REVERSE LOGISTICS PRACTICES AND PERFORMANCE OF ALCOHOLIC BEVERAGE MANUFACTURERS IN KENYA

CHEGE CAROLINE NYOKABI
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DECLARATION

I do declare that this research project is my original work and has not been submitted to any learning institution for any academic award.

NAME: CHEGE CAROLINE NYOKABI

REG NO: D61/11835/2018

SIGNATURE:  **DATE: 08 /12/2022**

SUPERVISOR'S DECLARATION:

This research project has been presented for examination with my approval as the official University supervisor.

ONSERIO NYAMWANGE

SIGNATURE:  **DATE:** 09/12/2022

DEDICATION

I dedicate this project to God, For the Good Health and Strength throughout this program.

My Husband (Maina), My biggest Cheerleader and supporter.

My Son (Kimani), Who has been affected by my pursuit in many possible ways.

My parents who have never stopped giving of themselves in countless way.

My little brother(Gichuhi), the only factor of success is you.

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CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Reverse logistics is becoming more popular, which is exacerbated by worries about environmental issues, sustainable development, and potential financial gains for enterprises through good reverse logistics management. Product recovery strategy and reverse logistics are closely connected in the setting of manufacturing enterprises. Recovery management's primary goal is to maximize economic and ecological values while minimizing final waste quantities. Prior to adopting the idea of reverse logistics, manufacturing organizations focused on cost reduction; but, after adopting it, they began to streamline reverse flows, In order to boost value recapturing. Businesses can recover value that would otherwise be lost thanks to reverse logistics. According to Chileshe, Rameezdeen, and Hosseini (2016), the organization can gain a lot from effective reverse logistics management, including improved performance, higher profits, and increased customer satisfaction. Reverse logistics has become increasingly popular across the globe, especially in developing and wealthy nations as well as emerging economies, including those in Africa.

Logistics managers throughout the world understand that reverse channel is a good target for efficiency gains and cost reduction are using reverse logistics as a potential differentiator and revenue generator (Stock and Mulki, 2009).Through improved supply chain procedures, such differentiation may enable businesses to enhance revenue, preserve or grow their market share, and possibly lower their expenses associated with transportation and inventory (Mason 2002). Products that are out-of-date, recalled, damaged in transit, or delivered erroneously force businesses to engage in costly returns management (Kumar, Dieveney, and Dieveney 2009).

The magnitude of the operation can be determined by measuring return handling in terms of handled quantities. According to Kumar et al. (2009), returned goods can be handled up to four times, incurring significant costs to the supply chain while providing no additional value to the client. Empty crates and bottles for recycling are the two most frequent reasons for returns in the alcohol industry. The majority of businesses have to deal with product returns for a variety of reasons, including customer remorse, damaged or poorly made goods, unsold goods, and expired goods. Reusing and recycling products lessens their impact on the environment by cutting down on trash disposal, raw material extraction, and emissions from transportation and distribution.

The Kenyan government has been focused on the expansion of its manufacturing sector because manufacturing has served as a growth accelerator for economies that have been successful in achieving high income levels globally. According to the government's Big Four Agenda Pillars, the manufacturing sector is essential for Kenya to achieve its desired economic goals. As the only one guaranteed to generate employment and contribute to GDP in the short- and medium-term, it is crucial to give the sector's productivity top priority. Kenya's economy is growing significantly thanks in large part to the production of alcohol. The main objective of this sector is to increase its annual GDP contribution to Kenya by at least 15%. (KIPPRA, 2021).

From 11.8% in 2011 to 8.4% in 2017, the manufacturing sector's contribution to Kenya's GDP has been on the decline, according to Kenya Association of Manufacturers (2019). There have been difficulties with Kenya's alcohol manufacturing industry's performance. Due to a number of issues, such as a high credit costs brought on by the expensive raw material, low sales volume brought on by the COVID 19 epidemic, restrictive regulations pertaining to environmental control addressing environmental pollution or disposal, and enterprises' failure to complete ISO

product quality and environmental certification criteria's, Hence the expected growth rate for these firms has been negatively affected, therefore unable to meet their full potential.

1.1.1 Reverse Logistics Practices

Reverse logistics is the method of organizing, putting into place, and overseeing the efficient, economical movement of raw materials, in-process stock, manufactured inventory, and related information between the point of consumption to the place of origin with the intention of recouping value or working to ensure proper disposal (Rogers and Tibben-Lembke 1999). Improvement of movement of good from unmanufactured material to the end user has been a work in progress in the past twenty years ago. Products still are transported toward the final customer, but they are also being returned in large quantities. A wide variety of businesses, such as those manufacturing electronic items, medicines, beverages, and more, are facing this. To promote end-of-life recovery, the automotive sector, for instance, is aggressively altering the both physical and e-supply chain. (Ferguson and Browne 2001). In addition, remote merchants like e-tailers must confront high return rates, often at no cost to the client. Its not shocking that the Reverse Logistics Executive Council's has announced that US corporations have been losing billions of dollars because they are unprepared to handle reversible flows (Rogers and Tibben-Lembke, 1999).

The Supply-Chain Operations Reference (SCOR) model recently included the return as a process, highlighting the significance of this for supply chain management going forward (Schultz, 2002). Reverse logistics has gone global, including all supply chain tiers in many business sectors. While some chain participants have been compelled to return merchandise, others have voluntarily done so, drawn by the value of old goods. One way or the other, Reverse Logistics has become proficient in current supply chains (de Brito and Dekker 2004).

The aim of reverse logistics is to accomplish practice merit so as to revamp equity by putting money into resources to foster customer gratification and goodwill. This can only be a success if returns are accepted as soon as possible and quickly compensating them. Businesses should move the goods from unwanted to places reverse logistics practices have been adopted in alcoholic beverage manufacturing firms in Kenya? What is the relationship between reverse logistics practices and organization performance?

1.3 Objectives of the study

i) To establish reverse logistics practices adopted by alcoholic beverage manufacturing firms in Kenya

ii) To determine the relationship between reverse logistics practices and organization performance.

1.4 Value of the Study

The results of this study will serve as a guide for the management of alcoholic manufacturing companies in Kenya as they attempt to comprehend the part reverse logistics plays in the success of their business. They will need to become familiar with and comprehend the environmental standards and laws that apply to their sector of the economy.

Additionally, alcoholic beverage manufacturers will learn what some of their customers anticipate in terms of environmental sustainability. Academics will introduce future research projects in the area of reverse logistics with the study's findings. It will serve as the foundation from which upcoming researchers might get inspiration. It will serve as a foundation for understanding how widely reverse logistics has been used in Africa.

The study will be helpful to policymakers as they decide whether to enforce laws that encourage the implementation of reverse logistics in industrial businesses.

The government can also pick up pointers on how to draft appropriate, enforceable environmental legislation. Associations like NACADA and the Kenya Association of Manufacturers are among the organizations that would benefit from the research findings. The research will assist these organizations in developing tactics that will encourage alcohol production companies that have not yet adopted reverse logistics to do so.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter highlights, theoretical review, Reverse logistics practices, organizational performance measurement, Empirical literature review as well as conceptual framework.

2.2 Theoretical Framework

The study is built on two organizational theories, which have been applied to comprehend how businesses adopt and design their reverse logistics approaches. The two theories that were used in the study were Resource based andthey can be processed, reused, and rescued with effectiveness and efficiency. The firms must also decide how each product will be utilized. In other words, the business must select the end destination for each product it puts through the cycle of reverse logistics (Rogers and Tibben-Lembke 1999).

Reverse logistics increases profits for the businesses, reduces cost, improves asset efficiency, and protects the environment as a byproduct of enhancing customer equity and through asset recovery activities (Carbone, Moatti, and Wood 2012). Reverse logistics strategies are implemented by firms for a variety of causes and benefits, including legal requirements and various market and non-market requirements. Carpet, battery, automobile part, packaging, tire, and electrical device manufacturers all around the world have started voluntary reverse logistics initiatives. This is as a result of manufacturers becoming more and more aware of the financial potential offered by remanufacturing. Remanufacturing also gives input to the company on how the product is performing and its durability, which enhances the position of the brand. In summary, reverse logistics offers manufacturers a number of advantages, some of which include cost-savings, developing an image of environmental responsibility, satisfying consumer expectations, and safeguarding aftermarkets to dissuade independent enterprises from

remanufacturing and selling the product for the organisation hence preventing losses to both brand image and market share. (Laosirihongthong, Adebanjo, and Tan 2013).

