

**CRITICAL SUCCESS FACTORS FOR OPERATIONAL PERFORMANCE OF THE  
ORGANIC ADHESIVE INDUSTRY: CASE STUDY OF HENKEL KENYA LTD**

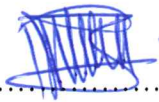
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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE  
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## DECLARATION

I declare that this research project is my original work and it has not been submitted for any degree or examination in any other University.

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This research project has been submitted for examination with my approval as the University Supervisor.

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## **DEDICATION**

I dedicate this research work to my dear family especially my parents for their dedication and unconditional love and support throughout the Master of Business Administration program. May God bless you.

## **ACKNOWLEDEGMENT**

I offer my heartfelt praise and gratitude to the Almighty God for His unwavering support, blessings, wisdom, and good health that enabled me to successfully complete this research study. I am immensely grateful to my esteemed supervisor and guide, Mr. John Kenduiwo, whose generous sharing of knowledge has provided me with the opportunity to enhance my professionalism and deepen my understanding. His guidance has been instrumental in shaping the background of this project. The time and effort he devoted to this endeavor have been a significant milestone in my research journey. My sincere well-wishes, faith, and prayers are all with him.

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## **ABBREVIATIONS AND ACRONYMS**

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>ANOVA</b>	Analysis of Variance
<b>COMESA</b>	Common Market for Eastern and Southern Africa
<b>CSF</b>	Critical Success Factors
<b>GDP</b>	Gross Domestic Product
<b>GOK</b>	Government of Kenya
<b>ISO</b>	International Organization for Standardization;
<b>LTD</b>	Limited
<b>SD</b>	Standard Deviation
<b>SPSS</b>	Statistical Packages for Social Sciences
<b>US</b>	United State
<b>USAID</b>	United State Agency for International Development
<b>VIF</b>	Variance Inflation Factor

## **ABSTRACT**

Operational performance undertakes a predominant role in generating a substantial portion of new employment opportunities within any economy and success of an entity. Producers operating in a highly competitive market, where consumers have an abundance of choices, must prioritize operational metrics that offer valuable insights into the company's capacity to fulfill its mission and strategic goals. Consequently, the objectives of this study were to determine the critical success factors for operational performance of organic adhesive industry at Henkel Kenya Ltd and to determine the relationship between critical success factors and operational performance. Against this backdrop, regression coefficients' findings illuminate essential facets of operational performance within the study. The estimated model's constant yielded a positive value, implying that factors beyond technological innovation, process design, quality management, and product design influence production performance. Analyzing individual variables, the coefficient for technological innovation showed a positive value and proved statistically significant indicating a noteworthy boost in production performance with a one-unit improvement in technological innovation. Likewise, process design exhibited a positive and significant regression coefficient signifying a considerable production performance improvement with a one-unit enhancement in the production process's design. Quality management also displayed a positive and significant regression coefficient, underscoring the importance of effective quality management during production to enhance overall performance. Moreover, product design demonstrated a positive coefficient and was statistically significant, emphasizing its role in bolstering production performance. To conclude, the study underscores the critical role played by technological innovation, process design, quality management, and product design in augmenting production performance, leading to enhanced production processes and overall efficiency.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

In every economy, the production sector creates the great majority of new jobs. In a market where customers are more discerning than ever, producers need to prioritize operational indicators that offer valuable information about the company's capacity to fulfil its mission and accomplish its strategic goals. According to Yu and Ramanathan (2012), a company's ability to create, acquire, and utilize new resources is essential to its survival in order to expand on its platform of capabilities and make those capabilities stand out in order to gain a competitive advantage.

Statistics show that as nations grow, their proportion of employment and value-added changes, and this is true for both wealthy and poor countries. Agricultural employment and value-added fall, manufacturing rises, then falls again, and finally services rise inside a country as it develops. If a country is on the path to progress, similar trends may emerge inside it over time. These inflated facts seem to remain true over time and space; when looking at development as measured by GDP per capita, there is a correlation between the two (Herrendorf et al., 2014).

Over the last decades, Kenya's economy has been depending on production, which provides the base for the economic growth, creates opportunities for jobs, earns foreign exchange to the country, value addition and payment of taxes. According to Irene Angwenyi 2020, the contribution of the production sector towards revenue generation is about 17.3%, implying that from the sector it will triple if 20 percent GDP contributions is achieved in vision 2030. Majority of the organizations in Kenya and specifically the SMEs usually do not have adequate access to credit and other forms of financing. This niche has been identified by the USAID, which is closely working with the Kenyan government as well as the private sector actors in US to boost investments in the organizations in Kenya and encouraging banking sector to expand credit services to small and medium enterprises through international summits. This can result to expansion of the production sector.

Modern production is undergoing a metamorphosis as a result of the influence of factors including customer satisfaction, competitive advantage, revenue and expenditures, company culture, technical development, international markets, and changing consumer needs (Cyfert, 2021). Organizational success requires a staff with a global perspective that permeates all levels of

operation (Michael Porter, 1985). Companies throughout the globe have relied on external suppliers of competitive services for quite some time now, taking advantage of quality production and paying money to ensure the efficacy and efficiency of internal resource operations. This is especially vital for businesses, which are widely recognized as important to the growth of the economy in any state thanks to the positive impact they have on the economy (Nzioka, 2019). Researchers in Kenya set out to determine what makes Henkel Kenya so productive.

### **1.1.1 Critical Success Factors**

The critical success factors entail the paramount cornerstone enhancing the productivity and efficiency. According to Odwaro (2018) critical success factors helps in increasing market, achieving excellence, and navigating longevity goals. The critical success factors are quality metrics for opportunities to realize objective. It steers the business towards holistic performance. It portrays the current and futuristic objective. Therefore, it is critical for concrete success. According to Reh (2019) CSFs are the variables that must be in place in order for a company strategy or plan to be successful. CSFs are the factors that can be controlled to produce an outcome of interest. They include Technological Innovation, Quality management, process design and product design. Technological Innovation focuses on the technological aspect of a product or service (Reagan, 1985). It is a process where a group of people or an organization identifies technology as a source of innovation.

In order to attain and maintain high standards, a process known as quality management must be planned and directed. First, a quality strategy must be developed. Next, quality planning, assurance, control, and improvement must be developed and put into practice (Adam Barone, 2022). Developing a marketable solution to a problem or meeting a particular demand is the goal of product design. An in-depth familiarity with the product's intended recipient, or end user, is essential for producing desirable results (Gloria Lo, 2020). If you want to achieve a comprehensive, efficient, and customer-driven long-term view, process design is the way to go. The critical function of the multidisciplinary approach was investigated by Koutsikouri et al. (2008). A company's critical success factors are the metrics by which its efforts to realize its purpose and fulfill its strategic objectives may be evaluated. They are used as a standard by all

members of the organization to guarantee that everyone is on the same page and that work is coordinated amongst different divisions.

### **1.1.2 Operational Performance**

The measurable aspects of an organization's processes, like inventory turns, manufacturing cycle time, and reliability, are referred to as operational performance, according to Azim, Ahmed, and Khan (2015). In many different industries, it is widely acknowledged as one of the most crucial success criteria for businesses. While guaranteeing consistent and dependable outputs that match or beyond client requirements, operational performance seeks to minimize errors, faults, and rework. boosting contentment among employees Developing and promoting employee welfare is another aspect of operational performance goals. Cost, quality, speed, dependability, and adaptability are the top 5 most accepted performance targets, while a corporation might prioritize a wide range of objectives (AE Oke, 2022). A company will be well ahead of many others if its planning exercises incorporate those objectives.

Tactical, operational, and strategic are the three tiers of operations management. The company's objectives are defined at the strategic level, and a plan for carrying out that strategy is laid down at the tactical level. The everyday activities necessary to achieve the intended result are included in the operations level. E. Roubtsova (2014) states that an Operations Key Performance Indicator (KPI) or metric is a discrete measurement that a business employs to track and assess how well its daily operations are running. The management is assisted by these operations KPIs in determining which operational tactics hinder the business and which are successful. Historically, as much as currently, companies look for goods, services, and deals that provide them an advantage over rivals. Better operational performance includes, but is not limited to, ongoing innovation, cost savings, and more efficient resource use. According to AC Olang (2019), Kaizen is among the most well-known ideas in continuous improvement. The foundation of kaizen is the notion that notable advancements can be achieved through gradual, constructive changes. It usually relies on dedication and collaboration, as opposed to methods that rely on drastic or top-down adjustments to bring about change.

### **1.1.3 Organic Adhesive Industry and Henkel Kenya Limited**

Organic adhesive has played critical role in Kenya in the employment and production of quality products. However, it has series of challenges due to the scarcity of raw materials. The improvement of technology has increase effectiveness and efficiency in adhesive industry. According to GOK (2020) organic adhesive industry is an area with numerous opportunities that need to be maximized. Henkel Kenya Limited is one of the leading adhesive manufacturing companies in Kenya. It operates three key adhesive business units namely industrial adhesives, commercial adhesive, and general adhesives. The company has continued with transformation and efficiency in its operations through technological innovation, quality management, product design and development. Henkel has greatly contributed to the economic growth through payment of taxes and creating jobs as well as assisting the less fortunate in its corporate social responsibility. The firm was established in 1876 in Aachen as Henken & Cie by Friedrick Karl Henkel. The company continuously transformed and took advantage of a better transport links. The supreme role played by the industry include source of job opportunities, building economic powerhouse, increase productivity, expand entrepreneurship, technological innovation hence contributing to GDP. Furthermore, the presence of sales opportunities led to improvement the production and revenues by 1878. Henkel LTD has drastically transformed and improved liquidity, increased quality production and increased the sales. In the middle 1960s, Henkel established a base in Tanzania, East Africa. In 1974, the Kenyan Company was founded. Henkel now has operations in Uganda and Tanzania, with plans to expand into other parts of East Africa as the region develops economically.

Having achieved ISO 9001:2015 certification, Henkel Kenya Limited is a reliable business partner. As a result of the company's commitment to quality management, it has been able to capture a dominant 65 percent share of the COMESA market, where its goods are in high demand. This growth has been driven by the company's success in the East African market. Henkel Kenya employs around five hundred people and has annual sales of about \$20.44 million USD. Henkel Kenya shares a commitment to corporate social responsibility with its parent company in Düsseldorf. Henkel Kenya has created and is funding an AIDS orphanage in the Kisumu area as part of its worldwide support for children's initiatives.

