking digital transformation in their organizations with a contextualized framework to guide their digital transformation strategies and policies. The study aimed at providing insight to industry players on the organizational changes and policies that when undertaken together with investments in digital technologies make the organization more competitive resulting in a sustained superior performance.

This study will provide an understanding for policy makers on the digital transformation strategies that have been implemented effectively in the paints manufacturing sector and hence obtain guidance in formulation and implementation of policies that enable and support manufacturers in the country and improve the overall competitive position of the manufacturing sector in the country.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter outlined the academic work undertaken by scholars and researchers on the adoption and application of digital transformation strategy. The review sought to provide the theoretical framework and empirical studies that have led to the development and adoption of digital transformation strategies.

2.2 Theoretical Foundation

The theoretical foundation explores the theories that have been developed by various scholars that underpin the field of digital transformation strategies. The main theories selected by the researcher are diffusion theory of technology, Kotter's theory of change and Porter's generic business strategy.

2.2.1 Diffusion of Innovations Theory

This theory was popularized by (Rogers, 2003) and is rooted in the area of social sciences and behavioural changes. The theory posits how new ideas are spread in a population as different participants change their behaviour to adopt them. There are five main aspects of an innovation that enhance the degree of adoption of an innovation; observability, comparative advantage, testability, complexity and compatibility (Rogers, 2003).

Firms undergo five steps when pursuing a technological or organizational innovation which are, desirability, feasibility, testing, implementation and sustaining the innovation (Steiber, Alänge, Ghosh, & Goncalves, 2020). These five steps are influenced by factors such as the nature of the innovation itself and the internal and external context of the firm. The main finding from this empirical study was that the innovation diffusion theory provides an effective framework for identifying factors that accelerate or decelerate digital transformation of a firm.

2.2.2 Kotter's Eight Step Process for Creating a Major Change

Kotter (1996) described an eight step model to assist leaders in navigating and implementing organizational change in an effective manner. The Kotter model is one of the most widely used and recognized change management model (Pollack & Pollack,

2015). The eight step model has been described as a ‘structured linear step’ which necessitates that no step should be skipped for effective organizational change to take place. Pollack & Pollack (2015) in a case study carried out on an Australian financial company, established that in practice the application of the Kotter model is not a simple linear process where the whole organization undergoes major change in discrete steps, rather different sections and levels of the organization undergo iteration of changes causing overlaps in the various stages of the model. So while the process of creating the major change is linear, organizational leaders must be ready to direct and manage the complexity that results as different leaders and teams undergo the transformational steps at their own steps.

2.2.3 Contingency Theory of Management

The main ground of this theory is that there is no single and correct way of leading an organization or making decisions, rather the organizations must chart the way forward depending on their particular internal and external context. Morgan, (2006) states that organizations being open systems must strive to strike a balance between internal objectives and the external environment in which they operate. He further posits that this being the case, there is no one best way of organizational leadership but rather the chief occupation of leaders is to identify and achieve a ‘good fit’. This requires a variation in the approach of management to carry out different tasks within the organization. It also means that different types of environments will require different species of organizations. Where the disruption in the industry brought about by technological advancements and changes in market conditions a flexible and open organization is required (Burns & Stalker, 1994). They highlight in their study, that firms in the electronic industry where there is a high rate of change in the industry have tended to adopt an organic structure so as to decentralize decision making and encourage innovation at all levels of the organization as a way of achieving the best balance and compatibility between organizational needs and the external environment.

Organizations that operate in an external environment with high levels of turbulence and uncertainty need to effectuate a higher degree of internal differentiation than those that are relatively simple and stable (Lawrence & Lorsch, 1976). Their work was based on a comparative analysis of interviews of senior executives from six industrial organizations considered the extent of integration and differentiation within

departments and sections within the same organization. The study's conclusion was that the most successful organizations were those that were able to achieve the dual objective of integration and differentiation.

2.3 Digital Transformation Strategy

Digital transformation strategy has become a key area of focus for companies worldwide over the last decade. Business leaders globally are utilising digital technological advancements such as social media, data analytics, artificial intelligence and increased internet connectivity to transform how they conduct their business to compete in their respective fields (Bonnet & Westerman, 2020). Vial (2019) defines digital transformation as “a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies”. Digital transformation has been defined as the use of communication and information technology, that extends beyond incidental automation, but fundamentally new capabilities are created in business, public government, and in people's and society life (Reis, Amorim, Melão, & Matos, 2018). Digital transformation is the change in how organizations implement digital technologies, to develop new business models based on digital technologies that help build and appropriate more value for the firm (Verhoef et al., 2021).

There are three key areas where companies are undergoing digital transformation: customer relations, internal processes and business models (Westerman et al., 2014). The study further identified three building blocks within each of these elements. While there was no company sampled in the study that had undergone full digital transformation in each of the nine areas identified, rather business leaders selected the most suitable building blocks suitable for their companies in line with their overall objectives and strategy.

COVID-19 has accelerated the rate of digital transformation in business and organizations and this has increased the gap between those companies that have high level of digital mastery and competencies and that of competitors who have been slow to develop their digital capability (LaBerge, O'Toole, Scheinder, & Smaje, 2020). Companies that have been quick to adopt digital technologies have derived benefits by being able to respond quickly to the disruptions brought about by the COVID-19

pandemic (Rinker, Khare, Padhye, & Fayman, 2021). Further it was observed that the pandemic brought about an acceleration of digital transformation in large companies that had already invested in digital solutions as these were used extensively to address immediate challenges brought about by the pandemic. The authors also concluded that the pandemic triggered small and medium sized businesses to accelerate their adoption of digital transformation strategies just to be able to remain in business.

Margiono (2020) identified two contingent digital transformation paths that have been adopted by corporations. The first path which he terms as an ‘offensive path’ involves direct investments to build portfolios as well as use of mergers and acquisitions. The second approach identified by the study is the defensive path whereby digital transformation is obtained by the organic growth of technological competencies of the organization. Contingent factors that help determine the most effective strategy include availability of capital, extent of organizational inertia and degree of causal ambiguity (Margiono, 2020).

To achieve a sustained competitive advantage firms must secure control of resources that are value adding, difficult to replicate, rare and properly coordinated to secure value (Barney, 1991). As such, in order to compete effectively firms must invest significant resources in the developing and acquisition of digital assets that include both software and hardware to enable the firm to leverage against other resources under its control to create and harness value for its customers (Verhoef et al., 2021). The research paper further states that as markets become more unpredictable, firms must develop digital agility, which refers to the flexibility required by organizations to rapidly adopt to changing external environments and increased competition by reconfiguring and modifying existing digital assets, combining these with other available resources in order to exploit opportunities and mitigate threats presented the turbulent external environment.

Digital transformation opens up new avenues of growth previously not available, the most outstanding of which involves the utilization of digital platforms (Broekhuizen et al., 2021). Digital platforms are the infrastructure that enable increased communication and interactions between a firm and its suppliers, customers and other complementary service providers. (Verhoef et al., 2021) state the digital platforms have been the key drivers for exponential growth reported by digital firms owing to their scalability as

well as reinforcing network effects. The research study highlights three additional alternatives for growth for digitally transformed companies that are not available for less mature companies, these include platform-based market penetration, co-creation platform and platform diversification. Platform-based market penetration involves introducing existing products offered by third parties into a new market using an existing platform. Co-creation platforms are unique to digitally transformed firms and involve customers in the design, review and even creation of products and services. Platform diversification is a growth strategy that combines all the avenues unique to digitally transformed firms to build additional growth in previously unexplored markets with new products.