After a product is returned, the company has a wide range of disposal options to choose from. The company may opt to return the merchandise to the manufacturer for a complete refund. The item may be resold to a different purchaser if it has not been used. Prior to reselling the product, the company may perform reconditioning, refurbishing, or remanufacturing if its unable to sell its in its present condition by doing so it will shoot up the selling price. The company will endeavour to get rid of the item at the lowest charge possible if it cannot be repaired in any way due to its state, legal ramifications, or environmental constraints. It is possible to recover any valuable materials before iits dumped (Rogers and Tibben-Lembke 2001). The three notion underlying reverse logistics are reuse, remanufacturing, and recycling. (Eltayeb, Zailani, and Ramayah 2011).

1.1.2 Organizational Performance

In this dynamic setting that characterizes the contemporary global economy, businesses are under strong competitive pressure to complete jobs more efficiently, quickly, and affordably. Nowadays, every company seeks for continuous performance, because businesses might experience growth and progress via performance. Firm performance is the competence of an organization to utilize its resources wisely in order to yield operational and financial results (Taouab and Issor 2019).

According to (Bartuseviciene and Šakalytė 2013), Effectiveness and efficiency are two different performance metrics that organisations can use to measure their effectiveness. Effectiveness examines how outputs interact with the economic and social environment, whereas efficiency is focused on successfully converting inputs into outputs. Effectiveness refers to how well a client's expectations are met, while efficiency refers to how economically a corporation uses its

resources to achieve a certain level of customer satisfaction. Performance measurement systems (PMS) are a set of metrics that are used to measure an action's efficacy and efficiency (Arif-Uz-Zaman and Nazmul Ahsan 2014).

Commercial performance, product market achievement, and share-owners securities market return are the three distinct areas of company outcomes that make up organizational performance (Richard et al. 2009). The effectiveness of a firm’s soperations and how its goals are achieved have a bearing on its long-term viability (Sahoo & Jena, 2012). Scale and stability rivalry have led to transformation and modernisation. Organizations that are inventive and open to adjustment have the prospective of enduring in the competitive environment of today (Keller and Prince, 2011). Organisational achievements are what the management convey to stake-owners in commercial and operational terms which has to balanced, according to research by Mckinsey, as performance alone cannot explain corporate success. Making goals a reality is crucial for an organization's success and survival in today's competitive world, and measuring and monitoring organizational performance plays a significant role in this (Popova & Sharpanskykh, 2010). Researchers have recently shown a greater interest in developing a thorough comprehension of the association between a business's commercial achievements and its welfare gains (Wang & Choi, 2010). With a view to achieve results that are socially, environmentally, and in line with societal interactions, an organization must use certain principles. This is defined as social performance (Wood, 1991).

The shareholders and financial community constantly put pressure on modern management to boost short- and long-term performance. Businesses that have adopted customer centric and cconsistent improvement practices have managed to endure the constant tension despite the frequently incompatible brief and considerable time goals (Cartin, 1999). Cost reduction,

increased profitability, asset recovery, and decreased investments are the main economic success metrics in the context of reverse logistics (Daugherty et al, 2001).

An all-inclusive appraisal for a company's ability to compete and performance is provided by including both economics and service quality performance measurements (Genchev, 2007). An organization require to understand where it is in the modernisation path, where it needs to go, what should be done to get there, how successful outcome will be managed, and how to keep moving forward if it wants to continuously improve performance (Keller & Prince, 2011).

1.1.3 Alcoholic Beverage Manufacturers in Kenya

Manufacturing is a rapidly expanding industry in developing nations, like Kenya. According to the national budgets for 2015–2016, the sector in Kenya contributes more than 10% to the GDP. But for the nation's top manufacturers, increased production costs, and frequently poor nature of raw materials have turned into a serious issue (RoK, 2016). Allegations has been made, that this has made some industry players to employ financial prudence techniques, number of them have be in violation of generally accepted best practices (Muttimos, 2014). In Kenya, alcohol is the most commonly used drug. Based on the results of the 2019 census, it is a developing country in East Africa with a coastline on the Indian Ocean and a population of 47.6 million. (NACADA,2007) reviewed, 40% of Kenyans aged 15-65 years have consumed a given type of an alcoholic drink in the past, about 14% of Kenyans aged 15-65 years are recent users of alcohol.

Kenya has experienced extraordinary growth due to its rapidly expanding middle class, ever-evolving private sector, trade-up from home-brewed and unbranded alcohol to branded products, middle-class acceptance of western culture, and higher levels of international travel. Future times still hold promise for this expansion. The value added tax and tax incentive deductions, which had a negative impact on the EABL senator keg brand and spirits, are cited by Euromonitor

International (2014) as reasons for the reduction in growth. Other businesses now have greater chances in the Kenyan beer industry, though. Other factors include inflation and rigid laws that are dynamic. On the East African Breweries Limited (EABL) websites, they have declared to be region's top producer of branded alcoholic beverages. It has an impressive selection of brands that includes spirits, beer, and adult non-alcoholic drinks (ANADs), further solidifying its position as a provider of total adult beverages (TABs). The group's diversification is a key element in offering the highest quality brands to East African customers and long-term value to East African investors. The group has breweries, distilleries, support industries, and a distribution network throughout the area. Even though EABL operates and owns some warehousing facilities, the majority are outsourced to third-party logistics (3PL) partners, including DHL, a leading provider of global logistics services. Project MOVE, which provides an integrated, simplified, and agile logistics network from the end of the packing line to the distributor, is being implemented by EABL in close collaboration with these partners. This will make use of technology to gauge how well the adjustments are working, following the lead of more developed markets like Europe.

One of the main local rivals called Keroche Breweries Limited, the sole local brewery in Kenya. The company is expanding its production capacity by more than ten times and anticipates going public in the next five years. As a consequence, it will grow from 5 percent to 20 percent of the market (Karanja, 2015). This will affect EABL’s market share. EABL spirit market penetration is 27%, followed by UDV Kenya Limited with 14%. Following closely behind with a combined 11 percent and 8 percent is the London distillers Kenya Limited and Kenya Wine Agencies (Euro monitor international, 2014). International brands dominate the wine market in Kenya. The problem is brought about by consumers' high brand awareness, the fact that imported brands

have more sophisticated distribution networks than local brands and that imported brands are given more shelf space than domestic wines. The majority of other nations, like as South Africa, take advantage of Kenya's position as the continent's second-largest brandy market. The government-owned Kenya Wines Agencies Limited (KWAL) dominates the country's small-scale wine producers. Additionally, the South African-owned Distell products are entirely distributed by KWAL. Simba cane, Kibao vodka, and Yatta wine are among the local brands it produces. Local breweries in Kenya face challenges from the desire of the majority of people to adopt healthy lifestyles as a result of the campaign for healthy lifestyles, which encourages reducing alcohol consumption, as well as the threat of new competitors, such as the giant Heineken lager beer, which reduces their profit margin (Adetu, 2011).

Manufacturers of alcoholic beverages in Kenya have been found to have a substantial negative influence on the environment, including an energy crisis, ecological degradation, and resource waste from production to consumption. It has been determined that it has an impact on the environment due to harmful fume emissions, oil spills that do not readily degrade into waste water, significant fuel consumption, and packaging and disposal concerns (Wang, Huang, and He 2021). As a result, the industries are under increased pressure and scrutiny from consumers, the government through organizations like the National Management Authority (NEMA), and rivals. As a result, producers of alcoholic beverages are under pressure to take their environmental impact seriously while conducting business.