Henkel provides for the necessities of life for thirty-three orphaned youngsters and teaches the older orphans trades like carpentry and basket weaving so that they may support themselves in the future. Because of this, the orphans no longer feel hopeless, and they are less likely to engage in criminal behavior. Henkel's market share, annual sales, number of employees and its corporate social responsibilities makes it an ideal representative of the industry thus, an important case of study on organic adhesive industry in Kenya.

## **1.2 Research Problem**

Conceptually, critical success factors are key for the performance. CSF increase velocity for transformation. It is used interchangeable with production performance. It explains good customer expectation, great quality and effectiveness. Adhesive industry has played a significant role in the Kenyan Market. The production of several products has encouraged the tremendous growth (Odwaro, 2018). Adhesive industries have anchored the continuance growth due to multifaceted internal factors that drives the growth. Adhesive industry is very important in the economic prosperity and gross domestic products. Moreover, it creates employment. This makes it an important area of study since over 95 percent of products have adhesive either in packaging or labelling.

So far, the higher manufacturing cost and taxes have slowed down industrial performance. In order to become a globally competitive and affluent nation, Kenya's vision 2030 lists improving manufacturing as one of the four main government priorities (GoK, 2020). Concerns have been raised concerning the ability of Kenya's adhesive manufacturing industry to achieve the goals of Vision 2030, since the majority of Kenya's adhesive manufacturing enterprises only operate at a technical efficiency of around 59 percent (Achuora, Arasa, & Odhiambo, 2015). The percentage of inefficiency is almost 50 percent and given the role played by adhesives in daily life, it forms a significant area of study to curb the challenges in the sector since almost every product uses adhesive in its production. Due to poor adoption of technology and product and process design, in 2015 Henkel Branch in Uganda was closed, this led to the need for the management to review its CSFs and management style to curb these challenges.

Fadly (2013) concluded that critical factors are the pinnacle for the productivity. The research concluded that good leadership results from CSF. The study maximized descriptive and inferential statistics. On the other side, Juana (2021) analyzed the importance of technological innovation on the qualitative productivity. The study utilized descriptive mechanism and emphasized on CSF. Contrary, Omran (2012) utilized content analysis to expound on the chief prosperity resulting from CSF. Additionally, Young and Mustafa (2013) optimized inferential and descriptive statistics to articulate the premier role of CSF in promoting the productivity and effectiveness. However, the companies have experienced the production predicaments. The production crisis has led to restructuring of manufacturing industries. Some businesses have chosen to meet demand in their home market by importing from overseas suppliers known for their cheap production costs, leading to the loss of local jobs (Nyabiage & Kapchanga, 2019). This is a sign that many Kenyan factories are having trouble meeting output targets and are issuing profit warnings because of the difficulties they are having in the operating environment (GoK, 2015). According to World Bank data, manufacturers in Kenya have seen five consecutive years of stagnation and falling earnings owing to an unstable business climate (World Bank, 2015).

Business markets have changed drastically due to the configuration of forces of competition such as the degree of competition, new entries to the markets, substitute goods, and the strength of suppliers and buyers (Mungai, 2009). From the aforementioned, there are scanty research on Henkel Adhesive industry. Furthermore, the study maximized both quantitative and qualitative methods hence resulting in controversial outcome. This has resulted in knowledge gaps stemming from conceptual, contextual, methodological, and theoretical gaps which the prevailing study attempts to fulfil. From this study, there was need to understand the critical success factors in the organic adhesive industry. Therefore, the study sought to answer the following question: What are the critical success factors in the organic adhesive industry in Kenya?

### **1.3 Objectives of the Study**

The guiding objectives of this research included the following:

- i. To determine the critical success factors for operational performance of organic adhesive industry at Henkel Kenya Ltd
- ii. To determine the relationship between critical success factors and operational performance.



#### **1.4 Value of the study**

The research may be valuable to Henkel Kenya and many other chemical industries in the promotion of product reengineering, quality improvement and high productivity. It may also help the company in coming up with best sustainable development goals, benchmarking, and competition with the aim of increasing the production. Furthermore, this research highlights innovation and creativity that are necessary for the company growth.

The research may be crucial for the adhesive industries in Kenya. The companies may utilize the findings in formulation of plans on the determinants of performance of organic adhesive industries. The study research may be source of knowledge on the technological advancement, high quality production, high implementation of strategies, product reengineering and quality improvement. The study may also be of value to scholars and academicians for they may obtain reference material for their studies. The findings of the study may benefit manufacturers through provision of solutions and solving their problems. It enhances the crucial knowledge useful for the benchmarking to enhance the performance. It is a pillar for innovation, creativity, and customer focus total quality improvement.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter assumes crucial importance as it encompasses fundamental components of the research process. It thoroughly explores empirical studies, presenting detailed data and evidence. The theoretical framework offers a valuable lens for examining research questions. The all-encompassing literature review establishes the current state of knowledge and pinpoints research gaps. It adeptly highlights the knowledge gap, signifying areas for original insights. In essence, this chapter acts as a guide, leading the reader through the research process and reinforcing previous studies, laying the groundwork for upcoming analyses and discoveries. It is an important section that provides the roadmap and reinforcement or critique previous studies and theories.

### **2.2 Theoretical Review**

The theories underpinning these studies include competitive advantages and strategies theory, technological innovation theory and resource-based view theory. The competitive advantage and strategic theory elucidate the efficient and effective productivity. Technological innovation theory strives for the adoption of the current technology to spearhead the transformation. Resource based view theory on the other hand indicates that a company is operating at optimum whenever the resources have been utilized fully.

#### **2.2.1 Competitive Advantages Theory**

Porter is acknowledged for having formulated the theory (1985). A competitive advantage is what sets one business apart from its competitors. This advantage can be lower expenses or better products and services that allow a business to charge more for them. Together, these benefits give the productive unit a competitive edge over rivals in the market, increasing sales and profit. The competitive advantage of a firm is often attributed to several factors such as its cost structure, branding, product offers, distribution network, intellectual property, and customer service. Competitive advantage entails the ability to gain more resources and attributes that are useful in the performance hence enabling the firms to outshine their competitors in the turbulent market (Chacarbaghi & Lynch, 1999). The utilization of the low cost, expertise workforce, accessing the modern technology, and making major milestone in the financial performance improve the GDP.

The theory strategically focuses on the resulting performance and productivity. This is illustrated through the methods and the resulting by-product (Howard, 1983). It is a central and integral part of analysis through the description of choices as well as quality evaluation for the decision-making process. It shapes the wide spectrum of strategic decision-making while at the same time charting the way forward towards a prospective. The theory infers the importance of environment in the determination of behavior (Harris, 2006).

Strategic competitive advantages are vital for a company's profitability and success in the market. They encompass unique strengths that set the company apart and attract more customers. These advantages can be related to product quality, technology, cost-effectiveness, customer service, or supply chain management. Leveraging these strengths helps a company gain a larger market share and establish dominance. Without such advantages, companies may struggle to remain profitable and face intense competition. Identifying and utilizing these key differentiators is crucial for long-term growth and prosperity in the dynamic business environment.

### **2.2.2 Technological Innovation Theory**

Technological novelty Theory concentrates on a product or service's technological features (Reagan, 1985). It is the process by which a team or an institution recognizes technology as a source of creative inspiration. Since technical innovation is focused on technology, it differs from technological innovation in that the former works on technology for its own sake, while the latter works on technology to support a company's products and services. Technological innovation has created opportunity for merchants to find new entities and establish positions that are competitive to be avenues of advantages decay (Soto Setzke et al., 2023).

Innovation in technology must undergo procedure and procedure to reach at the optimum results. Formalized technological innovation process is referred to as technological innovation management. The management refers to the inputs and outputs a manager or team of managers is responsible to govern the technological process to align with the company's strategies. Due to its disruptive effects on markets, shifts in the relative significance of resources, effects on organizational learning capacity, and changes in the foundation of competition, it has a significant impact on the populations of organizations. It is crucial for the business's survival and vital success

criteria. Technological progress is seen as destructively productive by Schumpeter (1989). Revolutions in technology occur in cycles of prolonged periods of incremental change that improve and institutionalize a current technology. Furthermore, a reinforced technology punctuated by technological discontinuities leads to radical measures that promote the replacement of old inferior technology by new superior ones (Tushman & Anderson, 1986). Many companies are investing heavily on technology so for quality and mass production.

### **2.2.3 Resource-Based View Theory**

The theory focuses on the internal traits of the firms and its performance (Porter, 1991). The theory postulates the achievements and accomplishment of organization being based on the internal resources utilized. The strategic and competitive advantage ails from the unique and idiosyncratic resources that are optimized in the operation of the business. Barney (1991) postulated that a business organization is collection of resources that are heterogeneous, scarce and are assemble, utilize prudently, managed effective and use economical to realize productivity and efficiency. The firms are the assemblage of knowledge, skills, capabilities, finance, and other scarce resource. The performance of industries is realized whenever the resources are utilized fully. The wastage and spillage must be prevented and minimize. Thereby, reducing losses and ensuring well-functioning organizational system. Collaboration and cooperation increase the creativity, innovation, and interlocks support. The continuous improvement and meaningful results are achievable through combined efforts aimed to reduce cost. The cost reduction and profit maximization measures are paramount in ensuring the immense performance of the firm. Success Factors that are of significance and the productivity of the adhesive industries. The theory is applicable where the organic adhesive industries concentrate on their internal characteristics and performance. The capability and specialization in terms of functions, culture, position, and regulation differential improves the performance of organization. The resources accumulated in the company add value to the performance. The unique available resources are not imitable, unique and have distinctive traits.

## **2.3 Critical Success Factors and Operational Performance**

### **2.3.1 Technological Innovation**

Juana (2021) studied the factors influencing gluing quality of solid adhesive production for construction purposes. The study concluded technological innovation is very critical in adhesive production. The organic adhesive industry has utilized the valuable technology in their continuous productions, which allows the execution of innovative engineered towards efficiency. Quality assurance in the organic adhesive industry is indispensable to warrant the desired performance and the satisfaction of customers' tastes.

Technological innovation is the driving engine of the economic development that enhances the business continuity. It ensures adaptation to the prevailing market demands based on the digital-led business. It is integral part of critical success part of the organization. Critical Success Factors elucidate the drastic technological adoption and improvement of the objectives and driving force of the organizations. It is paramount in the continuity of business operation and indicates the extensive productivity, efficiency, and effectiveness by narrowing to the driving engines of the business (Young & Mustafa, 2013). The project success depends solely on the success factors of significance. It helps in the getting things right from the employment, adoption of technology, sourcing resources and innovation.