2.4 Digital Transformation Models

Vial (2019) undertook a study titled “Understanding digital transformation: A review and a research agenda” to comprehensively review available publications in order to build a conceptual framework and definition on digital transformation. The study was based on an inductive approach and involved an in depth review of 282 articles selected by use of keywords within a well-defined scope. There were eight building blocks that were identified from this study that build up a conceptual framework defining digital transformation. The study concluded that digital transformation comes about by advances in information and digital technology have brought about radical changes that in turn prompt strategic responses from organizations. These responses, whose objective is to modify how businesses create value, bring about organizational restructuring while addressing internal barriers have both negative and positive results.

A two dimensional digital maturity model was developed by (Westerman et al., 2014) based on digital intensity and management transformation intensity which was then used to survey more than 400 business executives in various industries. Though it is possible to define more than two dimensions of digital maturity, a two dimensional model has the advantage of having easy to understand graphic presentation (Remane, Hanelt, Wiesböck, & Kolbe, 2017). To assess the extent of digital intensity of an organization, the study considered the level of investment in digital technologies undertaken with respect to customer relationship management, internal operations and processes as well as modification of business models. The second dimension of digital maturity identified in the model was management transformation intensity. Parameters

utilized by the study to assess the extent of leadership transformation intensity included long term vision governance structures to steer and direct the future direction of the organization.

Firms that have achieved digital maturity, which is represented by the vertical axis in the chart, excel at generating more revenue on their existing assets compared to their peers who are less mature in terms of digital maturity. Digital intensity enables firms to increase their reach to the market and accomplish more with already existing investments in human and physical capital. On the horizontal axis, firms that have achieved a higher level of leadership transformation are more profitable as their clearly defined vision, strategies and governance structures position the company's resources and strengths to achieve the long term objectives. These firms are quick to cut out any activities that are contrary to the long term direction of the firm and instead channel resources to innovations and new opportunities to build on their long term goals. Firms that achieve both high maturity in terms of digital intensity and management transformation were found to be on average 9 - 26% more profitable than competitors in the same industry with average maturity levels.

2.5 Empirical Studies and Research Gaps

Ortstad & Sonono (2017) undertook a case study on the impact of digital transformation on customer relationship management for a large bank in Sweden. A descriptive design was used to analyse how the digital strategy has been deployed to enhance customer relationship management. Interviews were carried out with carefully selected managers and team members in the organization. The study established that while there had been strides in the digital transformation of the customer relationship management, there was poor integration with the rest of the organization limiting the effectiveness of the initiative.

Mwangangi (2017) investigated the effect of digitalization on commercial banks in Kenya. Her study utilized a descriptive research design in which 78 respondents at management level in banks across the various tiers were surveyed using questionnaires. The study established an increase in the extent of digitalization resulted in an increase in performance of the bank. The study however focussed on the technological aspects of digital transformation and did not take into account leadership transformation that

must accompany digital intensification to prevent it from becoming mere technological experiments that are far removed from the overall organizational objectives (Bonnet, 2020).

Murage (2002) studied the degree to which relationship based marketing strategies have been deployed to enhance brand loyalty of industrial consumers. 16 paint manufacturers participated in the study which established that only 50% of executives in the industry were aware of the concept of relationship marketing. The study however was carried out in 2002 and as such there is a need to study the impact of digital technologies in the paint industry.

Nyango (2012) studied the competitive strategies undertaken by Crown Berger to study so as to compete effectively in the Kenyan market. The study identified innovation, product pricing, supply chain flexibility and promotion as being the main battlefronts where players in the industry where there was intense competition. The study concluded that Crown Berger did not have a well-defined strategy but rather implemented a series of generic strategies.

Odera (2015) carried out a research on factors that contribute to increasing loyalty towards paint brands by contractors in Nairobi City County. The research was based on a descriptive cross sectional survey where 51 building contractors in Nairobi County responded. The study pointed out perceived quality, price and availability as being the most important factors influencing brand loyalty. The research however focussed on product related factors and did not take into consideration the extent of impact service related factors brand loyalty on which digital transformation strategies have the most impact.

Chomba (2017) undertook a study on order winners and competitive strategies implemented by Kenyan paint manufacturers. The research was based on a descriptive design that sampled 56 distributors and paint technicians. Order winners identified in this study were price, performance of the product, reliability and product information. The competitive priorities by the paint manufacturers included cost, quality and speed. The study did not highlight the means used by paint manufacturers to achieve the competitive priorities of cost, product quality and speed to market.

Table 2.1 Summary of Empirical Review and Research Gaps

Study	Methodology	Key Results/Findings	Research Gaps	Focus of Current Study
Impact of digital transformation on customer relationship management. Ortstad & Sonono (2017)	Case study involving a large bank in Sweden. Interviews carried out with middle and senior level managers.	Poor integration of digital technologies with the rest of the organization limited the effectiveness.	The study has not been undertaken in Kenya.	Focus on digital transformation undertaken by paint manufacturers in Kenya
Effects of digitalisation in commercial banks in Kenya. Mwangangi (2017)	Descriptive research design. Sample size 78 respondents at management levels in banks.	Increase in extent of digitalisation corresponded to an increase in performance of the banks.	The study focussed on the use of technologies and did not highlight the organizational transformation undertaken.	This study focused on organizational transformation undertaken paint manufacturers in Kenya.
Relationship strategies used to enhance brand loyalty of industrial customers. Murage (2002)	Descriptive research design. Sample size – 16 paint manufacturers.	Only 50% of executives were aware of the concept of relationship marketing.	The study was done in 2002 and as such did not highlight use of digital technologies.	This study focussed on organizational changes triggered by recent technological trends.
Competitive strategies adopted by Crown Berger Ltd. Nyango (2012)	Case study design. 37 Crown Berger employees interviewed across various levels in the organization.	Main competitive strategies included product innovation, cost effectiveness and supply chain flexibility.	Crown Paints Ltd and other paint manufacturers have since deployed digital transformation strategies that have not been studied.	The current study focussed on digital transformation strategies implemented by paint manufacturers in the country.
Factors that contribute to loyalty of paint brands in Kenya. Odera (2015)	Descriptive cross sectional survey design that reached to 51 building contractors.	Perceived quality, price and availability were the main factors.	The study did not consider service related factors where digital transformation has the most impact.	This study focused on digital transformation strategies implemented to improve customer relationship management.

Source: Researcher (2021)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter set out to outline the research technique and process that was utilized in achieving the research objectives. The chapter outlined the research design that was put into use in this study as well as defining the target population and sampling design. This chapter also looked at the means that were used for data collection and outlined how data analysis was carried out.

3.2 Research Design

This research project employed a descriptive research design to investigate so as to obtain answers to the research problems. Cooper & Schindler (2014) state that this is the research design to be used in formal studies where research questions have been precisely stated and involves clearly defined procedures and specifications of data sources. A cross-sectional survey was utilized in this study to identify the digital technologies deployed by paint manufacturers in Kenya, the extent that these technologies have been integrated to the overall business strategies and the degree of organizational transformation undertaken and the impact of all this to the overall performance of the organization.

Ochola (2015) employed a similar research design while undertaking a research study into foreign market entry strategies that have been adopted by paint manufacturers in Kenya. Cooper & Schindler (2014) indicate that budget and time constraints dictate the utilization of cross-sectional research designs.

3.3 Population of the Study

Cooper and Schindler define the population as the people, records or events that possess the pertinent information and can explain the measurement questions. Although there are over 70 paint manufacturers in the country (Rakesh, 2020), there are five major players that dominate the industry that include Crown Paints, Basco Paints, Solai Paint, Kansai Plascon and Glory Paints (Thuita, 2019). The target population for the research study were those paint manufacturing companies located in Nairobi County and its immediate environs.