1.2 Research Problem

It should come as an ambush that practically businesses are seeking for various ways of boost sales, save expenses, and lower hazards. However, with the economy as it is, all of the simple process improvements and easy savings have already been implemented. Reverse logistics is a

sometimes-ignored method that can help businesses cut waste and boost earnings. Reverse logistics is the process of receiving returned products or components in order to recover the value or dispose of them properly. Reverse logistics processes and plans involves more than just collecting client returns for defective goods. Additionally, because the customer and/or the consumer initiate the return, the inbound shipment procedure is more unpredictable, making it far more complicated than outgoing shipping. The administration of return policies, product recall procedures, processing of repairs, the concept of reverse logistics deals with repackaging products, managing parts, recycling, managing product disposition, managing product liquidation prices, and other issues. Important reverse logistics activities can cause organizations to lose millions of dollars due to strained customer relations and possibly external obligations. Reverse logistics, on the other hand, can help businesses uncover untapped sources of competitive advantage, boost client happiness, and reduce risk (Curtis Greve, Jerry Davis, 2012) What many people don't realize is that the average manufacturer will utilise 9% to 15% of entire commercial returns. (Aberdeen Group study 2010). The effects return management may have on their customers, resources, or bottom line are frequently unknown to them. In fact, a company's revenue can rise by up to 5% of total sales with improved reverse logistics (Mukhopadhyay & Setoputro, 2004). Furthermore, the empirical data presented demonstrates that a number of researchers made an effort to connect the embracement the concept of reverse logistics to organisational productivity or performance. For example, De Giovanni and Vinzi (2012) established the presence of association was not that substantial, although, Azevedo et al. (2011) discovered a positive correlation between the variables. Rao and Holt (2005) similarly found a positive relationship between reverse logistics practices and organizational performance. As a

result, there isn't a lot of agreement in the research about how reverse logistics affects organizational performance globally.

Reverse logistics was mentioned as an environmentally friendly practice by Angela (2013), but narrow down to remanufacture, and re-use as this study intends to do. Angela (2013) concentrated on the correlation between environmentally friendly practices and supply chain's activities of pharmaceutical firms. She discovered a significant correlation between Nairobi pharmaceutical companies' supply chain performance and green management techniques. She also learned that local pharmaceutical firms are now thinking about including environmental management techniques. Muttimmos, (2014) Generalised his study to all manufacturing firms. He investigated the relation between the organisation performance and reverse logistics. He identified remanufacturing and re-use are frequently practiced unlike recycle. There is a gap since the researchers did not record the alcoholic producing companies in Kenya as intended by the current study. This research seeks to fill these gaps by giving answers to below questions. What is the extent to which different reverse logistics practices are practiced.

2.2.1 Resource-Based View Theory (RBV)

Concepts from the Resource Based View model are looked at as a potential source of competitive advantage for an organization's success. Depending on the resources they have, different organizations perform in different ways. The talents that employees possess are among these resources, along with human resources, financial resources, and technology resources. An organization is said to have a competitive edge if its resources are distinctive and difficult to duplicate by competitors. Michael Porter was a key proponent of the resource-based perspective model (1980).

The organization's resources can be used to raise pricing and improve financial performance, giving it a competitive advantage in both of these areas. Second, a company might employ its resources to fight for restrictions on new competitors. Wernerfelt (2014) argues that a company should concentrate on what it can do better than others and makes the case that this has ramifications for practically all marketing-related activities and that a lot of current thinking in the field is in line with it

Resources are referred to as all assets, capabilities, organizational processes, company qualities, information, and knowledge (Barney, Wright, and Ketchen 2001). The paradigm with a resource-based perspective is advocated by Michael Porter. According to Michael Porter's analysis, resources become valuable when they enable businesses to engage in operations that offer them a competitive edge in a particular industry. If these resources do not result in the realization of a competitive advantage, they lose their value. If resources are integrated, the organization will perform better and gain a competitive edge.

A study by Ongeti and Machuki (2018) found that an organization's ability to gain a competitive edge is highly dependent on how its resources work together. The competitive advantage of a modern company over rivals in the same industry cannot be attributed to acquired assets alone, but rather to how effectively and efficiently they allocate, manage, and utilize both physical and intellectual resources. Therefore, by extending the product's regular life beyond its typical use, reverse logistics can be thought of as a capability that enables producers to utilise existing resources in alternative yet affordable and environmentally beneficial ways (Lai, Wu, and Wong 2013).

The RBV theory was employed by (Ramirez and Girdauskiene 2014) to investigate whether reverse logistics enhances firm performance as influenced by knowledge production. They

discovered that businesses can improve company performance by reducing the uncertainty of reverse logistics operations by increasing their capacity to produce new information.

2.2.2 Institutional Theory

It explains how businesses create and carry out operational strategy (Adebanjo et al. 2013). According to this theory, there exist frameworks for behavior in the form of structures, rules, norms, and routines. Three influences, including normative, mimetic, and coercive ones, may influence managerial decisions to use environmental management, according to DiMaggio and Powell (1983). Professionalism is linked to normative forces, institutional legitimacy and political influence are the sources of coercive forces, and mimetic forces include imitating behavior to live in a dangerous environment. Normative forces persuade businesses to implement specific tactics, such environmental management, in order to appear respectable (Ball & Craig, 2010). The importance of conformance to the institutional environment for survival is emphasized by institutional theory. For instance, such compliance increases stability, legitimacy, and resource access. The institutional theory advocates following proper external rules and norms (1992 Oliver)

Other academic studies have demonstrated that consumers in emerging nations have increased eco-friendly awareness and are beginning to use eco-friendly items (Harris, 2006). Reverse logistics may be used by businesses as a result of demand from clients who regard environmentally friendly businesses as genuine. They might do so as a result of returning of the products. Customers of today have a low acceptable limit for subpar products, hence returns of goods are more common.

Reverse logistics aid in expediting the returns management system to handle product returns fast and easily without compromising customer experience. Information gathered from the reverse flow can be utilized to enhance the product's design, production, packaging, and pricing,

improving its quality and adaptability. Reverse logistics has been popular among businesses due to coercive tension by the authorities and environmental organizations, which has led to heavy fines and the threat of corporate collapse. For instance, End-of-Life Vehicles Directive (ELV), the European Union's Waste Electrical and Electronic Equipment Directive (WEEE), works towards decrease in garbage and encourage value resumption (Akdoan & Coşkun, 2012). These instructions have an effect on a company's operational performance. Restricting the use of particular unsafe products for example, guarantee no selling of dangerous products by businesses to consumers. This encourages businesses to maintain notable quality of standards.

Due to competitors' success, corporations are motivated to implement reverse logistics strategies through mimetic forces. The adoption of reverse logistics has increased as a result of consortium and endorsement thus encouraging businesses to replicate the parent company's operations (Zhu & Liu, 2010). Companies from all around the world are implementing environmental management techniques as a result of globalization. Because of the increased demand for self-regulation on businesses in nations with lax regulations due to global linkages, it has a positive environmental impact (Christmann and Taylor 2001). Through product labeling and tracking of product returns, reverse logistics increases flexibility in the age of information technology (Gunasekaran and Ngai 2004).

2.3 Reverse Logistics Practices

This is the process of planning, carrying out, and handling the efficient, affordably priced the flow of raw resources, inventory of merchandise still being produced, finished products, and associated information from the point of source to the point of usage with the objective of meeting customer expectations is known as logistics, (Council of Logistics Management, 2003). Reverse logistics refers to the movement of goods away from their final destination in order to

add value or appropriately dispose of them. Reverse logistics operations would be the methods a company uses to collect old, damaged, undesired (stock balancing returns), or out-of-date items from the end-user or the reseller.

Supply chain management depends more and more on reverse logistics, which may sometimes play a profitable role (Rogers and Tibben-Lembke 2001). Administration of return policies, processing of repairs, parts management, product repackaging recycling, product disposal management, increasing liquidation prices, and other activities are all included in the reverse logistics process (Greve and Davis 2012). In the literature, reverse logistics utilization has gained more attention. Retailers can improve their return strategies and their general cost position by using reverse logistics capabilities (Jack, Powers, and Skinner 2010). Reverse logistics procedures vary depending on the industry. For instance, in the alcoholic beverage sector, empty containers, bottles, and cans are used in the process.