Omran et al. (2012) postulated CSF enhances the performance of many firms. It provided a holistic perspective towards the futuristic considerations. The researcher optimized the quantitative method while scrutinizing the ten categories of success factors that played integral role in the yield from the construction projects. The research finding opined that CSF is the backbone of the business operation. In recent years, technological advancement has become driving force in organic adhesive industry. It is utilized in packaging, electronics, automobile, and textile. The advantages of technological innovations include superior products, quality improvement, cost efficiency, sustainability, highly durable products, and high productivity. For many organic adhesive sectors, innovation and technical progress are becoming more critical to financial success (Sani & Allah, 2012). Technological innovation has been operationalized through Likert in scale five while some researchers quantified by using the new products and new methods.

### **2.3.2 Process Design**

Process design is the paradigm towards holistic realization of the efficient, effective and customer driven long-range outlook. Koutsikouri et al. (2008) explored the fundamental role played by the interdisciplinary design. The study advocated for bold, achievable, and effective process design. The study findings built the knowledge on the prioritized the productive and reorganized the objective dictated by CFS. The study provided the solid foundation on contributions of CFS on the of numerous companies' performance.

Bockel (2020) studied the characteristics of wood adhesive in wet conditions. The research findings indicated that process improvement enhances the production of quality organic adhesive products. More and more industries are switching from using mechanical or other joining techniques to organic adhesive solutions, including packaging, electronics, automotive, textile, construction, and heavy equipment. Organic adhesives have risen to prominence as one of the most important chemical products in contemporary industry as a result of their many benefits over traditional joining techniques. Recommendation to Seller (2017).

Innovative advantage and the need for further exploitation, as stated by Gaynor (2012), creates incentives for reorganization of the strategic landscape. Organic glue manufacturers may be able to increase demand for their product if they can demonstrate an innovative edge by delivering price reductions and distinctive features. For adaptation to be successful, one must be able to recognize both when change is necessary and when it is not (Singh & Singh, 2009). Advantages in innovation that aid in the making of sound business decisions have a better chance of lasting. According to Rof (2012), a company may gain a competitive advantage by capitalizing on its strengths in areas like human resources, infrastructure, and industry expertise to create and distribute goods and services that are in demand.

### **2.3.3 Quality Management**

The to go hand in hand when quality is managed well. Consumer expectations, technological advancements, rivalry, and globalization are just a few of the unpredictable factors that businesses must adapt to. Firm performance is impacted by the high degree of uncertainty caused by the constantly changing competitive environment (Wilden et al, 2013). Only businesses that can

develop and maintain a distinct edge in the market to be successful (Zott, 2003; Wilden et al, 2013). Talib et al. (2013), postulated that the system of managing quality ensures the good and productive performance. The management must always strive towards production excellence (Bon & Mustafa, 2013). The production must be done in conjunction with customers' demands and needs. The customers' needs must be addressed urgently and with great prioritizations. Keeping the pace with drastic Changes in customers' needs demand process technology and dynamic capability. Firms must follow the quality stipulated standards (Bon & Mustafa, 2013). The process needs periodic monitoring and evaluation to reach the stipulated needs and demands. The dynamic capabilities ensure that varieties demand are met with minimal efforts and obstructions (Slack, Brandon & Johnson, 2013).

Mund (2019) studied the suitability of quality managements. The research focused on the organic adhesive industry and proposed a process of quality assurance execution. The research concluded that quality assurance processes are very important in the adhesive sector. Organic glue businesses in affluent nations are adopting a value chain strategy as a means of survival (Bititci, et al, 2010). That way, they can compete not only on price, but also on value innovation, process excellence, and environmental sustainability (Bititci, et al, 2010). There have been various political shifts in African nations that have affected their rates and levels of development long after they gained independence.

#### **2.3.4 Product Design**

The product design is very important in the adhesive industry. It is crucial for the determination of the cost. Furthermore, it is very vital for benchmarking. The product design can play an integral power in the market (David, 2012). It is crucial for the dramatic improvement to suit the desired market. The product design should match the customers' taste and preference. The quality product design ensures the prudential achievement of the set targets. The effectiveness and quality production enhance the integration in the market. Fadly (2013) found out that CSF were the driving force in the business operation. The research scrutinized the CSF that enabled the performance regarding the Lean Six Sigma. The findings indicated the significant and integral fueling force resulting from CSF. The study stated leadership was the roadmap towards the efficient performance, while the customer focus provided the avenue for improves productivity, quality,

and implementation of the projects. The study was done in Malaysian hence it a global study; thereby there is need for the local study.

Bon & Mustafa, 2013 postulated the important of product in enhancing the product market base. It is crucial for implementation of the innovative paradigm for the attainment of the organizational goals. The onset of the product design is critical analysis of customer-driven intentions, tastes, and preference to establish the wide range of long-range outlook. It helps in the consistent, productivity and integration of new products' decision. The implementation of the innovative product that fit the tastes and preference of the consumers enhance market development. Product designs increase technological uptake, cost efficiency, improve competition improve organizational performance.

#### **2.4 Critical Success Factors and Operational Performance.**

Operational performance has increasingly gained significance and attention of late. The operational firms are increasingly getting concerned on the performance regarding their production processes as they seek to remain competitive in the ever dynamic and competitive market (Pinho, 2008; Elouarat et al, 2011). However, there are also challenges that these entities face even as they strive to have their production performance improved. Thus, the processes of improving on the performance goes hand in hand with overcoming the challenges (Kanji, 2001). A comprehensive and flexible framework should therefore be in place that would guide the firms in navigating the dynamic markets. This framework should be holistic and should incorporate the entire operations of the firm (Ismael et al, 2019).

Various entities have made use of the critical success factors in order to enhance their management of the quality standards as well as improving on the performance of their operations (Anderson & Evans, 2000). The approach has motivated the management of the organizations in identifying the key components that have a huge contribution towards the improvement in the performance of the operations of the entity (BouKnight, 2004). The approach of the application of CSF has been widely adopted in a number of studies in the determination of the key components that enhance the rate of success in a particular entity or field. For successful operational performance implementation, it depends on various key factors namely leadership, human sources, process management, organizational culture and structure and operational strategy.



### **2.4.1 Leadership Style**

The style of leadership is an essential component in any organizational setup. The style is significant as it shapes the how the organizational team performs as well as the achievement of the objectives of the entity. A good leadership style or good leaders take the responsibility of effective communication within the entity, ensure the employees understand their tasks, are working efficiently, and further takes charge of the operations of the company including prudent use of the finances. A good leader is also an ambassador of unity and peace in the organization (Friedli et al., 2013).

### **2.4.2 Human Resources Practices**

Human resources according to (Yew & Ahmad, 2014) entail the practices and approaches that can be employed by an organization in achieving better performance. On the other hand, the practices of human resources refer to the tools and activities that utilizes the individual knowledge and capabilities within the entity as a competitive advantage of the organization to enhance its success. These resources are essential in the firm because it gives the firm a competitive advantage and effective utilization enhances the company performance. The resources of human in most cases are difficult to imitate, ambiguous and unique (Wright et al., 2001).

### **2.4.3 Organization Culture**

This entails the types of values and norms shared and discovered by a group. The norms may include the feelings, values, and beliefs within the organization by the groups that are inherent in the entity (Schein, 2004). An organization can be defined as a set of assumptions, beliefs and shared values in the goals and activities of the organization that have an encouragement on the individual or the group to understand the function of the organization as well as being a source of the behavioral norms regarding the organization (Liu et al., 2010). Thus, the culture of an organization is the considered as the engine because it is a source of ability and strength to the entity by making the groups or individuals in the organization to be responsible (Chi et al., 2008).

#### **2.4.4 Organizational Structure**

The structure of the organization entails the way an organization adopts to allocate tasks to its employees as well as the manners in which the tasks allocated to the employees are coordinated (Mintzberg, 2007). The performance of smaller organization is usually determined by the structure of the organization because these entities largely rely on labor as the most essential input. Thus, organizations are taking keen interest on the reorganization of their various production inputs in order to realize the much-needed d operational performance as well as remaining competitive in the dynamic environment of doing business (Meijaard et al., 2005).

#### **2.4.5 Process Management**

The management of the various processes in production involve the activities that are put in place to produce a product that meets the standards of the client (Ittner & Larcker, 1997). Thus, it is a process that involves keen utilization of inputs and in a coordinated and supervised manner to give a quality product that meets the quality standards that clients demand. The strategies that are employed towards meeting these requirements should be holistic and should involve the entire organization. Every employee should be cognizant of the quality standards so that they work towards achieving them (Pritchard & Armistead, 1999). The management of the processes of the organization enables the entity to satisfy its customers thus maintaining the customer base as well as remaining competitive in the dynamic environments where businesses take place (Hung, 2006).

### **2.5 Summary of Literature Review and Research Gaps**

The previous studies as demonstrated by the empirical review have demonstrated positive, negative, and neutral findings. The absence of consensus among the researchers creates contextual, conceptual, and methodological loopholes that can be solves by conducting the local research. Furthermore, the studies done globally cannot be utilized to represent the Kenya perspective due to different time zone, economic condition, climates, socio, political and economic productivity. The regional studies have been crucial in study of CSFs in Kenya. The research provided significant, bold, and efficient plan for the CFSs in Kenya. The study analyzed the Henkel Company to postulate and gauge the CFSs. The study is crucial since local study has been done previously on the Henkel industries concerning the CSFs. This study stands to provide new

paradigm for the success of the adhesive industries and others. It is crucial for the integration of adhesive industries' goals and product design.