3.4 Sample Design

The study targeted to survey all the paint manufacturers located in Nairobi County and its immediate environs where there has been a proliferation of paint manufacturers targeting the high growth rates in the construction sector in this urban region. The study targeted to reach a total of 40 paint manufacturers located in Nairobi County and its immediate environs. (Kothari & Garg, 2014) state that a properly selected sample size that is greater than 30 will closely depict the population parameters.

3.5 Data Collection

This study utilized primary data that was gathered from paint manufacturers in located Nairobi County using questionnaires. The questionnaire was made up of a list of structured questions and incorporated the use of a five point Likert-type scale that enabled collection of data on the extent of digital transformation practices and the influence these practices have had on performance. The target respondents for collection of the primary data were the staff and management of paint manufacturers.

3.6 Operationalization of Variables

Table 3.1 Operationalization of Variables

Variable Name	Indicator / Dimension	Measurement	Measurement Scale	Data Collection Tool	Data Analysis
Digital Intensity	Extent of use of digital technologies, Investments in technology.	Likert	Interval	Questionnaire Section B	Descriptive Statistics
Leadership Transformation Intensity	Policies and strategies, Training & Empowerment, Organizational preparedness.	Likert	Interval	Questionnaire Section C	Descriptive Statistics
Performance	Customer satisfaction, New products and services Revenue growth, Growth in Profitability.	Likert	Interval	Questionnaire Section D	Descriptive Statistics

Source: Researcher (2021)

3.7 Reliability and Validity Tests

Reliability and validity tests are measures that are put into use to assess the quality of the research instrument that is used to collect data. They are the most critical indicators that are put into use to evaluate the appropriateness, dependability and correctness of the research tool that has been developed for the purpose of data collection.

3.7.1 Reliability of the Research Instrument

Reliability refers to which the results arising from the research study can be replicated if the study is conducted afresh under similar conditions. This is an important check to test the consistency of the research instruments to yield the similar outputs over a period of time as well as across several units of observation.

This study utilized the Cronbach's Alpha to evaluate and assess the internal consistency of the questionnaire that was utilized for the study. A Cronbach's Alpha coefficient that is within the values of 0.7 to 0.9 is considered to be sufficient (Cooper & Schindler, 2014). This research study therefore adopted a Cronbach's Alpha value of 0.7 as the minimum acceptable to ensure an acceptable level of reliability for the questionnaire.

Table 3.2 Cronbach's Alpha Reliability Coefficients

Variable Name	Indicator / Dimension	Cronbach's Alpha Coefficient	Number of Items	Decision
Digital Intensity	Extent of use of digital technologies, Investments in technology.	.759	16	Reliable
Leadership Transformation Intensity	Policies and strategies, Training & Empowerment, Organizational preparedness.	.873	8	Reliable
Performance	Customer satisfaction, New products and services Revenue growth, Growth in Profitability.	.913	8	Reliable

Source: Field Data (2021)

The research instruments was therefore deemed to be internally consistent.

3.7.2 Validity of the Research Instrument

Reliability represents the concept that research instruments are suited to correctly and precisely measure the occurrence and circumstance under study for the population under study (Mugendi & Mugendi, 2003). A high degree of validity in a research instrument is desirable feature as it indicates that the findings from the research study correspond to actual situation and circumstances in the population that is undergoing the study.

The primary research instrument used in this research study was a questionnaire. The validity of the questionnaire was ensured by making sure that for each variable, all the critical areas of the constructs identified in the literature survey were covered in the questionnaire. Additionally the questionnaire included critical input and feedback from the supervisor.

The researcher also undertook statistical test to gauge how suitable the data was for factor analysis as well as to evaluate whether the sampling designed for each variable was sufficient to achieve the objectives of the research study. The Kaiser-Meyer-Olikini test was used for this purpose as well as the sphericity test developed by Bartlett.

Table 3.3 Sampling Adequacy and Bartlett's Test of Sphericity

Variable Name	KMO Test	Bartlett's Test of Sphericity		
		Approx. Chi-Square	df	Sig.
Digital Intensity	.711	456.03	120	<.001
Leadership Transformation Intensity	.724	181.11	28	<.001
Performance	.711	267.03	28	<.001

Source: Field Data (2021)

All the variables yielded a Kaiser-Meyer-Olikini coefficient of more than 0.7. This is considered as an acceptable value which means that the research instruments exhibits an acceptable level of validity across all the variables under consideration for this research study.

3.8 Data Analysis

The first step of data analysis was editing of the questionnaires to check them for completeness, consistency and accuracy. The data was then be coded and stored in a spreadsheet and inputted into a statistical software package for evaluation so as to enable conclusions to be derived from the data collected. Descriptive statistics was utilized to analyse the quantitative data. The influence of digital transformation on performance was assessed using the linear regression model highlighted below.

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

Where X_1 is digital intensity, X_2 is leadership transformation intensity, Y is the performance of the paint manufacturer and ε is the error term. β_1 and β_2 are regression coefficients, while α is the intercept and these were tested for significance at 95% confidence level.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The main objective of this chapter was to analyse the data collected based on the objective of the study. This research project sought to thoroughly consider the influence of digital transformation strategies on the performance of paint manufacturers in the country. The interpretation and discussion of the findings is also done in this section.

4.2 Response Rate

This research project targeted 40 paint manufacturers that are located within Nairobi County and its close environs and 40 questionnaires were administered for gathering of data.

Table 4.2 Response Rate

	Questionnaires Administered	Questionnaires Completed & Submitted	Percentage (%)
Respondents	40	37	92.5

Source: Primary Data (2021)

From the 40 administered questionnaires, 37 of the respondents were able to complete and submit them in good time for data analysis to be undertaken. The response rate achieved in this research project was 92.5% and was deemed to be sufficient and satisfactory to enable conclusions to be arrived at as it was representative of the paint manufacturers in Kenya. Mugenda & Mugenda (2003) indicate that a response rate of above 70% is excellent.

4.2 Respondent Background Information

4.2.1 Age of the Respondents

The research project intended to ascertain the age of the paint manufacturing firm's employees who responded to the questionnaire. The persons answering the questionnaire were asked to point out the age bracket that they fall under. From the data, 37.8% of the respondents specified that they were aged 41-50 years. This was followed by 27% who reported that they were between 31-40years, 18.9% reported 51-60 years and 16.2% who indicated 21-30 years. Hence it was clear from the research findings that the majority of the respondents were aged between 31 to 50 years.

Table 4.3 Age of the Respondents

	Frequency	Percentage (%)
21-30 years	6	16.2
31-40 years	10	27.0
41-50 years	14	37.8
51-60 years	7	18.9
Total	37	100.0

Source: Primary Data (2021)

4.2.2 Gender Distribution of the Respondents

The research project sought to establish the respondent's gender distribution.

Table 4.4 Gender of the Respondents

	Frequency	Percentage (%)
Male	29	78.4
Female	8	21.6
Total	37	100.0

Source: Primary Data (2021)

For the respondent's gender distribution, the research findings showed that the majority of the persons who responded were male as pinpointed by 78.4%. However, 21.6% reported their gender as female. This indicates that the majority of the employees of paint manufacturing firms in Kenya are male.

4.2.3 Length of Experience in the Paint Industry

Respondents were asked to point out their experience in terms of the number of years they have been involved in the paint manufacturing industry. The results were summarized in a table format as below.