Various reverse logistics practices are used by businesses to recover lost profits. This research will be guided by the three main revere logistics practices that manufacturing firms use to increase their profits. Remanufacturing Reuse, and recycling are the three main ideas that underpin reverse logistics (Eltayeb et al. 2011). This study sought to determine the degree to which these strategies were used by Kenyan alcoholic beverage manufacturing companies and how they related to organizational performance. Remanufacturing occurs when a company accepts all used products, such as bottles, crates, and other containers, to improve their efficiency or usability before reselling them to customers. As a result, firms are not required to create new products from scratch, reducing raw material costs. It uses fewer raw materials, consumes less energy, and generates less waste than creating a product from scratch. As a result, the remanufacturer and the customer both benefit from cost savings in each significant area. In fact,

the companies have noticed a 70% reduction in raw material costs (Barnes,2010). The firms also benefit from lower transport costs because they only incur them when transporting remanufactured products back to consumers. The firms benefit from fewer negative environmental impacts of their products.

Recycling is done by transforming waste materials into new raw materials and objects. These are broken bottles, plastics, and other containers of a similar nature. Firms collect them with the intention of remaking them into a new product of the same type or in a different form. As a result, firms can reduce costs if new raw materials are introduced. Companies protect the environment from harm because majority of recyclable materials are non-degradable. (Fawcett, Vellenga and Truitt, 1995). It is not necessary to mention that a company that recycles its products earns a lot of money and substantially reduces its environmental contamination.

Recycling is seen as a "ecofriendly" reverse logistics strategy since it is a less expensive way to create raw materials, allowing the business to produce more goods and meet the market demands with respects to mainstreaming and maintaining its supply network (Fleischmann and Kuik, 2003). Reusing is the act of acquiring completely new or hardly used items from customers and returning them into the supply chain devoid of any upgrading or processing (Eltayeb et al. 2011). The reuse method is one of the most ecologically beneficial waste management techniques, (Amemba 2013).

Reuse is the method of recovering any returned product component that could have some value, (Hazen et al., 2011). When buyers return unsold goods to the place of purchase, the product enters the supply chain and is reused. Reusing packing or shipping supplies is another way to reuse resources. Simply said, reuse is when a product is put to use for a comparable intention to the one for which it was intended (Rogers &Tibben-Lembke, 1998). Reusing includes cleaning,

refurbishing, repairing, and recovering old goods. Additionally, packaging may be reused, prolonging the product's useful life and postponing eventual disposal or recycling.

2.4 Organizational Performance Measurement

According to (Kaplan and Norton 1996), management must closely monitor and track both financial and non-involving financial matters of a business enterprise. The Balanced Scorecard framework aids in the presentation of organizational objectives by utilizing a cause-and-effect link, as seen in learning and growth. Customer, financial, and internal processes (Kaplan and Norton 1996) go on to say that the Balanced Scorecard is a tool for translating management strategy into action. A study done by (Richard et al. 2009) found out the performance of an organisation is comprised or determined by three factors; Financial performance outcomes that's if profitability and the return on investments, the other is Share-owner return and lastly performance of a product in the matter which measured by Growth in sales and Growth in Market share.

A corporation may compare various business kinds by using financial indicators to gauge business success. The fundamental source of information on financial pointers of business operations is a company's financial statements, and it is from these that an appraisal of the company's operations and financial standing is made. In order to estimate the risks and possible rewards of the company's prospect performance, it is crucial for financial managers to examine the business performance and financial health of small businesses. The creation of a single system for assessing financial indicators within the framework of complicated company performance analysis may result in the investigation and assessment of the significance of financial pointers as well as the effective resolution of management issues (Kotane and Kuzmina-Merlino 2012). Market Performance Indicators demonstrate how a company's product

performs in the market. Firms use key market performance indicators such as existing portfolio. A product doing very well in the market usually have many loyal customers and still continues to bring more customers. Time taken to actualise on an order is also a good indicator of market performance.

2.5 Empirical Studies

Studies have been undertaken all around the world to attempt to correlate the practices of reverse logistics with organizational success. For example, Agrawal and Chowdhary (2014) researched on reverse logistics performance measurements and their effects on product lifecycle. They made an effort to clarify how each step of a product's lifetime is impacted by reverse logistics. They determined the key enabling strategies of reverse logistics to be customer satisfaction, value recovery and strategic alliances. In addition, they recommended evaluating reverse logistics performance using a balancing scorecard.

Increasing business performance and competitive advantages are advantages gained through green supply chains as established by Rao and Holt's (2005). Although they simply paid attention to financial indicators, this study will take into account both financial and market elements that affect how well a commercial firm performs.

Weeks et al. (2010) performed research on the effectiveness and profitability of operations in the American scrap steel sector as a result of two reverse logistics methods (product route efficiency and production mix). According to the study's results, operations management and productivity do not directly correlate positively, thus both techniques must be used to attain profitability. This research, however, only concentrated on two reverse logistics studies that may not apply to all businesses, such as production mix not applying to businesses who only sell one kind of product.

Eltayeb et al. (2011) conducted study on the effects of environmentally sustainable supply chain efforts for Malaysian certified businesses. Out of the four potential outcomes they looked at—environmental outcomes, economic outcomes, cost savings, and intangible results—only cost reductions were shown to have a substantial beneficial impact. This research looks at the claim that businesses' financial and marketing performance may be improved by using reverse logistics techniques.

Reverse logistics has been the subject of several regional studies. Reverse logistics and competitive advantage were studied by Ongombe (2012) with an attention on Nairobi water bottling enterprises. She found a strong favourable connection between reverse logistics and business competitive advantage, with the return of faulty goods, screening, refurbishment, reuse and recycling, and remanufacturing being the key reverse logistics activities used by water bottling firms. The research also found that keeping positive connections with stakeholders was essential for guaranteeing the efficient operation of reverse logistics operations. On the other hand, operational performance was largely disregarded in favor of competitive advantage.

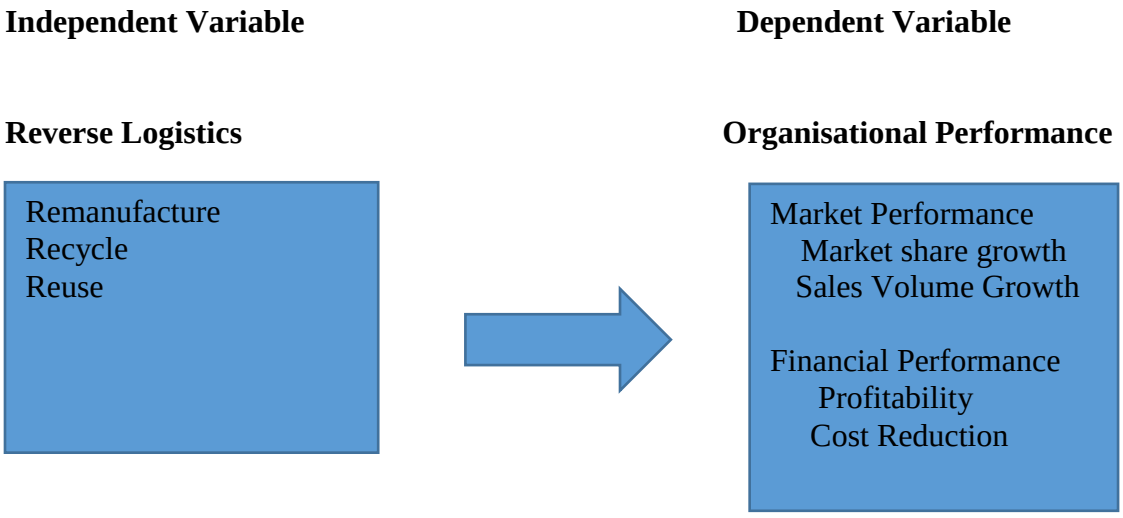
In research by Kabergey and Richu (2015) on sisal processing businesses in Nakuru County, they discovered that reuse improves the efficiency of such businesses. This is brought on by the advantages of cost savings from reuse and the time required to get raw materials, which results in a processing process that is efficient. Reuse and recovery of finished products were the only two reverse logistics techniques examined in the study.

In Nairobi's big industrial companies, Wainaina (2014) studied the profitability of reverse logistics techniques. He came to the conclusion that reverse logistics was not well-known or understood by big enterprises in Nairobi, which explained the low degree of reverse logistics adoption. Additionally, he found that while the majority of industrial companies utilize landfills

to dispose of items, they do not make use of the significant energy provided by landfill gases. Instead of focusing on how reverse logistics strategies affect operational performance, the research focused on how they are adopted and how they relate to profitability.