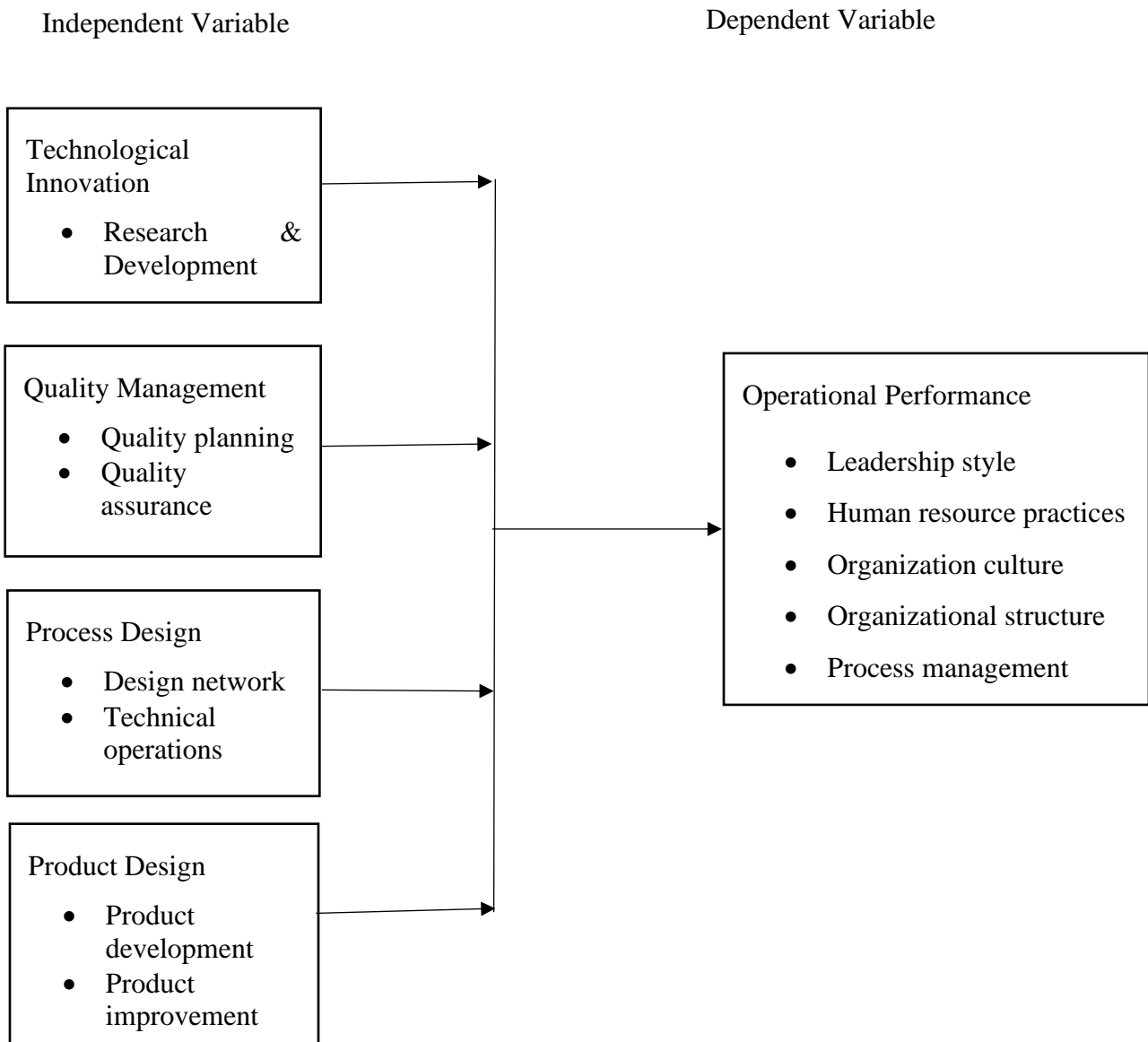
Table 2.1 Summary of Literature Review and Research Gaps

<b>Author</b>	<b>Focus</b>	<b>Methodology</b>	<b>Findings</b>	<b>Knowledge gap</b>	<b>Areas of focus</b>
Fadly (2013)	Critical success factors and lean six sigma	Descriptive and inferential	Leader and customer are crucial for CSF	The study did not focus on use of content analysis. Further it did not consider the adhesive manufacturing industries	Critical success factors in adhesive industry and the use of content analysis
Juana (2021)	Technological innovation in the adhesive industry	Descriptive method	Technological innovation improves quality of production	The study did not look at the CSFs	This research concentrates on the CSFs in the adhesive industry (Henkel)
Rumane (2016)	Adhesive Industries and allocation of resources	Descriptive research method	Allocation of resources improves the performance of adhesive industry.	CSF in organic adhesive industry of Henkel.	The research investigates CSFs while utilizing content analysis
Omran (2012)	Critical Success Factors and Performance	Descriptive method	CSR enhance performance	Henkel Industry gap, contextual gap on adhesive industry and content analysis	Henkel Industry and content analysis
Young and Mustafa (2013)	Critical Success Factors and Business Continuity	Descriptive and Inferential	CSR promote Business continuity	Contextual gap on Henkel industry and methodological gap on content analysis	This research assesses the CSFs in adhesive industry

## 2.6 Conceptual Framework

Conceptual framework is diagrammatic representation that stipulates the existing association amid the regressor variable and the regressed variable. It is an analytical tool that anchors the presumption and the presupposition of the researcher. In this study, the dependent variable is production performance, while the independent variable is process technology and dynamic capabilities.

Figure 2.1 conceptual framework



Source Research, (2023)

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

The study's methodology is extensively explicated in this segment, delineating intricate details regarding the research approach, target population, data collection techniques, and data analysis methodologies employed throughout the investigation. Within this section, a systematic explanation of the research procedures and the rationale behind the chosen methods was presented. Consequently, study's precise focus on the specific population of interest and the adept strategies employed to amass pertinent data are assiduously described to ensure utmost transparency and reproducibility. Additionally, the section delved deep into the data analysis techniques applied to extract insightful conclusions and meaningful interpretations from the gathered data. By providing a comprehensive and thorough account of the study's methods, the methodology section substantially bolstered the research's credibility while granting readers a clear comprehension of how the research findings were derived.

### **3.2 Research Design**

A research design, as defined by Kothari and Karg (2015), is "an arrangement of circumstances for collecting and analyzing data that tries to combine relevance to the study objective with economy in technique" (Kothari & Karg, 2015). Studies were conducted using a quantitative case study method. The goal of this research design is to characterize some entity of interest. Findings from quantitative case studies allow researchers to better capture unique and organic patterns of behavior. Asking participants questions about their thoughts, feelings, actions, and values is one method used in quantitative case study research (Mugenda and Mugenda, 2003). This layout was created with the intention of expanding our existing vocabulary of demographic descriptions and event explanations. This research strategy was crucial because it considered important factors including the economy of the design, allowing for speedy data gathering and the capacity to comprehend the population from a portion of it.

### 3.3 Target Population

The unit of observation for the study was Henkel Kenya limited whereas the unit of analysis were the employees of Henkel Kenya limited. The target population were employees of the Henkel in the following departments: Human Resource, Finance, Information Systems, Audit, Risk and Compliance, Procurement and Operations Departments. The researcher also interviewed the head of each department since they have tactical plans and the strategies of the organization. The research information was source from integral part of the organization. Ngechu (2004) defined a population as a clearly delineated sample from which to draw conclusions about the phenomenon under study. Henkel Kenya limited has approximately 320 employees spread across various departments.

### 3.4 Sampling Design

Sampling is a technique used in statistics to verify that data collected is really representative of the population as a whole. The process helped with quality control, polling, and choosing. That is the whole slew of events that the study's focus, Henkel Kenya limited wanted to draw conclusions about. Because the population was not evenly distributed throughout all strata, an irregular stratified sampling approach was adopted in achieving a representative sample. Cooper and Schindler (2006) define a sampling frame as a collection of components where the sample is taken and closely connected to the population. The sample for this research consisted of Henkel Kenya limited employees from the departments; Human Resource, Finance, Information Systems, Audit, Risk and Compliance, Procurement and Operations.

Targeted individuals included the employees in different sections such as human resources, finance, information technology, internal auditing, risk management, procurement, and operations. The individuals with important responsibilities in developing and executing tactical and strategic plans comprise the backbone of the selection pool. This is calculated as shown in the formula.

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

Where:

**n** = sample size

**N** = population size

**e** = the level of precision

1 = Constant

This formula assumes a degree of variability (i.e. proportion) of 0.5, the level of precision of 5 percent and a confidence level of 95 percent.

$$n = 320 / \{1 + 320(0.05)^2\} = 178$$

The result was a sample of 178 respondents. Cooper and Schindler (2000) suggest that researchers should describe demographic characteristics, establish sample size requirements, and pick the most appropriate sampling technique.

### **3.5 Data Collection**

The researcher collected the data through structured questionnaires. The questionnaires guideline was structured into five parts; section A contained personal details of the respondents, section B contain impacts of technological innovations, section C contain process design, section D contain quality management, section E covered the product design and section F production performance. Furthermore, the respondents were given time to respond. The data was collected, verified, monitored, classified, and summarized to reflect critical success factors in the organic adhesive industry.

### **3.6 Data Analysis**

The dataset collected through questionnaires were subjected to SPSS Analysis. Before analyzing the data, the returned questionnaires were reviewed for completeness. The information was then subjected to SPSS for the analysis. Multiple regression examined how variables relate to each other. In addition, descriptive statistics summarized data using measures like mean, standard deviation, and frequency distribution, while inferential statistics make conclusions based on sample data through hypothesis testing and confidence intervals. Moreover, visual aids like charts and tables illustrated the data and highlighted associations. Scatter plots showed connections between continuous variables, and bar charts compare categorical variables. Using these methods together provided a thorough comprehension of variable relationships in multiple regression.

#### **3.6.1 Diagnostic Tests**

Diagnostic tests are the fundamental dimension of investigation as they scrutinize the connection in the midst of predictor and predicted variables. The magnitude and direction of correlation between variables were epicenter in comprehension of the research findings. To ensure the validity

of the results, several diagnostic tests were undertaken, including multicollinearity, normality, and autocorrelation tests.

Multicollinearity tests is the inter-relationship between two or more regressed variables. If there is a correlation between them, it can lead to the removal of one of the variables. Normality tests examined the pattern of data distribution, and the P-value guided researcher on how to interpret the results. Autocorrelation was important in explaining the randomness, lagged, and historical patterns of time series. If autocorrelation was absent, further analysis could have been needed to understand the data.

Furthermore, in diagnostic tests, statistical methods such as Durbin Watson, VIF, and Kolmogorov-Smirnova were used. Durbin Watson helped to detect autocorrelation in the data, while VIF measured the degree of multicollinearity between two or more independent variables. Kolmogorov-Smirnova tests the normality of the data distribution. By conducting these diagnostic tests, researchers ensured the accuracy and validity of their research findings.

### **3.6.2 Empirical Model**

The computation of the correlation in the midst of explanatory and explained variables is supreme in research. It was pivotal in the investigation process as well as in arriving at a conclusive outcome. These models offered a means of quantifying and computing data, facilitating its interpretation and comprehension. Furthermore, analytical models assisted in directing the interrelationship between variables, while the empirical model provides a condensed and inclusive summary of this correlation.