Table 4.5 Time Involved in Paint Industry

	Frequency	Percentage (%)
Less than 2 years	5	13.5
2 -5 years	8	21.6
5 -10 years	15	40.5

10 - 15 years	6	16.2
Over 15 years	3	8.1
Total	37	100.0

Source: Primary Data (2021)

From the summarized data on the number of years the respondents had been involved in the paint industry, 40.5% indicated that they had worked in the paint industry for 5-10 years. However, 21.6% indicated 2-5 years, 16.2% indicated 10-15 years while 13.5% indicated less than 2 years. Finally, 8.1% indicated they had worked in the paint industry for over 15 years. This demonstrates that the majority of the employees surveyed had worked in the paint industry for more than 5 years. Therefore these paint manufacturers' employees were well suited to respond to the questions asked and the length of service indicates they would have good understanding how digital transformation strategies have influenced performance among paint manufacturers.

4.2.4 Education Background

The participants surveyed were asked to pinpoint their highest academic qualifications.

Table 4.6 Highest Level of Education Completed

	Frequency	Percentage (%)
Certificate	1	2.7
Diploma	18	48.6
Undergraduate	11	29.7
Postgraduate	7	18.9
Total	37	100.0

Source: Primary Data (2021)

For academic qualifications, 48.6% the respondents reported that they had completed their diploma. In addition, 29.7% indicated undergraduate, 18.9% indicated postgraduate while 2.7% indicated certificate. The research findings indicate that the majority of the participants had at least a college diploma as their highest academic qualification. This means that they would be in well placed to respond to the questionnaire which sought to evaluate the influence that digital transformation strategies have had on the performance of paint manufacturers in Kenya.

4.2.5 Length of Time of the Company in the Paint Manufacturing Industry

The participants were asked to report on how long their companies had been involved in the paint manufacturing industry.

Table 4.7 Period of Time Company involved in industry

	Frequency	Percent
Less than 2 years	1	2.7
2 -5 years	1	2.7
5 -10 years	2	5.4
10-15 years	12	32.4
Over 15 years	21	56.8
Total	37	100.0

Source: Primary Data (2021)

From the results, the majority (56.8%) indicated that their companies had been involved in the paint industry for more than 15 years. For the ones that indicated less than 15 years, 32.4% indicated 10-15 years while 5.4% indicated 5-10 years. In addition, 2.7% indicated 2-5 years and less than 2 years in each case. The research findings indicate that the paint manufacturing companies surveyed have been involved in the industry for more than 15 years.

4.3 Digital Intensity

In the first objective, the study intended to pinpoint the digital technologies implemented by paint manufacturers. To answer this objective, the respondents asked to mark out the extent to which their companies implemented digital technologies in various areas of their business.

Table 4.8 Digital Technologies Deployed By Paint Manufacturers

Statements	N	Mini mum	Maxi mum	Mean	Std. Deviation	Variance
Maintaining a social media presence in platforms like Facebook, Twitter & Instagram	37	1.00	5.00	2.892	1.712	2.932
Digital advertising on platforms like YouTube, Facebook	37	3.00	5.00	4.405	0.644	0.414
Use of digital & mobile technology (SMS, WhatsApp,	37	3.00	5.00	4.703	0.520	0.592

Statements	N	Mini mum	Maxi mum	Mean	Std. Deviation	Variance
Apps) to enable retailers place orders, check their account status						
Use of digital technologies to maintain an active database to engage painters.	37	3.00	5.00	4.432	0.555	0.146
Use of digital and mobile technologies to make payments e.g. MPesa	37	4.00	5.00	4.919	0.277	0.111
Developing smartphone applications to help customers make decision on which paint products to purchase	37	1.00	5.00	2.946	1.715	0.125
Use of digital technologies to offer value added services.	37	1.00	5.00	3.108	1.646	0.056
Data and analytics e.g. demand forecasting, identifying new opportunities, targeted discounts	37	1.00	5.00	4.297	0.777	0.582
Use of digital technologies to improve production and logistics operations like GPS tracking, smart warehouses.	37	3.00	5.00	4.649	0.538	0.530
Collaborative technologies like Zoom, Microsoft Teams, Google Workspace, WhatsApp Groups	37	4.00	5.00	4.703	0.463	0.181

Source: Primary Data (2021)

The research findings indicate that digital payment solutions was the leading as revealed by an average of 4.9189 with a standard deviation of 0.27672. The data collected from the respondents also indicate to a great extent on the use of digital and mobile telephony to enable retailers place orders, check their account and order status revealed by an average of 4.7027 with a standard deviation of 0.51988. The respondents also reported extensive use of collaborative digital technologies like Zoom and Microsoft Teams that enable employees to work together better shown by an average of 4.7027 and standard deviation of 0.46337. Data from the participants revealed that paint manufacturers have deployed in-vehicle monitoring technologies and smart warehouses in their logistics and distribution functions as revealed by an average of 4.6486 and standard deviation of 0.53832. Participants reported to a great extent on use of digital technologies by paint manufacturers to maintain an active database to engage

painters with an average of 4.4324 and standard deviation of 0.55480. Digital advertising is another area where participants indicated high usage as revealed by an average of 4.4054 with a standard deviation of 0.64375 and on data and analytics e.g. demand forecasting, identifying new opportunities, targeted discounts as revealed by an average of 4.2973 with a standard deviation of 0.77692.

The participants however reported to a moderate degree on the use of digital technologies to offer value added services revealed by an average of 3.1081 with a 0.64627. Developing of smartphone applications to help customers make decisions on which paint products to purchase has been used to a moderate extent as shown by an average of 2.9459 with a standard deviation of 0.71506. Participants indicated low usage of maintaining a social media presence as shown by an average of 2.8919 with a standard deviation of 0.71243. This shows that paint manufacturers in Kenya adopt various digital technologies in their business operations to boost performance.

The study undertook to evaluate the importance that paint manufacturers attach to digital technologies in order to assess the extent of digital intensity. The results were summarized in a table format as below.

Table 4.9 Importance of Digital Technologies

Statements	N	Mini mum	Maxi mum	Mean	Std. Deviation	CV
My organization considers digital technologies and capabilities as very important.	37	4.00	5.00	4.568	0.502	0.592
My organization is willing to make long term investments in digital technologies.	37	4.00	5.00	4.568	0.502	0.146
I am happy with the progress my organization is making in respect to digital trends.	37	4.00	5.00	4.649	0.484	0.111
I have confidence that my organization is well prepared to respond to digital trends in the paints manufacturing industry.	37	3.00	5.00	4.460	0.605	0.125
My organization is ahead of other paint	37	3.00	5.00	4.378	0.594	0.056

Statements	N	Mini mum	Maxi mum	Mean	Std. Deviation	CV
manufacturers in regards to digital technologies we have implemented.						
My organization is more innovative than other paint manufacturers in regards to digital technologies.	37	3.00	5.00	4.351	0.633	0.582

Source: Primary Data (2021)

The outcomes of the investigation showed that the participants were in agreement that they were satisfied with the progress their organizations were making in respect to digital trends as revealed an average of 4.649 and normal deviation of 0.484. They also agreed that their organizations were willing to make long term investments in digital technologies as revealed by an average of 4.568 and a normal deviation of 0.502. The finding also indicated that the participants had confidence that their organizations were well prepared to respond to digital trends in the paints manufacturing industry revealed by an average of 4.460 and normal deviation of 0.605. The research findings also indicated the respondents were of the opinion that they were ahead of other paint manufacturers with regards to digital technologies they had implemented as revealed by an average of 4.378 and normal deviation of 0.594 and also that they were more innovative than other paint manufacturers in regards to digital technologies revealed by an average of 4.351 and normal deviation of 0.633.