While this research paid attention to business performance overall, which encompasses both marketing and financial performance, Serut (2013) concentrated on financial considerations as the sole elements that determine an organization's success. Reverse logistics is a wide term that should be separated into reuse, remanufacture, and recycling reverse logistics methods, according to this research, which found a favorable association between reverse logistics and organizational performance.

2.6 Conceptual Framework



Source: Researcher (2022)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides an explanation of the procedure used to carry out the suggested study. It outlines the study design, the study participants, the sample and sampling methods, the data collecting method and tools, instrument validity and instrument reliability, data analytical approaches, and research ethics issues.

3.2 Research Design

The study applied descriptive design, in which the study described a group of individuals based on a set of variables or characteristics, allowing classification and understanding.

3.3 Population of the Study

The population for the study involves a total of 22 alcoholic producing firms in Kenya. This involved three respondents in each firm that is Procurement Manager, Logistics Manager and Finance Manager

3.4 Data Collection

Both primary and secondary data were used into this investigation. Primary data was gathered via research questionnaires. Secondary data was gathered from published sources such journals, magazines, reports to augment the main data. A questionnaire was utilized to gather raw data from respondents. Both simple randomization and questionnaire-based primary data collection were employed. The "drop and select later" strategy was used in the distribution of the questionnaire. The structure of the questionnaires was partitioned in such a way that it contained section I, II, and III. To evaluate the validity and reliability of the instrument, a pilot study was conducted. The reliability of the data that was gathered was evaluated using Cronbach's alpha. Cronbach's alpha is a measure of reliability; a value of 0.70 or above reflects the dependability of the data collected.

3.5 Data Analysis

SPSS was used to analyze the information. The adoption of Reverse logistics by alcoholic firms were described using descriptive statistics. The study applied regression analysis to assess the connection between the variables. The statistical model was used for analysis through regression method

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

Where:

Y denotes dependent variable –Organizational performance

βo is the constant, β_1, β_2, β_3 Regression coefficients.

X1-Remanufacture

X2- Recycle

X3-Reuse

α Error term normally distributed around the mean of zero and for the purpose of computation, α is assumed to be zero.

Table 3.1 Summary of Methodology

Objective	**Data Collection**	**Analysis**
To find out which reverse logistics practices embraced by alcoholic firms in Kenya	Primary	Descriptive statistics.
To assess the association between reverse logistics practices and business performance.	Primary	Regression Analysis

CHAPTER FOUR: DATA ANALYSIS AND INTEPRETATION OF FINDINGS

4.1 Introduction

The implications of adopting reverse logistics strategies on the performance of Kenyan alcoholic beverage manufacturing companies are discussed in this chapter via data analysis and interpretation. The study was influenced by the research's particular goals, which included identifying the reverse logistics strategies used by Kenyan companies that produce alcoholic beverages and figuring out how these strategies relate to organizational success. Data were then loaded into SPSS ver. 25 for analysis upon coding.

4.2 Response Rate

Three people from each of the 22 Kenyan companies that produce alcohol were among the 66 responders the researcher sought. The questionnaires for the quantitative data were given to the respondents. The surveys were properly completed by each and every responder, yielding a 100% response rate. For analysis and reporting, Mugenda and Mugenda (2003) postulates that a response rate of 50% is appropriate, a rate of 60% is good, and a response rate of at least 70% is exceptional. This response rate was ascribed to the method of data collecting, which included handing out surveys in person, reminding respondents to complete them, and selecting a sample of completed questionnaires for analysis.

4.3 General Information

The intention of the research was to learn more about the participants' general characteristics. The general data exhibits that the participants are qualified to reply to the questionnaire contents. Respondents were therefore probed on number of years the firms have been operating, durations worked in the firm, whether firm has environmental management department, organization

practice reverse logistics and number of Years reverse logistics has been practiced in the institutions. Table 4.1 shows the response

Table 4.1 Background Information

		Frequency	Percentages
Number of years the firms has been operating	Minimum 5 Years	11	16.7
	5 to10 years	16	24.2
	Above 10 years	39	59.1
Total		**66**	**100.0**
Durations worked in the firm	Less than 5 Years	5	7.6
	5 to 10 years	41	62.1
	Above 10 years	20	30.3
Total		**66**	**100.0**
Firm has environmental management department	Yes	25	37.9
	No	41	62.1
Total		**66**	**100.0**
Organization practice reverse logistics	Yes	63	95.5
	No	3	4.5
Total		**66**	**100.0**
Number of Years reverse logistics has been practiced in the organization	Less than 5 Years	8	12.7
	5-10 years	41	65.1
	More than 10 years	14	22.2
Total		**63**	**100.0**

Source: Research, (2022)

The study established that a large number of the alcohol producing businesses in Kenya have been operating for over a decade as indicated by 59.1%, 24.2% revealed that their firms had been operating for 5 to 10 years, as 16.7% had been operational for less than 5 years. On duration taken in the firm, over two thirds of the employees at 62.1% had been working in the alcohol manufacturing firms for 5 to 10 years, 30.3% indicated more than 10 years, while only 7.6% indicated less than 5 years. This displays that most of the respondents had been in the alcohol producing organizations long enough to know the impacts of embracing reverse logistics practices on performance of these organizations.

On whether the firms had environmental management department, the study found that majority of the alcohol producing businesses had no proper environmental management department as indicated by majority of the respondents at 62.1%, while only 37.9% indicated otherwise. When probed on whether alcohol manufacturing organizations practice reverse logistics, majority at 95.5% confirmed that their firms adopted reverse logistic practices, while only 4.5% indicated otherwise. The study also found that out of the 63 respondents hat confirmed that their firms adopted reverse logistic practices, 65.1% indicated that the reverse logistics has being practiced in the organization for 5 to 10 years, 22.2% indicated more than 10 years, while 12.7% indicated less than 5 years.

4.4 Extent of Embracing Reverse Logistics Practices

To achieve the first objective of this study, the degree to which alcohol manufacturing businesses have adopted various Reverse Logistics practices the researcher used the Likert scale. Respondents were asked to show by way of indication the extent at which their firms adopt reverse logistics practices, where 5 denotes very large extent; 4 denotes large extent; 3 denotes moderate extent, 2 denotes small extent, 1 denotes no extent at all. Table 4.2 shows the results.

Table 4.2 Extent of Embracing Reverse Logistics Practices

	5	**4**	**3**	**2**	**1**	Mean	STDev
Remanufacturing							
The firm save cost on raw materials	48 (76.2%)	9 (14.3%)	2 (3.2%)	2 (3.2%)	2 (3.2%)	4.57	0.64
Availability of product warranty	44 (69.8%)	10 (15.9%)	6 (9.5%)	2 (3.2%)	1 (1.6%)	4.49	0.69
Low energy consumption	51 (81.0%)	6 (9.5%)	3 (4.8%)	1 (1.6%)	2 (3.2%)	4.63	0.61

Recycling							
Customers and distributors return used products for recycling	12 (19.0%)	9 (14.3%)	5 (7.9%)	26 (41.3%)	11 17.5%	2.72	1.112
Availability of a well-documented recycling policy	19 (30.2%)	10 (15.9%)	8 (12.7%)	16 (25.4%)	10 15.9%	3.19	0.93
The firm reduces negative impact on the Environment	26 (41.3%)	23 (36.5%)	7 (11.1%)	4 (6.3%)	3 (4.8%)	4.03	0.79
Reuse							
The firm collects used products from the customers and distributors with the aim of improving on their efficiency	12 (19.0%)	14 (22.2%)	19 (30.2%)	7 (11.1%)	11 (17.5%	3.14	0.95
Set quality standards for reuse	16 (25.4%)	17 (27.0%)	14 (22.2%)	11 (17.5%)	5 (7.9%)	3.44	0.86
Availability of a well-documented reuse policy	18 (28.6%)	11 (17.5%)	7 (11.1%)	15 (23.8%)	12 (19.0%)	3.13	0.95

The study pursued to assess the extent of practicing reverse logistics through remanufacturing of which 76.2% of the respondents confessed that their firms save cost on raw materials to a very large extent through this practice, 14.3% indicated saving of cost on raw materials was to a large extent, while 3.2% said to a average extent. Only 3.2% showed to a small extent while another 3.2% indicated no extent at all. This shows that through practicing reverse logistics, most of the alcohol manufacturing firms are able to save cost on raw materials and so cost of production (Mean 4.57±0.64).