The analytical model, as noted by Rensik (2003), aims to create a linear association between the predictor and predicted variables. This involves establishing a straight-line relationship between these variables, which can then be utilized to forecast the values of the predicted variable based on the values of the predictor variables. Analytical models are indispensable in predicting future trends and outcomes, identifying patterns and relationships in the data, and developing strategies for decision-making. They provide valuable insights into the relationship between predictor and



predicted variables and enable researchers to draw meaningful conclusions and make informed decisions by interpreting the data accurately. This can be summarized as;

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Whereby:

Y = Operational Performance

$\alpha_0$  = y intercept of the regression (constant variable)

$X_1$  = Technological Innovation

$X_2$  = Process Design

$X_3$  = Quality Management

$X_4$  = Product Design

$\varepsilon$  = error term

### **3.6.3 Significance Tests**

Data analysis is an essential aspect of research, and statistical significance tests are used to determine the reliability and validity of the findings. The F-Test, T-Test, and ANOVA are all crucial tests that help in reaching conclusive results. In addition, the utilization of 5 percent and 95 percent confidence levels is vital in the presentation and interpretation of the results obtained from these tests.

## **CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION**

### **4.1 Introduction**

This section outlines the data analysis, presentation, and discussion of the study's primary findings. The data analysis is carried out in accordance with the technique described in the third chapter. The study used primary data collected through semi-structured questionnaires on a sample size of 178 Henkel Kenya Company limited employees. After distributing 178 questionnaires, 133 were fully completed and returned, representing a response rate of 74.7 percent. According to Fincham (2008), this response rate is adequate for a research study. The study's strong response rate was ascribed to the participants' early knowledge of the study's purpose, as well as the usage and confidentiality of the data gathered.

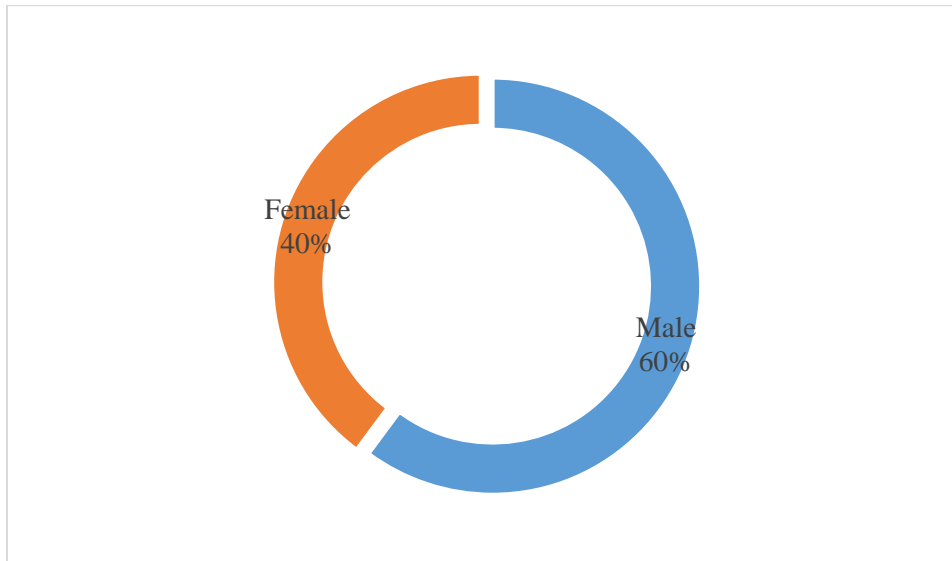
### **4.2 Demographic Information**

The methodology section meticulously presents crucial information about the respondents, including demographics such as gender, age, and education level, collected through the questionnaire. This comprehensive profile enhances understanding of the individuals involved in the research. By including this data, researchers gain insights into the study's results in relation to respondents' attributes, fostering nuanced interpretations. Additionally, presenting this information promotes transparency, enabling readers and researchers to assess sample representativeness and the impact of demographics on outcomes.

#### **4.2.1 Gender of the Respondents**

The respondents were asked to specify their gender in one of the questions. Herein stated are the analysis's findings.

Figure 4.1: Gender



From the results, 60 percent of the respondents contacted in the study were male whereas 40 percent were female.

### **4.3 Critical Success Factors in the Adhesive Industry**

The primary objective of the investigation was to determine the essential success elements that impact the operational performance of the organic adhesive sector. Factors including technological aspects, process design, quality control, and product design were discovered by the study.

#### **4.3.1 Technological Factors**

Determining the impact of technological parameters on the operational performance of the organic adhesive industry was the aim of the study. Table 4.1 provides a summary of the descriptive findings, which include the mean and standard deviation of the technological factor questions.

Table 4.1: Descriptive Results for Technological Factors

	SD %	D %	N %	A %	SA %	M	S Dev
The technological innovation is critical for continuous improvement of performance in our industry	8.3%	15.8%	17.3%	24.1%	34.6%	3.6	1.3
Our organization has obtained operational efficiency and effectiveness due to continuous improvement in innovation.	6.8%	11.3%	27.8%	24.1%	30.1%	3.6	1.2
Several steps have taken to further improve the integration of technological innovation in our production processes	7.5%	9.8%	24.1%	28.6%	30.1%	3.6	1.2
Employees have been consulted on different technological innovations before executions	7.5%	18.0%	19.5%	21.1%	33.8%	3.6	1.3
Our organization is leveraging the existing new techniques to enhance performance	9.0%	15.8%	20.3%	25.6%	29.3%	3.5	1.3

Source: Research 2023

From the outcomes, the question, the technological innovation is critical for continuous improvement of operational performance in our industry received responses as follows. 34.6 percent of the responses were in strongly in tandem, 24.1 percent in tandem while 17.3 percent neutral with a mean of 3.6 and a corresponding SD of 1.3 implying that on average, the responses were in agreement. 25.6 percent of the respondents further agreed that their organization is leveraging the existing new techniques to enhance performance, 20.3 percent taking a neutral stand and 29.3 percent strongly agreeing with a mean and SD of 3.6 and 1.3, respectively.

Regarding the question, our organization has obtained operational efficiency and effectiveness due to continuous improvement in innovation, 30.1 percent of those contacted did strongly agree, 24.1 percent agreeing whereas 27.8 percent did not take sides with a mean of 3.6 and an SD of 1.2. With an average of 3.6 and SD of 1.2, 30.1 percent of the responses agreed that several steps have taken to further improve the integration of technological innovation in our production processes. Furthermore, 28.6 percent were in concurrence while 24.1 percent did not take sides. Finally, 33.8

percent of the responses were in strong agreement that employees have been consulted on different technological innovations before executions. However, 21.1 percent agreed and 19.5 percent neutral with a mean of 3.6 and an SD of 1.3.

### 4.3.2 Process Design

The study sought to analyze the effect of process design on the operational performance of the organic adhesive industry. The descriptive results that encompass the mean and the SD of the questions on process design are presented in Table 4.2.

Table 4.2: Descriptive Statistics for Process Design

	SD	D	N	A	SA	M	S Dev
	%	%	%	%	%		
The employees are kept abreast on the new resources and utilizations	5.3%	12.0%	23.3%	26.3%	33.1%	3.7	1.2
The regular review of the process design has heightened quality products	6.0%	12.0%	22.6%	24.8%	34.6%	3.7	1.2
A well-designed process has led to a reduction in production costs and an increase in overall profitability	5.3%	15.8%	19.5%	33.1%	26.3%	3.6	1.2
There is collaboration between production and process design teams which is crucial for achieving optimal production performance	9.8%	10.5%	19.5%	33.1%	27.1%	3.6	1.3
The organization is keen in the identification of resources to enhance production	11.3%	12.0%	18.8%	27.8%	30.1%	3.5	1.3

Source: Research 2023

From the results, the question, the organization is keen in the identification of resources to enhance production recorded responses as follows. 30.1 percent of the responses were in strongly in agreement, 27.8 percent in tandem while 18.8 percent neutral with a mean of 3.5 and a corresponding SD of 1.3 implying that on average, the responses were in agreement. 26.3 percent of the respondents further agreed that the employees are kept abreast on the new resources and utilizations, 23.3 percent taking a neutral stand and 33.1 percent strongly agreeing with a mean

and SD of 3.7 and 1.2, respectively. Regarding the question, a well-designed process has led to a reduction in production costs and an increase in overall profitability, 26.3 percent of those contacted did strongly agree, 33.1 percent agreeing whereas 19.5 percent did not take sides with a mean of 3.6 and an SD of 1.2.

With an average of 3.6 and SD of 1.3, 33.1 percent of the responses were in agreement that there is collaboration between production and process design teams which is crucial for achieving optimal production performance. Furthermore, 27.1 percent were in concurrence while 19.5 percent did not take sides. Finally, 34.6 percent of the responses were in strong agreement that the regular review of the process design has heighten quality products. However, 24.8 percent were in agreement and 22.6 percent neutral with a mean of 3.7 and an SD of 1.2.

### 4.3.3 Quality Management

The study sought to determine the effect of quality management on the operational performance of the organic adhesive industry. The descriptive results that encompass the mean and the SD of the questions on quality management are outlined in Table 4.3.

Table 4.3: Descriptive Statistics for Quality Management

	SD %	D %	N %	A %	SA %	M	S Dev
Our company has a documented process for identifying and addressing quality issues in our adhesive production process	9.0%	9.0%	14.3%	29.3%	38.3%	3.8	1.3
Our company has a system for tracking customer complaints and using this feedback to improve our adhesive products and production process	4.5%	9.0%	19.5%	36.1%	30.8%	3.8	1.1
We conduct regular audits and assessments of our adhesive production process to identify opportunities for improvement and maintain quality standards	7.5%	7.5%	19.5%	33.1%	32.3%	3.8	1.2
Our company has a quality management system in place to ensure that our adhesive products meet or exceed customer requirements	6.0%	15.0%	20.3%	33.8%	24.8%	3.6	1.2

Our adhesive products undergo thorough quality inspections before being released to customers

7.5% 17.3% 15.8% 32.3% 27.1% 3.5 1.3

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Source: Research 2023

It can be noted from the results, the question, our company has a quality management system in place to ensure that our adhesive products meet or exceed customer requirements attracted responses as follows. 24.8 percent of the responses were in strongly in agreement, 33.8 percent in tandem while 20.3 percent neutral with a mean of 3.6 and a corresponding SD of 1.2 meaning that on average, the responses were in agreement. 29.3 percent of the responses further agreed that their company has a documented process for identifying and addressing quality issues in our adhesive production process, 14.3 percent taking a neutral stand and 38.3 percent strongly agreeing with a mean and SD of 3.8 and 1.3 respectively.