4.4 Leadership Transformation and Organizational Capabilities

In the second objective the research study intended to evaluate the degree to which paint manufacturers had undertaken leadership transformation as well as organizational capabilities adopted to achieve digital transformation. The participants were asked to mark out how well they agreed on statements on the questionnaire relating to leadership capabilities and organizational capability development

Table 4.10 Statements Indicating Extent of Leadership Transformation Intensity

Statements	N	Mini mum	Maxi mum	Mean	Std. Deviation	CV
My organization has a well laid out digital strategy	37	3.00	5.00	4.568	0.603	0.132
My organization considers digital technologies and capabilities as very important	37	4.00	5.00	4.676	0.475	0.101
I am convinced that the top leaders in my organization have good understanding of the suitable digital trends and emerging technological advancements	37	4.00	5.00	4.649	0.484	0.104
My organization regards digital technology advancements as an opportunity	37	4.00	5.00	4.730	0.450	0.095
Top leadership in my organization have the sufficient experience and skill set to champion the organization's digital strategy	37	4.00	5.00	4.568	0.502	0.110
I have confidence that my organization is well prepared to respond to digital trends in the paints manufacturing industry	37	4.00	5.00	4.649	0.484	0.104
My organization equips the employees with the adequate resources and training to take advantage of digital trends in the paints industry	37	4.00	5.00	4.703	0.463	0.099
Leadership supports and encourages employees to be innovative with digital technologies	37	4.00	5.00	4.757	0.435	0.189

Source: Primary Data (2021)

The participants reported that generally employees were well equipped with adequate resources and training to take advantage of digital trends in the paints industry revealed by an average of 4.703 and normal deviation 0.463. The participants also agreed that

their organizations regarded digital technology advancements as an opportunity revealed by an average of 4.730 and normal deviation of 0.450. Participants indicated that leadership in their organization supported and encouraged employees to be innovative with digital technologies as revealed by an average of 4.757 with a normal deviation of 0.435.

They further agreed that they were convinced that the top leaders in their organizations had good understanding of the suitable digital trends and emerging technological advancements revealed by an average of 4.649 with a normal deviation of 0.484 and that they had confidence that their organizations were well prepared to respond to digital trends in the paints manufacturing industry revealed by an average of 4.649 and normal deviation of 0.484. The data collected showed that the participants agreed that their organization considered digital technologies and capabilities as very important revealed by an average of 4.568 and normal deviation of 0.502 and that their organizations had well laid out digital strategy revealed by an average of 4.5676 and normal deviation of 0.603. Similarly the participants agreed that top leadership in their organization had sufficient experience and skill set to champion the organization's digital strategy revealed by an average of 4.568 and normal deviation of 0.502. The research study shows that paint manufacturers have undertaken leadership transformation and developed organizational capabilities in order to achieve digital transformation.

4.5 Performance of Paint Manufacturers

For the third objective this research study intended to investigate the influence of digital transformation on the performance of paint manufacturers in Kenya. To address this objective, the participant were requested to point out the degree to which they agreed with statements in the questionnaire relating to the digital transformation and performance of their companies.

The findings showed that participants generally agreed that digital transformation has led to an improvement in business process efficiency e.g. order taking and processing revealed by an average 4.811 and a normal deviation of 0.398. The participants also agreed that digital transformation has led to an improvement in the managerial decision making as revealed by a mean of 4.703 with a normal deviation of 0.463.

Table 4.11 Statements Relating To Influence of Digital Transformation on Performance of Paint Manufacturers

Statements	N	Mini mum	Maxi mum	Mean	Std. Deviation	CV
Digital transformation has resulted in an improvement in customer satisfaction and customer experience	37	3.00	5.00	4.595	0.551	0.120
Digital transformation has resulted in an improvement in the level of engagement with hardware stores, end users and painters.	37	4.00	5.00	4.595	0.498	0.108
Digital transformation has resulted in an improvement on innovation, introduction of new products and services	37	4.00	5.00	4.622	0.492	0.106
Digital transformation has resulted in an improvement in the managerial making of decisions	37	4.00	5.00	4.703	0.463	0.099
Digital transformation has resulted in an improvement in efficiency in production processes	37	4.00	5.00	4.703	0.463	0.099
Digital transformation has resulted in an improvement in business process efficiency e.g. order taking and processing	37	4.00	5.00	4.811	0.397	0.083
Digital transformation has resulted in growth in revenue	37	4.00	5.00	4.622	0.492	0.106
Digital transformation has resulted in growth in profitability	37	4.00	5.00	4.649	0.484	0.104

Source: Primary Data (2021)

The participants agreed the digital transformation had resulted in improvement of the efficiency in production processes revealed by an average of 4.703 and normal deviation of 0.463. The participants indicated that digital transformation had led to growth in profitability revealed by an average of 4.649 with a normal deviation of 0.484. They further agreed that digital transformation had resulted in growth in revenue revealed by an average of 4.622 supported by an average of 0.492 as well as an

improvement on innovation, introduction of new products and services revealed by an average of 4.621 with a normal deviation of 0.492. The participants agreed that digital transformation had led to an improvement in customer satisfaction and customer experience revealed by an average of 4.595 and a normal deviation of 0.551 as well as an improvement in the level of engagement with hardware stores, end users and painters revealed by an average of 4.595 with a normal deviation of 0.498. This shows that digital transformation led to an improvement in performance among the paint manufacturers surveyed.

4.6 Regression Analysis

Table 4.12 Model Summary

Model		R	R Square	Adjusted Square	R	Std. Error of the Estimate
1		.658 ^a	.432	.399		2.35312
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	143.466	2	71.733	12.955	.000 ^a
	Residual	188.263	34	5.537		
	Total	331.730	36			
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	10.906	5.229		2.086	.045
	Digital Intensity	.210	.079	.239	2.658	.012
	Leadership Transformation Intensity	.508	.182	.476	2.784	.009
a. Dependent Variable: Y						

Source: Primary Data (2021)

This study sought to undertake a regression analysis to establish whether digital transformation strategies influenced performance of paint manufacturers in Kenya. The results are shown by the model summary and regression coefficient table. Anova table

was also generated in the regression to evaluate the statistical significance of the regression model.

From the model summary, the research study shows that the variables had a combined correlation coefficient of 0.658. This indicates that digital intensity and leadership transformation intensity have a strong correlation with performance of paint manufacturers in Kenya. The summary also showed an R squared value of 0.432. This indicates that 43.2% the variation of performance of paint manufacturers was influenced by digital business strategies and organizational capabilities. Other factors contribute to the other proportional change in the performance of paint manufacturers.

From the analysis of variance, the study established a probability value of less than 5% and therefore statistically significant and this demonstrates that the regression model fitted the data which is a pointer that the model well was optimal for arriving at a conclusion on the population parameters. This shows that digital transformation has a significant influence on performance of paint manufacturers in the country.

The regression equation was established as follows

$$Y = 10.906 + 0.210X_1 + 0.508X_2$$

From the fitted model, the constant term was 10.906. This shows that where digital business strategies and organizational capabilities are held constant the value of performance of paint manufacturing firms would stand at 10.906. The equation also shows that a unit increase in digital intensity would cause a 0.21 increment in performance of paint manufacturing firms. Additionally, a unit increase in leadership transformation intensity would increase the performance of paint manufacturing firms by 0.508. The two variables showed significant regression coefficients as the probability values were below 5%. This shows that while digital intensity and leadership transformation intensity both have a significant positive influence on performance of paint manufacturing firms, leadership transformation intensity has a greater influence on the performance of paint manufacturers.

4.7 Discussion of Results

From the descriptive statistics, the study established that the paint manufacturers had adopted various digital technologies, undertaken leadership transformation and developed organizational capabilities to leverage on digital in their businesses. The study also found that digital intensity and leadership transformation organizational capabilities positively influenced performance of paint manufacturers. Regression analysis showed that digital intensity led to an incremental increase in performance of paint manufacturing companies. This means that where digital technologies are adopted, the performance of companies would improve. Hence paint manufacturing companies need to adopt digital technologies to enhance their performance. Also an incremental increase in leadership transformation intensity and organizational capability development would lead to increased performance of paint manufacturing companies. The organizational capabilities need to be improved for the paint manufacturing firms to improve their performance. This shows that digital intensity and the corresponding organizational transformation have a significant positive influence on performance of paint manufacturing companies.