These findings concur with that of Barnes, (2010) who also found in their study that companies practicing reverse logistics have noticed a 70% reduction in raw material costs. The firms also benefit from lower transport costs because they only incur them when transporting remanufactured products back to consumers.

Similarly, Eltayeb et al. (2011) researched the consequences of green initiatives for Malaysian certified firms and environmental sustainability and found that only cost reductions were found to have a significant favorable effect. The study also established that there was availability of product warranty to a very large extent as indicated by 69.8% of the respondents, 15.9% said to a large extent, 9.5% said to a moderate extent, while 3.2% mentioned to a small extent. Only 1.6 indicated to no extent at all. Meaning, (Mean 4.49±0.69) through adoption of reverse logistics practices, most of the alcohol producing firms were also guaranteeing product warranty. These findings support that of Jack, Powers, and Skinner (2010) who also found that retailers can improve their return policies and their general cost position by using reverse logistics capabilities.

On low energy consumption the study found that adopting reverse logistics practices to a very large extent promote low energy consumption among the alcohol producing companies as indicated by 81.0% of the respondents, 9.5% indicated that this happens to a large extent while 4.8 % said to a moderate extent. Only 1.6% indicated to a small extent while 3.2% indicated no extent at all. Generally, adopting reverse logistics practices encourage low energy consumption among the alcohol producing companies (Mean 4.63±0.61).

Similarly, Kabergey and Richu (2015) conducted a study on sisal companies in Nakuru County where they found out that re-use has a favorable effect on the firm performance.

This is caused by cost savings benefits brought about by re-use and time taken to obtain raw materials thus leading to an efficient processing process. When asked on whether customers and distributors return used products for recycling as part of reverse logistics practices, the study found that 41.3% of the respondents revealed that this practice happens to a small extent, 14.3% indicated to a large extent, 19.0% indicated to a very large extent while 17.5% indicated to no extent at all as 7.9% indicated moderate extent. With a weighted mean of 2.72 and standard deviation of 1.112, it shows that customers and distributors of alcohol producing firms were not readily returning used products for recycling as part of reverse logistics practices. On the availability of a well-documented recycling policy, the study found that 30.2% said that this document was available to a very big extent, 15.9% said large extent, while 12.7% indicated to average extent. Conversely, 25.4% indicated that well-documented recycling policy was available to a small extent and only 15.9% indicated to no extent at all. This shows that average number of alcohols producing firms had a well-documented recycling policy to a moderate extent (Mean 3.19±0.93).

The study also established that through reverse logistics practices, alcohol producing firms reduces negative impact on the Environment to a very large extent as indicated by 41.3% of the respondents, 36.5% indicated to a large extent, while 11.1% indicated moderated extent. Only 6.3% indicated that reduction of negative environmental is to a small extent while 4.8% indicated no extent at all. This shows that reverse logistics practices generally to a high extent minimizes negative impact on the environment (Mean 4.03±0.79). These findings concur with that of Amemba (2013) who also found that one of the most environmentally friendly waste management strategies is the reuse strategy that is adopted by most manufacturing firms in their reverse logistics practices.

The study established that 30.2% of the respondents said that happens to a moderate extent, the firm collects used products from the customers and distributors with the aim of improving on their efficiency, 22.2% said to a large extent, while 19.0% said that this happens to a very large extent. On the other hand, 11.1% indicated that firm collects used products from the customers and distributors to a small extent as 3.14% indicated no extent at all. This shows that to moderate level or scale, alcohol producing firm collect used products from the customers and distributors with the aim of improving on their quality (Mean 3.14±0.95).

On the extent at which the firms set quality standards for reuse, 27.0% indicated that this happens to a big extent, 25.4% indicated to a very big extent, while 22.2% indicated to a moderate extent. Only 17.5% indicated to a small extent with 7.9% indicating no extent at all. This implies that to a great extent, majority of the alcohol producing firms set quality standards for reuse as part of reverse logistics practices (Mean 3.44±0.86). On the availability of a well-documented reuse policy, 28.6% indicated that their firms had well-documented reuse policy to a very large extent, 23.8% said to a small extent, 17.5% large extent, while 11.1% indicated moderate extent. Only 19.0% indicated no extent at all. This shows that with a weighted mean of 3.13 and standard deviation 0.95, most of the alcohol manufacturing firms had the well-documented reuse policy to a moderate extent.

4.5 Performance Measures

This section aimed to determine the impact that reverse logistics methods had on the Company's productivity. This is due to the fact that an organization's reverse logistics generally show beneficial impact on financial and market performance. The findings were shown in the tables below, Table 4.3 and Table 4.4

4.5.1 Financial Performance Measures

Study participants were probed to describe the degree to which their firm encounter the following financial performance benefits as a consequence of using reverse logistics practices: where 5 denoting very large extent; 4 denoting large extent; 3 denoting moderate extent, 2 denoting small extent, 1 denoting no extent at all. Table 4.4 shows the results.

Table 4.3 Financial Performance Measures

	5	**4**	**3**	**2**	**1**	Mean	STDev
Gross Profit Margin	49 (77.8%)	8 (12.7%)	2 (3.2%)	2 (3.2%)	2 (3.2%)	4.59	0.66
Return on Investment	47 (74.6%)	5 (7.9%)	8 (12.7%)	2 (3.2%)	1 (1.6%)	4.51	0.68

Most of the respondents at 77.8% indicated to a very large extent, adopting reverse logistics practices increase the gross profit margin of the alcohol manufacturing firms in Kenya, 12.7% showed to a large extent, while 3.2% showed moderate extent. On the other hand, 3.2% indicated to a small extent, while another 3.2% showed no extent at all. This shows that overall, practicing reverse logistics has favorable effect on the gross profit margin of an alcohol manufacturing firms as depicted by mean of 4.59±0.66.

On return on investment, the study found that 74.6% of the respondents confirmed that adopting reverse logistics practices increases return on investment to a very large extent, 7.9% indicated that this effects on return on investment was to a large extent, while 13.7% showed to a moderate extent. Only 3.2% indicated to a small extent, with 1.6% indicating to no extent at all. With a weighted mean of 4.51±0.68, it shows that alcohol manufacturing firms practicing reverse logistics also increases the return of investment of their shareholders.

4.5.2 Market Performance Measures

Study participants were asked to describe the degree at which their firm encounter the following marketing performance benefits as a consequence of using reverse logistics practices: where 5 denoting very large extent; 4 denoting large extent; 3 denoting moderate extent, 2 denoting small extent, 1 denoting no extent at all. Table 4.4 shows the results.

Table 4.4 Market Performance Measures

	5	4	3	2	1	Mean	STDev
Market Share Growth	37 (58.7%)	9 (14.3%)	6 (9.5%)	5 (7.9%)	6 (9.5%)	4.05	0.71
Sales volume growth in Ksh	33 (52.4%)	7 (11.1%)	8 (12.7%)	8 (12.7%)	7 (11.1%)	3.81	0.76
Sales volume growth in Units	30 (47.6%)	9 (14.3%)	8 (12.7%)	7 (11.1%)	9 (14.3%)	3.70	0.84

Respondents were also probed on the extent at which adopting reverse logistics practices by the alcohol manufacturing firms influence their market share growth. The study found that 58.7% of the respondents confirmed that reverse logistics practices influence the growth of their market share to a very large extent, 14.3% showed to a large extent, while 9.5% indicated to a moderate extent. Conversely, 7.9% indicated that the influence is to a small extent, while 9.5% depicted no extent at all. This shows that practicing reverse logistics also had a way of influencing the growth of market share of the alcohol firms (Mean 4.05±0.71). These findings support that of Fleischmann and Kuik, (2003) who also found that recycling is an "ecofriendly" reverse logistics practice since it is less costly method of getting raw materials, enabling the company to produce more products and consequently fulfill the market expectations based on mainstreaming and sustaining its supply network.

On how adopting reverse logistics practices influence sales volume, 52.4% confirmed that this practice influenced the sales volume growth to a very large extent, 11.1% depicted to a large extent, while 12.7% indicted to a moderate extent. Another 12.7% showed that it affects to a small extent, while only 11.1% indicated no extent at all. This indicates that reverse logistics practices also influence highly on the sales volume growth of the alcohol manufacturing firms (Mean 3.81±0.76).