Regarding the question, our adhesive products undergo thorough quality inspections before being released to customers, 27.1 percent of those contacted did strongly agree, 32.3 percent agreeing whereas 15.8 percent did not take sides with a mean of 3.5 and an SD of 1.3. With an average of 3.8 and SD of 1.1, 36.1 percent of the responses were in agreement that their company has a system for tracking customer complaints and using this feedback to improve our adhesive products and production process. Furthermore, 30.8 percent were in strong concurrence while 19.5 percent did not take sides. Finally, 32.3 percent of the responses were in strong agreement that they conduct regular audits and assessments of our adhesive production process to identify opportunities for improvement and maintain quality standards. However, 33.1 percent were in agreement and 19.5 percent neutral with a mean of 3.8 and an SD of 1.2.

#### **4.3.4 Product Design**

The study sought to determine the effect of product design on the operational performance of the organic adhesive industry. The descriptive results that encompass the mean and the SD of the questions on product design are outlined in Table 4.4.

Table 4.4: Descriptive Statistics for Product Design

	SD	D	N	A	SA	M	S Dev
	%	%	%	%	%		
The adoption of eco-friendly and sustainable product design practices has improved the reputation and competitiveness of our company	9.0%	7.5%	15.8%	33.1%	34.6%	3.8	1.3
Conducting market research and incorporating customer feedback into product design has resulted in higher demand and increased production performance of our company	7.5%	12.8%	19.5%	24.8%	35.3%	3.7	1.3
Investing in employee training and development in product design has led to higher production efficiency and quality of our organization	7.5%	11.3%	18.0%	30.8%	32.3%	3.7	1.2
Implementing a customer-focused product design strategy has contributed significantly to the success of production of our firm	6.0%	14.3%	22.6%	22.6%	34.6%	3.7	1.3
Regular testing and analysis of new product designs can lead to enhanced production efficiency of our business	9.0%	10.5%	24.1%	28.6%	27.8%	3.6	1.3

Source: Research 2023

It is worth noting from the results, the question, conducting market research and incorporating customer feedback into product design has resulted in higher demand and increased production performance of our company received responses as follows. 35.3 percent of the responses were in strongly in agreement, 24.8 percent in tandem while 19.5 percent neutral with a mean of 3.7 and a corresponding SD of 1.3 meaning that on average, the responses were in agreement. 30.8 percent of the responses further agreed that investing in employee training and development in product design has led to higher production efficiency and quality of our organization, 18.0 percent taking a neutral stand and 32.3 percent agreeing strongly with a mean and SD of 3.7 and 1.2 in that order.

Regarding the question, implementing a customer-focused product design strategy has contributed significantly to the success of production of our firm, 34.6 percent of those contacted did strongly



agree, 22.6 percent agreeing whereas 22.6 percent did not take sides with a mean of 3.7 and an SD of 1.3. With an average of 3.8 and SD of 1.3, 33.1 percent of the responses were in agreement that the adoption of eco-friendly and sustainable product design practices has improved the reputation and competitiveness of our company. Furthermore, 34.6 percent were in strong concurrence while 15.8 percent did not take sides. Finally, 27.8 percent of the responses were in strong agreement that regular testing and analysis of new product designs can lead to enhanced production efficiency of our business. However, 28.6 percent were in agreement and 24.1 percent neutral with a mean of 3.6 and an SD of 1.3.

#### 4.3.5 Operational Performance

The dependent factor of the study was the operational performance of the organic adhesive industry. The descriptive results that encompass the mean and SD of the questions on operational performance are outlined in Table 4.5.

Table 4.5: Descriptive Results for Operational Performance

	SD	D	N	A	SA	M	S Dev
	%	%	%	%	%		
Utilizing advanced technology and innovative techniques in product design and production can lead to improved performance and competitive advantage in the adhesive industry	3.8%	11.3%	20.3%	32.3%	32.3%	3.8	1.1
A strong focus on employee training and development is essential for achieving high levels of productivity and performance in the adhesive industry	5.3%	12.0%	16.5%	26.3%	39.8%	3.8	1.2
Regular maintenance of production equipment is a critical success factor for ensuring efficient and effective production in the adhesive industry	6.8%	12.8%	21.1%	25.6%	33.8%	3.7	1.3
Effective supply chain management is a critical success factor for ensuring timely delivery of high-quality products to customers in the adhesive industry	6.0%	10.5%	20.3%	30.8%	32.3%	3.7	1.2
Effective management of raw materials is crucial for achieving high-quality production in the adhesive industry.	6.0%	12.0%	24.1%	30.1%	27.8%	3.6	1.2

Source: Research 2023

From the results, the statement, effective management of raw materials is crucial for achieving high-quality production in the adhesive industry received responses as follows. 27.8 percent of the responses were in agreement strongly, 30.1 percent in tandem while 24.1 percent neutral with a mean of 3.6 and a corresponding SD of 1.2 meaning that on average, the responses were in agreement. 25.6 percent of the responses further agreed that regular maintenance of production equipment is a critical success factor for ensuring efficient and effective production in the adhesive industry, 21.1 percent taking a neutral stand and 33.8 percent agreeing strongly with a mean and SD of 3.7 and 1.2 in that order. Regarding the question, utilizing advanced technology and innovative techniques in product design and production can lead to improved performance and competitive advantage in the adhesive industry, 32.3 percent of those contacted did strongly agree, 32.3%, agreeing whereas 20.3 percent did not take sides with a mean of 3.8 and an SD of 1.1.

With an average of 3.7 and SD of 1.2, 30.8 percent of the responses were in agreement that effective supply chain management is a critical success factor for ensuring timely delivery of high-quality products to customers in the adhesive industry. Furthermore, 32.3 percent were in strong concurrence while 20.3 percent did not take sides. Finally, 39.8 percent of the responses were in strong agreement that a strong focus on employee training and development is essential for achieving high levels of productivity and performance in the adhesive industry. However, 26.3 percent were in agreement and 16.5 percent neutral with a mean of 3.8 and an SD of 1.2.

#### **4.4 Critical Success Factors and Operational Performance**

Organizational culture, operations strategy, process management, leadership style, and human resources practices are the key success factors that have been found to be essential for improving operational performance in the organic adhesive sector. Through inspiring followers to achieve organizational goals, a leader's style plays a vital role in promoting change. Together with maintaining effective lines of communication and coordination between the workforce, finances, and marketing, leaders also need to foster a sense of togetherness among their people. The organization's performance is improved by human resource practices, which are crucial to a business. Owing to the practices' distinctiveness, ambiguity, and difficulty in imitation, they help

the organization attain greater performance and can be a valuable asset for maintaining competitive advantage.

The organization's culture, which is a collection of common values, assumptions, and beliefs that are exhibited through its objectives and activities, helps its members understand how organizations function and establishes expectations for acceptable behavior. You may think of it as the organization's soul, growing its power and capability. It makes it possible for the members of the organization to identify and comprehend their roles and duties. The business's overall process of transformation is included in the operations strategy. In order to meet the current and future problems, the operation must adapt to the altered competitive environment. Additionally, the distribution and synchronization of work within the organization are part of the organizational structure. The performance of the company will be influenced by how well inputs like labor and capital are organized and converted into marketable goods and services. Lastly, process management should be understood by all staff members as a collection of tactics and tools for improving processes as well as a method for organizing the entire company. Insofar as it enables organizations to adapt to the constantly shifting needs of the market, it is vital.

#### **4.4.1 Diagnostic Tests**

Testing the adequacy of the gathered data for model estimate was the goal of the diagnostic procedures. Autocorrelation, multicollinearity, and normality tests were among the tests that were performed.

##### **4.4.1.1 Tests for Multicollinearity**

According to William et al. (2013), multicollinearity refers to the correlations that exist between the study's independent variables. Due to the inflation of standard errors and confidence intervals caused by multicollinearity, estimations of the coefficients for individual predictors become unstable (Belsley et al., 1980). The study used the Variance Inflation Factors to test for multicollinearity. According to Field (2009), multicollinearity exists when the VIF value is greater than 10, while values less than 10 suggest no multicollinearity at all.

Table 4.6: Multicollinearity Test Results.

	Tolerance	VIF
Technological Innovation	0.852	1.173
Process Design	0.720	1.389
Quality Management	0.645	1.550
Product Design	0.713	1.403

Source: Research 2023

From the results, the VIF values of all the variables that is, technological innovation (1.173), process design (1.389), quality management (1.550) and product design (1.403) were all <10 an indication that there is no multicollinearity in the data set.

#### 4.4.1.2 Autocorrelation Tests

Serial correlation was conducted to ascertain the correlation of error terms among the variables. The study adopted Durbin Watson test to test for autocorrelation. Durbin Watson value=2 indicates that there is no auto correlation. A Durbin Watson value <2 indicates the presence of positive autocorrelation and a Durbin Watson value>2 indicates the presence of negative autocorrelation.

Table 4.7: Autocorrelation Test Results

	Durbin Watson
Model	2.003

The outcomes indicate that the Durbin Watson for the estimated model is 2.003 a value close to 2 an indication that there is no autocorrelation in the data set. Thus, the data is fit to carry out regression analysis.

#### 4.4.1.3 Normality Tests

Before carrying out regression analysis, it is necessary to test on the distribution of data. The assumption of normality ( $ut \sim N(0, \sigma^2)$ ) is therefore necessary (Brooks, 2008). The study applied the Skewness and Kurtosis in testing for the normality in the data set. As a rule of thumb, the values of  $P > 0.05$  indicates that the data is normally distributed and hence the null hypothesis is rejected. Therefore, the study fails to reject the alternative hypothesis.

Table 4.8: Normality test results.

	Obs	Pr (Skewness)	Pr (Kurtosis) adj	Prob>chi2
Technological Innovation	133	0.004	0.705	0.699
Process Design	133	0.083	0.004	0.518
Quality Management	133	0.020	0.008	0.305
Product Design	133	0.071	0.005	0.193

Source: Research 2023

It is worth noting from the results that the estimated P values for the variables of the study are  $>0.05$  that is,  $0.699 > 0.05$ ,  $0.518 > 0.05$ ,  $0.305 > 0.05$  and  $0.193 > 0.05$ . This is an indication that the data set in the study follows a normal distribution and hence the null hypothesis that the data is not normally distributed is rejected and the study fails to reject the alternative hypothesis.

#### 4.4.2 Inferential Analysis

This study employed inferential analysis, utilizing two fundamental statistical methodologies: regression analysis and correlation analysis, with the primary objective of elucidating the intricate relationships between the variables under investigation. Through a meticulous examination of the regression coefficients, the research aimed to discern the magnitude and direction of these relationships, yielding valuable insights into the variables' significant impact on operational performance. Concurrently, the correlation analysis diligently gauged the degree of association among the variables, effectively discerning whether they exhibited positive, negative, or negligible relationships. These indispensable inferential analyses played a pivotal role in unearthing the intricate interconnections and dependencies among the critical factors, thereby contributing to a profound and all-encompassing comprehension of their collective influence on the financial outcomes of the entities scrutinized.