This study was anchored on the Diffusion of Innovations Theory and supported by Kotter's Theory on Change Management and Contingency Theory. Diffusion of Innovations theory is useful in understanding the factors that impact organizational adoption decisions as well as postadoption usage and impact with respect to digital technological advancements (Zhu, Dong, Xu, & Kraemer, 2006). One of the objectives of this research study was to investigate the degree to which paint manufacturers in Kenya have implemented various digital technologies to enhance customer engagement and improve on the efficiency of their internal processes. The analysis of results from participants revealed that there was a high rate of adoption of digital technology in the areas of digital payments solutions, collaborative digital technologies that enhance workforce effectiveness and on use of in-vehicle monitoring technologies and smart warehouses in their logistics and distribution functions. These particular digital technologies have high extent of compatibility, are easy to test and offer clear benefits to the paint manufacturers. However there were areas where the data from respondents indicated a moderate level of adoption of technology. This included use of digital technologies to offer value added services, developing of smartphone applications and use of social media to engage customers. These particular technologies tend to be

complex, are not easily testable and the benefits are not immediately clear to the organization. The research findings indicate that paint manufacturers in Kenya have adopted digital technologies that compatible with their existing systems and structures, offer comparative advantage, are less complex and are easily testable. This is in line with the Diffusion Theory of Innovation. Organizations are open systems that interact with their environments and the chief concern of leadership must therefore be to identify and achieve the 'best fit' that balances the internal objectives to the requirements and demands from the external environment (Morgan, 2006). The results from participants from paint manufacturers who responded to the questionnaire from this research study showed a variation as indicated by the standard deviation and coefficient of variance. This shows that there is differentiation in the approach to deployment of some of the digital technologies which is expected as spelt out by the Contingency Theory of Management.

The results for the study underscored that while digital intensity and leadership transformation intensity both have a significant positive influence on performance of paint manufacturing firms, leadership transformation intensity has a greater influence on the performance of paint manufacturers. This augurs well with findings spelt out by Westerman et al., (2014) who point out that companies are not only transforming how they work internally but also modifying the businesses and creating new business models altogether. Mwangangi (2017) investigated the effect of digitalization on commercial banks in Kenya. The study established an increase in the extent of digitalization resulted in an increase in performance of the bank. Similarly this research study also found that digital intensity and leadership transformation organizational capabilities positively influenced performance of paint manufacturers in the country. The results from the study revealed that one of the areas where paint manufacturers to have implemented digital transformation was in the customer relationship management whereby the regression analysis indicated that this has a positive influence customer experience and revenue growth. These findings are consistent with the results of a study undertaken by Ortstad & Sonono (2017) who undertook a case study on the impact of digital transformation on customer relationship management for a large bank in Sweden. The study established that strides in the digital transformation of the customer relationship management resulted in improved performance of the bank.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter embarked to make a summary and conclusion based on the findings from the data collection and data analysis undertaken as part of the research study. The conclusion arrived at in this chapter and the recommendations done were aimed at achieving the objective of this research study. Limitations of the study and areas for future research were also highlighted in this chapter.

5.2 Summary of the Study

The main objective of the research study was to establish the influence of digital transformation strategies on the performance of paint manufacturers in Kenya. The study undertook to investigate the degree to which paint manufacturers in Kenya have implemented various digital technologies to enhance customer engagement and improve on the efficiency of internal processes. The research study also aimed to establish the extent to which paint manufacturers had undertaken leadership transformation and developed organizational capabilities in order to achieve digital transformation.

The study intended to survey all the 40 paint manufacturers located in Nairobi County and its close environs out of which 37 responded and therefore obtained a response rate of 92.5%. The background information indicated that 64.8% of the respondents were aged between thirty and fifty years old and that 78.4% were male. 78.3% of the respondents had either a college diploma or university degree qualification while 64.9% of the respondents indicated that they had more than five years of experience in the paint manufacturing industry and therefore the respondents were in a good position to provide the data required for the study.

The study established that digital payments solutions, digital communication technology and implementation of digital technologies to maintain an active database for engaging painters as the leading areas where paint manufacturers have deployed digital technologies to enhance customer experience and end users engagement. The study also established that paint manufacturers had extensively deployed collaborative digital technologies to enhance teamwork and workforce effectiveness. The study also established that paint manufacturers had deployed digital technologies to improve

production and supply chain processes. The study established that the respondents were confident of the progress that paint manufacturers were making with respect to digital trends. An important finding from the study was that respondents agreed that paint manufacturers were willing to make long term investments in digital technologies.

With respect to organizational capabilities and leadership transformation undertaken by paint manufacturers in Kenya to bring about technology based change, the study established that equipping employees with adequate resources to take advantage of digital technologies and changing the perception of leaders and employees to regard digital trends as an opportunity to be exploited rather than a threat to be mitigated as the leading areas. The study also established that top leadership in paint manufacturing firms supported and encouraged employees to be innovative with digital technologies.

The study also established the key aspects of performance where digital transformation was thought to have the most influence among paint manufacturers. This included improvement of business process efficiency, improvement of production and supply chain processes and improvement in managerial decision making. A key finding from the study is that respondents agreed that digital transformation had led to growth in profitability among paint manufacturers.

The research established that digital intensity and leadership transformation intensity have a strong correlation with performance of paint manufacturers in Kenya and also that 43.2% of the performance could be attributed to these two factors.

5.3 Conclusion of the Study

The research study established that implementation of digital transformation strategies has had a positive influence on the performance of paint manufacturers. The study established that a unit increase in the deployment of digital technologies would positively influence the performance of paint manufacturers. This means that paint manufacturers should continue to make initiatives in digital technology and be willing to make long term investments in this area so as to improve on their performance.

The study also established that an incremental increase in the leadership and organizational transformation to bring about technology based change led to an increase in the performance of paint manufacturing. This means that in addition to implementing

digital technologies, paint manufacturers must in addition undertake a corresponding organizational change in order to fully harness the benefits of such initiatives.

The research study concluded that organizational change that is driven by the top leadership and is based on technological changes has a greater influence on the performance of paint manufacturers than simply deploying various digital technologies without an overarching and cohesive vision and leadership.

5.4 Implications of the Study

This research study underscored the critical importance of organizational transformation to positively influence the performance of organizations as part of devising and implementing digital strategies. Organizations that implement lasting change and invest in developing the competency of leadership and employees derive greater benefits from investments in digital technologies than organizations that only focus on implementing digital technology without the corresponding organizational transformation. Therefore this study has implication for scholars, on policy development as well as to industry practitioners.

5.4.1 Implications for Future Research

This study established that digital transformation has had positive influence on the performance of paint manufacturers in the country. Previous studies in the field of digital transformation have tended to focus on the financial and telecommunications industry while leaving out the manufacturing industry. Future scholars in this field are to pay attention to digital transformation strategies that have been implemented by manufacturers in order to uncover new insights and further advance knowledge in the field of digital transformation. Further as the current study could be extended by future researchers undertaking a longitudinal so as to determine the long term influence of digital transformation on the performance of paint manufacturers in the country.

5.4.2 Implication to Practice and Industry

This study provides useful insights for industry practitioners as to the elements of digital transformation and the influence these factors have on the performance of the organization. This is critical insight that industry practitioners must take into consideration when formulating policies and strategies on digital transformation and also when making decisions on allocation of resources that increase the likelihood of

making the organization more competitive and therefore resulting in a sustained superior performance. Industry leaders in the paint manufacturing segment must continue to explore various digital technologies and be willing to make investments as this was established to positively influence their performance.