Similarly, the study found that reverse logistics practices influence the Sales volume growth in Units to a very large extent as shown by 47.6% of the respondents, 14.3% indicated to a large extent, 12.7% indicated to an average extent while 11.1% showed that the effect was to a small extent. Only 3.7% indicated to no extent at all. With a weighted mean of (Mean 3.70±0.84), it shows that reverse logistics practices also highly influence the sales volume growth in units of the alcohol manufacturing firms.

4.6 Relationship between reverse logistics practices and organizational performance

To attain the second study objective which endeavored to ascertain the association between reverse logistics approaches and performance of alcohol manufacturing businesses. The researcher used regression methodologies to assess if there exist a correlation between the variables. The association was analyzed using multiple regression approach.

4.6.1 Coefficient of Determination

The correlation (R) between reverse logistics practices and organizational performance was determined using the model summary shown below. The coefficient of determination abbreviated as R2 was employed to assess if the model was an accurate predictor in demonstrating the link between the variables. Results of the findings were as shown in table 4.5 below:

Table 4.5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.682[a]	0.465	0.450	1.849

a. Predictors: (Constant), Remanufacture, Recycling, Re-use

The R square that is sometimes referred to as the coefficient of determination, and it shows how reverse logistics practices varies with financial and marketing performance of alcohol manufacturing firms in Kenya. The model table indicates that the R^2 value was 0.465. This illustrates that reverse logistics practices explains, justifies or varies up to 46.5% with the financial and marketing performance of alcohol manufacturing businesses in Kenya at a 95% confidence level, and that the remaining 53.5% of the performance is justified by other factors not focused by the present study.

4.6.2 Analysis of Variance

ANOVA analytical approach was adopted to assess the suitability of applying a regression model, out of which ($F=5.122$ at $p<0.05$) was found. This implies that the regression model method provides a less than 0.05 probability of providing an incorrect prediction. Table 4.6 shows the results.

Table 4.6 Analysis of Variance (ANOVA)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11.9	3	3.97	5.122	0.000[b]
	Residual	46.5	60	0.775		
	Total	58.4	63			

It therefore means that this regression approach has over 95% confidence level and therefore high reliability and consistency of the study findings.

Given that the Analysis of Variance (ANOVA) analytical technique is adopted to assess and validate on the possibilities of other factual demonstrative approaches based on the actual and expected quality, the actual examination of the informative parameters and the resultant reactions showed that the suggested regression model and the analytical outcome would suitably indicate an expected or predetermine predominant fit (Hossain, Rahim, Aman, & Selvaraj, 2019). Hence, the model was fit for the present study in assessing the nature of association between reverse logistics practices and the performance (marketing and financial performance) of alcohol producing firms in Kenya.

4.6.3 Tests of Coefficients

The researcher sought to assess the statistical significance of reverse logistics practices on organizational performance of alcohol manufacturing businesses. The subsequent table shows the results of the statistical tests conducted to determine whether the mean variance is significant at 95% confidence level.

Table 4.7 Coefficients Output

	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	7.689	0.321		23.95	0.0435
Remanufacturing	0.387	0.042	0.414	9.214	0.010
Recycling	0.401	0.055	0.562	7.291	0.023
Re-use	0.367	0.062	0.447	5.919	0.014

a. Dependent Variable: Performance of alcohol manufacturing firms

b. Predictors: (Constant), Remanufacture, Recycling, Re-use

Table 4.7 shows a significant positive relationship between remanufacturing practices, recycling practices and re-use and progress of alcohol producing firms in Kenya.

This is to say, reverse logistic practices influence positively on the performance of the organizations as per the regression equation which is:

$$Y = 7.689 + 0.387X_1 + 0.401X_2 + 0.367X_3$$

Specifically, Table 4.8 depicts that recycling practices (β=.401; $p<0.05$) had a significant impact on Kenyan alcohol producing firms' performance, followed by remanufacturing practices (β=.387; $p<0.05$) then re-use (β=.367, $p<0.05$). Therefore, reverse logistic practices had a substantial and favorable effect on performance of alcohol producing businesses in Kenya. If all recognized reverse logistic practices were rated zero, the financial and marketing performance of the alcohol manufacturing firms in Kenya would decrease by 7.689. In this analysis, the stochastic error term was considered to be zero due to the inclusion of significant reverse logistic practices.

In addition, increasing the number of units in recycling practices results in a financial and marketing performance increase of 0.401, increasing the number of units in remanufacturing practices results in financial and marketing performance increase of 0.387, and finally increasing the number of units in re-sue practices results in financial and marketing performance increase of 0.367. This demonstrates that correct reverse logistic practices have a beneficial consequence on performance of alcohol manufacturing firms in Kenya and that proper reverse logistic practices are accomplished when enterprises utilize their resources optimally in accordance with the resource-based perspective theory which emphasises that by prolonging the product's regular life past its typical use, reverse logistics enables producers to utilise existing resources in alternative yet affordable and environmentally beneficial ways. The findings are in accord with that of

Kazancoglu, et al., (2021) who when studying performance assessment of reverse logistics practices in food businesses in India similarly, found that proper implementation of reverse logistic practices significantly lead or contribute to optimal green performance management, which is achieved through minimization of food wastage and loss and also encouraging close examination of the environmental consequence of such activities from managerial perspective. Similarly, studies by both Rogers and Tibben-Lembke, (2019) and Stock *et al.*, (2017) found that a well-managed reverse logistics practice may result to maintainable development and produce a competitive advantage for the business organization via increasing profits, reducing cost of production and improving customer satisfaction.

According to Aitken and Harrison (2013), properly implemented reverse logistic practices produce all-round benefits by recovering value from used or returned goods, extending the life of those goods as opposed to purchasing additional raw materials and investing more on human and time resources. The adoption of reverse logistics methods, according to Banihashemi, Fei, and Chen (2019), plays a key role in raising or maintaining consumer satisfaction and so preserving their loyalty by paying attention to mending, addressing, or replacing defective items. By incorporating consumer input and respecting the reasons or justifications for product returns, the technique also influences changes in future items or product designs.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides summarized main findings of the study, study recommendations, study limitations, and possible areas of further research.

5.2 Summary of Findings

The study assessed how reverse logistics practices adopted by the alcohol producing firms influence both financial and market share performance of these firms. On the extent this practice influences the financial performance, the study established that practicing reverse logistics has favorable effect on the gross profit margin of an alcohol manufacturing firms as illustrated by mean of 4.59±0.66. It was also found that with a weighted mean of 4.51±0.68, it shows that alcohol manufacturing firms practicing reverse logistics also increases the return of investment of their shareholders. Based on market share growth, the study found that practicing reverse logistics also had a way of influencing the growth of market share of the alcohol firms to a great extent (Mean 4.05±0.71). On how adopting reverse logistics practices influence sales volume, the study found that these practices also greatly influence the sales volume growth of the alcohol manufacturing firms (Mean 3.81±0.76). Similarly, the study found that with a weighted mean of (Mean 3.70±0.84) reverse logistics practices also highly influence the sales volume growth in units of the alcohol manufacturing firms.

Based on reverse logistics practices with respect to remanufacturing, the study found that through practicing reverse logistics, most of the alcohol manufacturing firms are able to save cost on raw materials and so cost of production (Mean 4.57±0.64), were guaranteeing product warranty (Mean 4.49±0.69) and were also saving on energy consumption during production ((Mean 4.63±0.61).

However, on recycling, with a weighted mean of 2.72 and standard deviation of 1.112, it depicts that customers and distributors of alcohol producing firms were not readily returning used products for recycling as part of reverse logistics practices. On the availability of a well-documented recycling policy, the study found that a number of alcohol producing firms had a well-documented recycling policy to average extent (Mean 3.19±0.93). The study also established that through reverse logistics practices, alcohol producing firms reduces negative impact on the environment to a high extent (Mean 4.03±0.79).

Based on reuse practices of reverse logistics the study established that to moderate level or scale, alcohol producing firm collect used products from the customers and distributors with the aim of improving on their quality (Mean 3.14±0.95). On the extent at which the firms set quality standards for reuse, the study established that to a large extent, majority of the alcohol producing firms set quality standards for reuse as part of reverse logistics practices (Mean 3.44±0.86). On the availability of a well-documented reuse policy, with a weighted mean of 3.13 and standard deviation 0.95, most of the alcohol manufacturing firms had the well-documented reuse policy to a reasonable extent.