#### 4.4.3 Correlation

Pearson correlation analysis was conducted to determine the strength and direction of relationships between the study factors. The investigation utilized Pearson correlation analysis to evaluate the intensity and direction of connections among the pivotal factors under scrutiny. This statistical technique quantifies the linear association between two variables, yielding a correlation coefficient spanning from -1 to 1. A positive coefficient signifies a favorable correlation, a negative one indicates an adverse correlation, and a value of zero denotes no linear correlation. The findings

offer valuable insights into the extent of the relationships among the study factors, enabling researchers to discern discernible patterns and trends in their interactions.

Table 4.9: Correlation Results

		Operational Performance	Technological Innovation	Process Design	Quality Management	Product Design
Operational Performance	Pearson Correlation	1	.554**	.507**	.530**	.506**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000
	N	133	133	133	133	133
Technological Innovation	Pearson Correlation	.554**	1	.290**	.333**	.295**
	Sig. (2-tailed)	0.000		0.001	0.000	0.001
	N	133	133	133	133	133
Process Design	Pearson Correlation	.507**	.290**	1	.481**	.402**
	Sig. (2-tailed)	0.000	0.001		0.000	0.000
	N	133	133	133	133	133
Quality Management	Pearson Correlation	.530**	.333**	.481**	1	.488**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000
	N	133	133	133	133	133
Product Design	Pearson Correlation	.506**	.295**	.402**	.488**	1
	Sig. (2-tailed)	0.000	0.001	0.000	0.000	
	N	133	133	133	133	133

Source: Research 2023

From the outcomes, the correlation between technological innovation and operational performance was positive and statistically significant (0.554,  $0.000 < 0.05$ ). In addition, the results of correlation

between process design and operational performance were also positive and significant (0.507,  $0.000 < 0.05$ ). Quality management on the other hand indicated a significant positive correlation with operational performance (0.530,  $0.000 < 0.05$ ). Finally, product design results pointed to a significant positive correlation with operational performance (0.506,  $0.000 < 0.05$ ). Thus, it can be concluded that technological innovation, process design, quality management and product design are significant in giving explanations to the operational performance.

#### 4.4.5 Regression Analysis

A regression analysis was conducted to determine the linear relationship between the variables of the study, which included technological innovation, process design, quality management and product design on production performance. The results are outlined in the subsequent sections.

Table 4.10: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.725a	0.526	0.511	0.45309

Predictors: (Constant), Product Design, Technological Innovation, Process Design, Quality Management

The analysis of the presented findings reveals that around 52.6 percent of the overall changes in production performance can be elucidated by the variables of technological innovation, process design, quality management, and product design, as indicated by the R Square value of 0.526 in the model. This underscores the considerable significance of these variables in offering insights into the variations observed in production performance. Nevertheless, it is essential to recognize that there exist other factors, accounting for approximately 41.4 percent which were not encompassed in this study but nonetheless wield an influence on production performance. These outcomes underscore the necessity of considering a comprehensive array of factors when investigating operational performance to attain a more all-encompassing comprehension of its determinants.

Table 4.11: ANOVA Results

	Sum of Squares	df	Mean Square	F	Sig.
Regression	29.12	4	7.28	35.462	.000b
Residual	26.278	128	0.205		
Total	55.398	132			

a Dependent Variable: Operational Performance

b Predictors: (Constant), Product Design, Technological Innovation, Process Design, Quality Management

From the ANOVA results, it can be noted that the model estimated was significant statistically. This is provided by the estimated P value of  $0.000 < 0.05$ . In addition, these results can be confirmed by the estimated value of F (35.462) which is far greater than the F critical value ( $F_{4, 128} = 2.4472$ ). Thus, the identified study variables are significant in giving explanations on operational performance.

Table 4.12: Coefficients of Regression

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.149	0.304		0.491	0.624
Technological Innovation	0.362	0.066	0.361	5.473	0.000
Process Design	0.21	0.068	0.221	3.078	0.003
Quality Management	0.207	0.079	0.199	2.623	0.010
Product Design	0.206	0.07	0.214	2.968	0.004

a Dependent Variable: Operational Performance

$$\text{Hence } Y = 0.149 + 0.362X_1 + 0.21X_2 + 0.207X_3 + 0.206X_4 + \varepsilon$$

The evidence of the regression coefficients shed light on various essential aspects of the operational performance in the study. The estimated model's constant was found to be positive (0.149), suggesting that there are additional factors beyond technological innovation, process design, quality management, and product design that contribute to the changes in production performance. Moving on to the individual variables, the coefficient of technological innovation displayed a positive value (0.362) and was statistically significant ( $0.000 < 0.05$ ). This implies that



a one-unit improvement in technological innovation leads to a substantial enhancement in production performance. Similarly, process design exhibited a positive and significant regression coefficient (0.21,  $0.003 < 0.05$ ), indicating that a one-unit enhancement in the production process's design yields a considerable improvement in production performance.

Quality management also demonstrated a positive and significant regression coefficient (0.207,  $0.010 < 0.05$ ), emphasizing the significance of effectively managing quality during production to enhance overall performance. Finally, product design in the study displayed a positive coefficient (0.206) and was statistically significant ( $0.004 < 0.05$ ), emphasizing its importance in boosting production performance. In conclusion, the study highlights the crucial role of technological innovation, process design, quality management, and product design in enhancing production performance, paving the way for improved production processes and overall efficiency.

#### **4.5 Discussion of the Findings**

This section summarizes the findings of the study. From the results of the regression coefficients, the constant of the estimated model was positive (0.149) indicating that there are other factors other than the variables technological innovation, process design, quality management and product design that can be used to explain the changes in production performance. Furthermore, the coefficient of technological innovation was positive (0.362) and significant ( $0.000 < 0.05$ ) implying that improving the innovation of technology by a unit leads to a significant improvement in the production performance. This innovation in technology is significant in enhancing production performance. The results are in tandem with the findings of Juana (2021) who indicated that technological innovation is very critical in adhesive industry in their continuous operations. It allows the execution of innovative engineered towards efficiency. Quality assurance in the organic adhesive industry is indispensable to warrant the desired performance and the satisfaction of customers' tastes.

Furthermore, the findings of Young and Mustafa (2013) further confirm the results that technological innovation is the driving engine of the economic development. It enhances the business continuity, ensures adaptation to the prevailing market demands based on the digital-led business. It is integral part of critical success part of the organization. It is paramount in the

continuity of business operation and indicates the extensive productivity, efficiency, and effectiveness by narrowing to the driving engines of the business. Omran et al. (2012) in their study pointed out that technological advancement has become driving force in organic adhesive industry since it is utilized in packaging, electronics, automobile, and textile. The advantages of technological innovations include superior products, quality improvement, cost efficiency, sustainability, highly durable products, and high productivity.

In addition, process design recorded a positive and significant regression coefficient (0.21,  $0.003 < 0.05$ ) meaning that a unit enhancement in the design of the process of production yields a significant improvement in the production performance. These results give the implications that the process design is an essential component in production. The results concur with the findings of Koutsikouri et al. (2008) who explored the fundamental role played by the interdisciplinary design and advocated for bold, achievable, and effective process design. Further, Bockel (2020) argued that process improvement enhances the production of quality organic adhesive products. More and more industries are switching from using mechanical or other joining techniques to organic adhesive solutions, including packaging, electronics, automotive, textile, construction, and heavy equipment. Organic adhesives have risen to prominence as one of the most important chemical products in contemporary industry as a result of their many benefits over traditional joining techniques.

The findings are further backed by the results of Gaynor (2012) who postulated innovative advantage and the need for further exploitation, which is a source of incentives for reorganization of the strategic landscape, which enhances the demand. For adaptation to be successful, one must be able to recognize both when change is necessary and when it is not (Singh & Singh, 2009). Advantages in innovation that aid in the making of sound business decisions have a better chance of lasting. According to Rof, (2012), a company may gain a competitive advantage by capitalizing on its strengths in areas like human resources, infrastructure, and industry expertise to create and distribute goods and services that are in demand.

Quality management further indicated a positive and significant regression coefficient (0.207,  $0.010 < 0.05$ ) pointing to an implication that a unit improvement in the management of quality

during production enhances the operational performance. The results are in concurrence with the findings of Wilden et al. (2013) who argued that the performance of firm is subject to the high uncertainty in the market occasioned by the high competitiveness. Thus, businesses that remain competitive are able to survive. To remain competitive, a firm has to meet the quality demands of the consumers and at the same time having a superior quality product than that of the competitors. The management must always strive towards production excellence. Changes in customers' needs demand process technology and dynamic capability. Firms must follow the quality stipulated standards (Bon & Mustafa, 2013). The process needs periodic monitoring and evaluation to reach the stipulated needs and demands. The dynamic capabilities ensure that varieties demands are met with minimal efforts and obstructions (Slack, Brandon & Johnson, 2013). Quality assurance processes are very important in the adhesive sector (Mund, 2019).

Lastly, the regression coefficient result for product design in the study was positive (0.206) and was statistically significant ( $0.004 < 0.05$ ). Thus, the design of product during production is a significant component that can be used in enhancing the performance during production. The results concur with the findings of product design is very important in the adhesive industry in the determination of the cost and for benchmarking. The product design can play an integral power in the market. The product design should match the customers' taste and preference as well as ensuring the prudential achievement of the set targets. The effectiveness and quality production enhance the integration in the market (David, 2012). The implementation of the innovative paradigm for the attainment of the organizational goals is crucial. The onset of the product design is critical analysis of customer-driven intentions, tastes, and preference to establish the wide range of long-range outlook. It helps in the consistent, productivity and integration of new products' decision. The implementation of the innovative product that fit the tastes and preference of the consumers enhance market development. Product designs increase technological uptake, cost efficiency, improve competition improve organizational performance (Bon & Mustafa, 2013).

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION**

### **5.1 Introduction**

The main findings of the analysis are shown in this section. Following an overview of the study's conclusions drawn from its condensed findings, the study's conclusions serve as the foundation for its recommendations. In this section, the study's objectives identifying operational performance success and analyzing the relationship between critical success factors and operational performance of the organic adhesive industry at Henkel Kenya Ltd. are summarized, concluded, and recommendations are made.