5.4.3 Implication to Policy Development

There has been a lot of efforts by policy makers at various levels to put in place mechanisms and structures to improve the competitive landscape in the manufacturing sector. This current study has shown that leadership transformation undertaken by paint manufacturers as part of their digital transformation strategy has more positive influence than isolated investments in digital technology. This means that policy makers must in addition to providing an enabling environment in making investments in digital technology attractive to manufacturers, they must also put in place incentives that promote investments in developing leadership and employee competency. Technology transfer policies must focus not on technologies themselves but more so on developing the kind of entrepreneurial and leadership capabilities that enable organizations to make the most use of such technology and harness in a manner that provides sustainable competitive advantage.

5.5 Recommendations of the Study

Paint manufacturers have adopted and implemented digital technologies as was established by the study in order to enhance customer engagement, improve end users experience as well as improve collaboration between employees and improve on internal processes resulting in an improved performance as was established in the research study. The study recommends that paint manufacturers must continue to explore various digital technologies and be willing to make investments as this was established to positively influence their performance.

In order to further improve performance, paint manufacturers must continue to pursue strategic organizational changes and develop organizational capabilities in order to fully derive the benefits of the digital initiatives that have been put in place as this was established in the study to have more influence on the performance of paint manufacturers. This will include putting in place clear digital transformation strategies, inculcating a culture of innovation and creativity within their organization and putting in place robust governance structures to direct and steer digital transformation.

5.5 Limitations of the Study

The data used in this research study was collected using questionnaires administered to individual employees of the paint manufacturers. There is therefore a likelihood that the individual bias of the respondents might be reflected in the results. Additionally due to time and financial restrictions this research study was limited to only one respondent per paint manufacturer and there is possibility that the outcome may differ if at least more than one employee was surveyed for each paint manufacturer.

5.6 Areas Suggested for Further Research

In order to further investigate the impact of digital transformation on the performance of paint manufacturers in Kenya, this research study recommends that case studies be carried out on some of the key paint manufacturers in the country. This will provide more detailed and elaborate information on the practices of particular paint manufacturers with regards to digital transformation and the influence such practices have had on the performance of these companies. This would be of great value to industry practitioners undertaking digital transformation in their own organizations as well as to scholars undertaking research in the field of digital transformation and to policy makers looking at fostering growth in the paint manufacturing sector and improving the competitiveness of the sector in the regional and international markets.

Paint manufacturers are not the only ones who are implementing digital transformation strategies to improve on their performance, this research study recommends that a similar study be carried out among cement and roofing manufacturers in the country. This will elaborate further on the extent and effectiveness of digital transformation strategies implemented in the manufacturing sector.

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APPENDICES

Appendix 1: Letter of Introduction

August 24, 2021.

P.O. Box 30197-00100,

Nairobi, Kenya.

Dear Respondent,

RE: DATA COLLECTION FOR ACADEMIC RESEARCH

I am student undertaking a Master of Business Administration (MBA Strategic Management) degree program in the University of Nairobi. As part of this program I am conducting research on the “Application of Digital Transformation Strategies by Paint Manufacturers in Kenya”.

The main objective of this letter is to politely request for your assistance in completing the questionnaire attached for gathering of data. Kindly complete the questionnaire honestly. Do not indicate your name anywhere. The information collected will be utilized for academic research only and will be handled in **strict confidentiality**.

Thank you in advance for your kind consideration and support.

Yours sincerely,



Lawrence Maiteri

Researcher.

Appendix 2: Research Questionnaire

SECTION A

GENERAL INFORMATION

Data collected from this questionnaire is for academic research only. All the information gathered will be handled with strict confidence. Go through the questionnaire carefully and answering the questions as accurately as possible. Please mark with letter 'X' on the spaces provided.

a) What is your age?

a) 21-30 years []

d) 51-60 years []

b) 31-40 years []

e) Over 60 years []

c) 41-50 years []

b) What is your gender?

a) Male []

b) Female []

c) How long have you been involved in the paint industry?

a) Less than 2 years []

d) 10-15 years []

b) 2 -5 years []

e) Over 15 years []

c) 5 -10 years []

d) What is the highest level of education that you have completed?

a) Certificate []

c) Undergraduate []

b) Diploma []

d) Postgraduate []

e) What is the name of your company?

f) How long has your company being involved in the paint manufacturing industry?

a) Less than 2 years []

d) 10-15 years []

b) 2 -5 years []

e) Over 15 years []

c) 5 -10 years []

SECTION B: DIGITAL INTENSITY

To which extent has your company implemented the following digital technologies?

	To a very great extent	To a great extent	To a moderate extent	To a low extent	To a very low extent
Maintaining a social media presence in platforms like Facebook, Twitter & Instagram					
Digital advertising on platforms like YouTube, Facebook					
Use of digital & mobile technology (SMS, WhatsApp, Apps) to enable retailers place orders, check their account and order status.					
Use of digital technologies to maintain an active database to engage painters.					
Use of digital and mobile technologies to make payments e.g. MPesa					
Developing smartphone applications to help customers make decision on which paint products to purchase					
Use of digital technologies to offer value added services					
Data and analytics e.g. demand forecasting, identifying new opportunities, targeted discounts					
Use of digital technologies to improve production and logistics operations like GPS tracking, smart warehouses.					
Collaborative technologies like Zoom, Microsoft Teams, Google Workspace, WhatsApp Groups to enable employees to work together better					

To what extent do you agree with the following statements with respect to your company?

	Strongly Agree	Agree	Neither disagree nor agree	Disagree	Strongly Disagree
My organization considers digital technologies and capabilities as very important.					
My organization is willing to make long term investments in digital technologies.					
I am happy with the progress my organization is making in respect to digital trends.					
I have confidence that my organization is well prepared to respond to digital trends in the paints manufacturing industry.					
My organization is ahead of other paint manufacturers in regards to digital technologies we have implemented.					
My organization is more innovative than other paint manufacturers in regards to digital technologies.					

SECTION C: LEADERSHIP TRANSFORMATION INTENSITY

To what extent do you agree with the statements below with respect to digital transformation in your organization?

	Strongly Agree	Agree	Neither disagree nor agree	Disagree	Strongly Disagree
My organization has a well laid out digital strategy.					
My organization considers digital technologies and capabilities as very important.					
I am convinced that the top leaders in my organization have good understanding of the suitable digital trends and emerging technological advancements.					
My organization regards digital technology advancements as an opportunity.					
Top leadership in my organization have the sufficient experience and skill set to champion the organization's digital strategy.					
I have confidence that my organization is well prepared to respond to digital trends in the paints manufacturing industry.					
My organization equips the employees with the adequate resources and training to take advantage of digital trends in the paints industry.					
Leadership supports and encourages employees to be to be innovative with digital technologies.					

SECTION D: PERFORMANCE OF THE BUSINESS

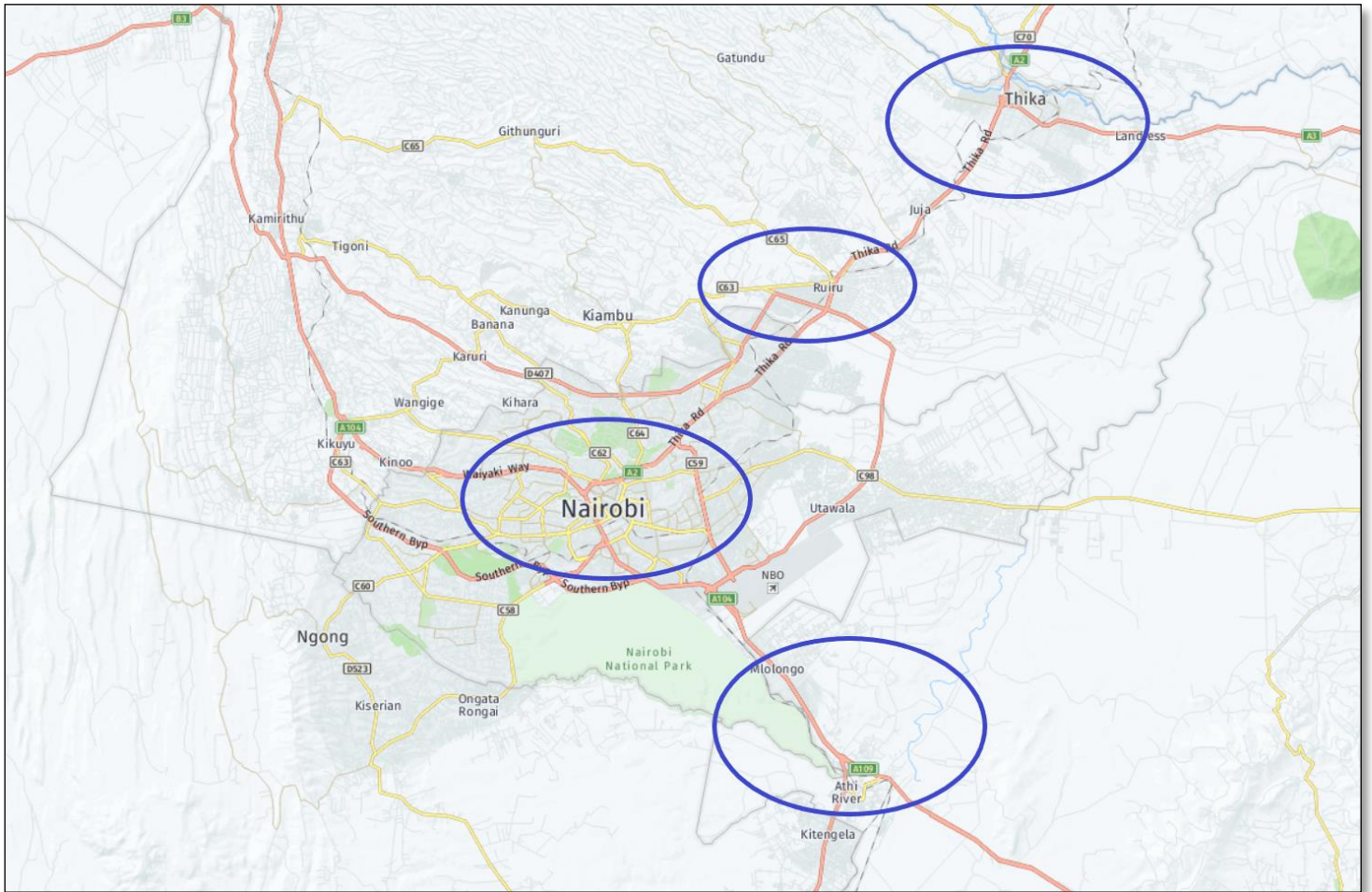
To what extent do you agree with the following statements with respect to the influence that digital transformation has had on the performance of the business

	Strongly Agree	Agree	Neither disagree nor agree	Disagree	Strongly Disagree
Digital transformation has resulted in an improvement in customer satisfaction and customer experience					
Digital transformation has resulted in an improvement in the level of engagement with hardware stores, end users and painters.					
Digital transformation has resulted in an improvement on innovation, introduction of new products and services					
Digital transformation has resulted in an improvement in the managerial making of decisions					
Digital transformation has resulted in an improvement in efficiency in production processes					
Digital transformation has resulted in an improvement in business process efficiency e.g. order taking and processing					
Digital transformation has resulted in growth in revenue					
Digital transformation has resulted in growth in profitability					

Appendix 3: List of Paint Manufacturing Firms Located in Nairobi County

Arkemi Paints & Hardware Ltd
Basco Paints (K) Ltd
Berger Paints (K) Ltd
BPC Industrial Lacquers Ltd
Chemical Patners Kenya Ltd
Coates Brothers Ltd
Colour Max Automative Paints
Crown Paints Kenya PLC
Custom Paints & Coating Ltd.
Dulux Coats Ltd
East Africa Paints & Mining Ltd
Easy Paints Ltd
Fastchem Paints
Galaxy Paints & Coatings Ltd
Gempack Solutions Ltd
Grand Paints Ltd
Ideal Manufacturing Co. Ltd
Kansai Plascon Kenya Ltd
Kasol Paints Ltd
Kenind Paints Ltd
Maroo Polymers Ltd
Nairobi Painting Company
Nairobi Ramtrade Ltd
Nasib Industrial Products Ltd
Nayan Products (K) Ltd
Neuce Kenya Ltd
Novel Paints Ltd
Omega Paints Ltd
Omega Paints Ltd
Pinnacle Paints Ltd
Prime Coating Ltd
Rally Paints Investments (2000) Ltd
Royal Paints Industries Ltd
Silko Paints Ltd.
Smart Paint Ltd
Solai Paints Ltd
Spectra Chemicals Ltd
Tamasha Paints E.A. Ltd
United Paints Ltd
Wallmax Paints & Coating Ltd

Appendix 4: Map of Research Area



Appendix 5: Introduction Letter from MBA Office



UNIVERSITY OF NAIROBI
COLLEGE OF HUMANITIES & SOCIAL SCIENCES
FACULTY OF BUSINESS AND MANAGEMENT SCIENCES

Telephone: 4184160-5 Ext 215
Telegrams: "Varsity" Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, KENYA

26 October 2021

TO WHOM IT MAY CONCERN

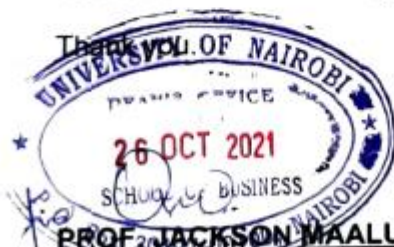
Dear Sir/Madam,

INTRODUCTORY LETTER FOR RESEARCH
WANJIHIA LAWRENCE MAITERI – REGISTRATION NO. D61/11893/2018

This is to confirm that the above named is a bona fide student in the Master of Business Administration (MBA) degree program in this University. He is conducting research on ***"Influence of Digital Transformation Strategies on Performance among Paint Manufacturers in Kenya"***

The purpose of this letter is to kindly request you to assist and facilitate the student with necessary data which forms an integral part of the research project. The information and data required is needed for academic purposes only and will be treated in **Strict-Confidence**.






Your assistance will be highly appreciated.



PROF. JACKSON MAALU
DEAN, FACULTY OF BUSINESS AND MANAGEMENT SCIENCES

JM/jo

Appendix 6: Research License

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Ref No: 959505	Date of Issue: 10/November/2021
RESEARCH LICENSE	
	
This is to Certify that Mr., Wanjihia Lawrence Maiteri of University of Nairobi, has been licensed to conduct research in Kajiado, Kiambu, Machakos, Nairobi, Nakuru on the topic: INFLUENCE OF DIGITAL TRANSFORMATION STRATEGIES ON PERFORMANCE AMONG PAINT MANUFACTURERS IN KENYA for the period ending : 10/November/2022.	
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Appendix 7: Plagiarism Report



1ST DECEMBER 2021.

INFLUENCE OF DIGITAL TRANSFORMATION STRATEGIES ON PERFORMANCE AMONG PAINT MANUFACTURERS IN KENYA

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