### **5.2 Summary of the Findings**

Organizational culture, operations strategy, process management, leadership style, and human resources practices are the key success factors that have been found to be essential for improving operational performance in the organic adhesive sector. Through inspiring followers to achieve organizational goals, a leader's style plays a vital role in promoting change. Contrarily, because human resource practices are distinct, frequently ambiguous, and challenging to replicate, they contribute significantly to the organization's ability to attain exceptional performance and will be a resource for maintaining competitive advantage.

The organizational culture encourages individuals or groups within the organization to understand the organizational function and provides norms for behavior while working in the organization by allowing individuals or groups within the organization to recognize and understand their responsibilities within the organization. The operations strategy focuses on how the operation must adapt to the changing competitive environment in order to meet current and future problems. The organizational structure is responsible for the assignment and coordination of tasks within the organization. Process management is critical for organizations because it allows them to adapt to the market's constantly changing requirements. The second goal involved examining the connection between Henkel Kenya Ltd.'s operational performance and essential success indicators in the organic adhesive sector. A favorable and statistically significant connection (0.554,  $0.000 < 0.05$ ) was found between technical innovation and production performance, according to the correlation results. The regression analysis, however, revealed that the technical innovation

coefficient was significant ( $0.000 < 0.05$ ) and positive (0.362). This indicates that any changes in the production performance at Henkel Kenya Ltd. can be explained by the significant role that technological innovation plays in the company.

In addition, the results of correlation between process design and production performance were also positive and significant (0.507,  $0.000 < 0.05$ ). Process design also recorded a positive and significant regression coefficient (0.21,  $0.003 < 0.05$ ). This is an indication that the design of the process is an important element that can be used to explain on any changes that may be witnessed in the performance of production at Henkel Kenya Ltd.

Quality management on the other hand indicated a significant positive correlation with production performance (0.530,  $0.000 < 0.05$ ). Quality management further indicated a positive and significant regression coefficient (0.207,  $0.010 < 0.05$ ). This is an indication that the management of quality standards is an essential element that can be used to explain on any changes that may be witnessed in the performance of production at Henkel Kenya Ltd.

Finally, product design results pointed to a significant positive correlation with production performance (0.506,  $0.000 < 0.05$ ). The regression coefficient result for product design in the study was positive (0.206) and was statistically significant ( $0.004 < 0.05$ ). This is an indication that the design of the product is an essential element that can be used to give explanations on any given changes that may be witnessed in the performance of production at Henkel Kenya Ltd.

### **5.3 Conclusion**

The study concludes that the critical success factors can be broadly categorized into a number of categories as follows. The first is the leadership style, which entails the qualities of a leader to be able to, provide leadership to the team. The second is human resources practices, which involve provision of the necessary assistance to the employees to enhance on their performance by banking on their competitive advantages. Thirdly is organization culture, which entails cultivating the culture of hard work within the organization by motivating the team to understand their roles in the company. Forth is the operations strategy, which entails the strategies, employed by the company to remain competitive in the dynamic business environment. Organizational structure

entails the allocation and coordination of the tasks within the organization. Process management is essential to the organizations where it allows the organizations to adjust to the persistently changing necessities of the market.

Further, the study concludes that technological innovation is a significant component in determining production performance. With technology, the efficiency and effectiveness in the production process can be enhanced. Thus, a significant portion on the changes in the performance of production are attributable to the innovation in the technology that is in use at Henkel Kenya Ltd.

In addition, it is concluded that the design of the process of production is important in enhancing performance of production as it gives the company a unique competitive advantage. Hence, the design of the process of production is essential in explaining the changes in production performance. Improving on the process design yields a significant improvement in production performance.

Furthermore, it is concluded that the management of the quality standards at Henkel Kenya Ltd is important in enhancing performance of production as it leads to higher customer satisfaction and retention. Hence, the quality management is essential in explaining the changes in production performance. Improving on the quality management yields a significant improvement in production performance.

Finally, it is concluded that the design of the product in production is important in enhancing performance of production as it gives the company a unique competitive advantage. Hence, the design of the product of production is essential in explaining the changes in production performance. Improving on the product design yields a significant improvement in production performance.

#### **5.4 Recommendations**

The study recommends that Henkel Kenya Ltd should adopt technology in its operations that can be utilized in areas such as packaging. The utilization of the technology enhances the

competitiveness of the company to be able to remain in the competitive market. With technology, the company is assured of cost efficiency, high productivity, highly durable products because of effective and efficient packaging and also quality improvements.

Furthermore, the study recommends that Henkel Kenya Ltd should adopt a process design that is clear, achievable, and effective. This is to enhance production through enhancement of the competitive advantage of the company as well as improving on the quality of its products through the utilization of the strengths in areas like human resources, infrastructure, and industry expertise. Henkel Kenya Ltd should further manage its quality effectively. One of the main sources of competitive advantage in industries is quality. The company should always try to continuously improve on the quality of its products on top of ensuring that its customers are satisfied of its services.

Finally, Henkel Kenya Ltd must adopt a product design that is unique from those of its competitors. The product design should match the customers' taste and preference as well as ensuring the prudential achievement of the set targets. The design of the product is determined by the tastes and preference of the customers as well as the innovation that is inherent within the company.

### **5.5 Limitations of the Study**

Some of the limitations of the study include the following. The study is limited to Henkel Kenya Limited. However, there are other adhesive industry company industries that could be considered in the study. The study is further limited to quantity case study research design with a sample size of 178 Henkel Kenya employees.

### **5.6 Suggestion for Further Studies**

The study recommends that further studies be conducted on strategic management capabilities and operational performance of Henkel Kenya Limited. In the realm of further studies, a more in-depth exploration into the specific impact of technological innovations within the organic adhesive industry on production performance is warranted. This investigation could scrutinize emerging technologies, such as advanced manufacturing processes or the incorporation of sustainable materials, to discern their nuanced effects on operational efficiency.

Additionally, a comparative analysis across various companies within the organic adhesive sector would provide valuable insights into the contributions of leadership styles, human resource practices, and organizational cultures to diverse operational performances. This comparative approach could unearth best practices that may be shared and adopted industry-wide for comprehensive improvement.

Turning the focus towards human resource practices, a longitudinal study could delve into the lasting implications of unique HR practices on sustained competitive advantage. By examining how these practices impact factors like employee retention, skills development, and overall organizational resilience over time, researchers can gain a comprehensive understanding of their long-term effectiveness.

Exploring the intricate dynamics between organizational culture and change management within the organic adhesive industry represents another avenue for further research. This study could investigate how cultural shifts are effectively managed during periods of strategic change and evaluate their subsequent impact on operational performance. Understanding the interplay between culture and change is crucial for devising strategies that facilitate successful transitions while maintaining operational effectiveness.



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## **APPENDICES**

### **Appendix I: Consent Letter**

Dear Participant,

Thank you for your willingness to take part in this research study. The aim of this study is to analyze the critical success factors in the organic adhesive industry. Your participation is entirely voluntary, and all information gathered will be kept strictly confidential.

Please complete the following questionnaire to the best of your knowledge and ability. There is no need to write your name or the name of your business anywhere on this form. Your responses will be used for academic purposes only and will be analyzed in aggregate form.

Thank you for your time and contribution to this research.

Sincerely,

Peter Mwangangi Mitau

**Appendix II: Questionnaires**

**CRITICAL SUCCESS FACTORS IN THE ORGANIC ADHESIVE INDUSTRY: CASE STUDY OF HENKEL KENYA LTD PART A**

1. Level of Education.....
2. Years of Experience in the Henkel Kenya LTD.....
3. Present position in the Henkel Kenya LTD.....
4. Tick Male  or Female

**Part B: Technological Innovation**

Using a tick, indicate your agreement or disagreement with these statements relating to technological innovation in the production performance of the adhesive industry, where; SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA= Strongly Agree.

Statement	SA	A	N	D	SD
1. The technological innovation is critical for continuous improvement of performance in our industry					
2. Our organization is leveraging the existing new techniques to enhance performance					
3. Our organization has obtained operational efficiency and effectiveness due to continuous improvement in innovation.					
4. Several steps have taken to further improve the integration of technological innovation in our production processes					
5. Employees have been consulted on different technological innovations before executions					

5. In your own opinion, kindly state the progress made by the technological innovation as one of the critical success factors in adhesive industry.....  
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**Part D: Quality Management**

Using a tick, indicate your agreement or disagreement with these statements relating to quality management in the production performance of the adhesive industry, where; SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA= Strongly Agree.

Statement	SA	A	N	D	SD
1. Our company has a quality management system in place to ensure that our adhesive products meet or exceed customer requirements					
2. Our company has a documented process for identifying and addressing quality issues in our adhesive production process					
3. Our adhesive products undergo thorough quality inspections before being released to customers					
4. Our company has a system for tracking customer complaints and using this feedback to improve our adhesive products and production process					
5. We conduct regular audits and assessments of our adhesive production process to identify opportunities for improvement and maintain quality standards					

7. In your own opinion, kindly state the deviation made by quality management as one of the critical success factors in adhesive industry for the production performance.....

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**Part E: Product Design**

Using a tick, indicate your agreement or disagreement with these statements relating to product design in the production performance of the adhesive industry, where; SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA= Strongly Agree.

Statement	SA	A	N	D	SD
1. Conducting market research and incorporating customer feedback into product design has resulted in higher demand and increased production performance of our company					
2. Investing in employee training and development in product design has led to higher production efficiency and quality of our organization					
3. Implementing a customer-focused product design strategy has contributed significantly to the success of production of our firm					
4. The adoption of eco-friendly and sustainable product design practices has improved the reputation and competitiveness of our company					
5. Regular testing and analysis of new product designs can lead to enhanced production efficiency of our business					

8. In your own opinion, kindly state the progress made by product design as one of the critical success factors in adhesive industry for the production performance.....

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**Part F: Production Performance**

Using a tick, indicate your agreement or disagreement with these statements relating to critical success factors and the production performance of the adhesive industry, where; SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA= Strongly Agree.

Statement	SA	A	N	D	SD
1. Effective management of raw materials is crucial for achieving high-quality production in the adhesive industry.					
2. Regular maintenance of production equipment is a critical success factor for ensuring efficient and effective production in the adhesive industry					
3. Utilizing advanced technology and innovative techniques in product design and production can lead to improved performance and competitive advantage in the adhesive industry					
4. Effective supply chain management is a critical success factor for ensuring timely delivery of high-quality products to customers in the adhesive industry					
5. A strong focus on employee training and development is essential for achieving high levels of productivity and performance in the adhesive industry					

9. In your own opinion, kindly state the progress made by product design as one of the critical success factors in adhesive industry for the production performance.....

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