5.3 Conclusions

The study assessed how reverse logistics practices adopted by the alcohol producing firms influence both financial and market share performance of these firms. The study concluded that adopting reverse logistic practice has both financial as well as market implications in that on financial impacts, practicing reverse logistics has favourable effect on the gross profit margin and return of investment of alcohol manufacturing firms. Based on market share growth, adopting reverse logistics practices has a way of influencing the growth of market share through

increasing sales volume, as well as sales volume growth in units of the alcohol manufacturing firms.

Based on reverse logistics practices through remanufacturing, most of the alcohol manufacturing firms are able to save cost on raw materials and so do cost of production, they also guarantee product warranty and also save on energy consumption during production. However, on recycling, customers and distributors of alcohol producing firms were not readily returning used products for recycling as part of reverse logistics practices and on the availability of a well-documented recycling policy, a number of alcohol producing firms have no a well-documented recycling policy as well as well-documented reuse policy. However, with optimal adoption of reverse logistics practices, alcohol producing firms reduces negative impact on the environment to a high extent.

Based on reuse practices of reverse logistics, to moderate level or scale, alcohol producing firm collect used products from the customers and distributors with the aim of improving on their quality. On the extent at which the firms set quality standards for reuse, to a great extent, majority of the alcohol producing firms set quality standards for reuse as part of reverse logistics practices.

5.4 Recommendations

The present study found a favorable correlation between reverse logistics approaches and performance (financial and marketing) of firms that produce alcohol beverages in Kenya. Consequently, it is recommended that the management of firms that manufacture plastic alcohol consider implementing targeted measures to encourage the implementation of reverse logistics approaches. Despite the fact that the embracing reverse logistics approaches is moderately high in these companies, the focus of stakeholders should be on aspects that generate and assist an

environmental department charged with observing the implementation of reverse logistics activities, since the majority of alcohol manufacturing companies lacked well-documented recycled and reuse initiatives. The method in which an organization manages the processes is crucial for determining the effectiveness of its implementation of reverse logistics. Firms that produce alcoholic beverages should tailor their processes as much as possible to their specific needs, address reverse logistics concerns with technologies they have created, and establish their systems and processes to handle returns, taking into account the overlapping requirements of consumers, the company, and other stakeholders.

The report also suggests that manufacturers of plastic packaging develop clear and dedicated channels for the return of unwanted plastic packaging, particularly recyclable packaging. The firm will guarantee that it decreases the amount of recyclable waste dumped, so conserving the environment. In addition, these lines will prolong the product's usable life by remanufacturing that restores product functioning. The report suggests that manufacturers of alcoholic beverages establish a single site for the return and collection of used items, such as plastic and glass bottles. This will decrease the expenses associated with reverse logistics operations. Additionally, it frees up time for other profitable company endeavors.

5.5 Limitations of the Study

In carrying out the current study, some study participants were not readily willing to offer the needed information due to the nature of the study, where some data were so sensitive, especially those touching on financial performance, market performance as well as availability of documented recycling and reuse policies. Nonetheless, the researcher addressed this limitation by explaining to the respondents the intention of the study and guaranteeing them of their confidentiality and concealing of identity to conform to the ethical expectations.

The findings of the study were solely based on alcohol manufacturing companies and not any other business organization. This therefore implies that the study conclusions would not be widely used for other business entities. Besides, the conclusions of the findings were linked with the financial performance of which were only measured in terms sales volume and return on investment and so, the findings cannot be generalized for other indicators of organization performance or financial performance. The study findings only relied on primary quantitative data to draw its conclusions and not supplementing its findings with the qualitative data. Absence of qualitative data limits the in-depth assessment of how reverse logistics practices impact the performance of these firms.

5.6 Concerns for Further Research

The present study examined how the adoption of reverse logistics strategies affects financial performance as evaluated by return on investment without looking at other profitability parameters. The effect of this approach on other financial performance parameters like ROA and ROE, should be investigated further. In addition, the existing literature indicates that similar research should be conducted in other government organizations to ascertain whether the researched factors can be universally applied to influence the implementation of reverse logistics in manufacturing firms across all sectors.

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APPENDICES

Appendix 1: Letter to Respondents

Dear Respondent,

I’m Nyokabi Caroline, currently pursuing Master of Business Administration at University of Nairobi. In order to fulfill the criteria for the master’s degree am required to carry out research whose topic is "Reverse Logistics Practices and Performance of Alcoholic Beverage Manufacturers in Kenya".

Please find a copy of the self-administered survey attached. Please respond to each question as completely and truthfully as you can. The provided information will be kept in absolute secrecy and will only be used for academic reasons. Your name or the name of your company won't be included in the final report in any manner. Kindly call me at 0729318007 if you have any queries.

We really appreciate you taking part in this activity, and we thank you in advance.

Regards,

Student

Appendix 2: Questionnaire

Introduction

This survey was created to gather information on the organizational performance and reverse logistics practices of Kenyan companies that produce alcoholic drinks. The goal of the study is to determine how widely used reverse logistics techniques are among Kenyan companies that produce alcoholic beverages. Ascertain the connection between organization performance and reverse logistics methods. Only academic goals will be served by the usage of the information, which will be handled with extreme secrecy.

Your involvement will be greatly valued.

SECTION I: General Information

1. Duration of operation of your firm in years? _____ Years

3. Duration of working in the firm? _____ Years

4. Does your firm have environmental management department? (Tick one)

Yes { } No { }

5. Does your organisation practice reverse logistics? (Tick one)

Yes { } No { }

6. If yes, for how long has the reverse logistics being practiced in the organisation?

Maximum of 2 years [ ] 3 to 5 years [ ] More than 5 years [ ]

SECTION B: Scope of adoption of reverse logistics Practices

7. Kindly show by ticking appropriate box, the extent at which the firm has implemented the reverse logistics practices through returning of the new products where: 5 denotes Very Great Extent, 4 denotes Great Extent, 3 denotes Moderate Extent, 2 denotes Small Extent and 1 denotes No Extent at All.

	5	**4**	**3**	**2**	**1**
Remanufacturing					
The firm save cost on raw materials					
Availability of product warranty					
Low energy consumption					
Recycling					
Customers and distributors return used products for recycling					
Availability of a well-documented recycling policy					
The firm reduces negative impact on the Environment					
Reuse					
The firm collects used products form the customers and distributors with the aim of improving on their efficiency					
Set quality standards for reuse					
Availability of a well-documented reuse policy					
Others (Please Specify)					

SECTION C: Reverse Logistics Practices and Organizational Performance

8. Kindly show the extent at which the organization has realized these financial performance parameters as a consequence of embracing reverse logistics practices. Tick appropriately: where: 5 denotes Very Great Extent, 4 denotes Great Extent, 3 denotes Moderate Extent, 2 denotes Small Extent and 1 denotes No Extent at All.

Financial Performance	**1**	**2**	**3**	**4**	**5**
Return on Investment					
Gross Profit Margin					
Others (kindly specify)					

9. Kindly show the extent at which the organization has realized these marketing performance parameters as a consequence of embracing reverse logistics practices. Tick appropriately: where: 5 denotes Very Great Extent, 4 denotes Great Extent, 3 denotes Moderate Extent, 2 denotes Small Extent and 1 denotes No Extent at All.

Market Performance Measures	1	2	3	4	5
Growth in Sales volume (KES)					
Growth in Market Share					
Growth in Sales volume in Units					

Please indicate any other relevant comments_____

Thanks for your participation

Appendix 3: Alcoholic Manufacturing firms in Kenya

1	Africa Spirits Limited
2	Keroche Breweries Limited
3	Crywan Enterprises Limited
4	Kenya Wine Agency Ltd (KWAL)
5	Moonwalk Investment Limited
6	Crystal World Agencies Limited
7	FRM (E.A) Packers Ltd
8	Zheng Hong Kenya Ltd
9	Agro-chemical & Food Co. Ltd
10	MDI Limited
11	London Distillers (K) Ltd
12	UDV Nairobi
13	Mount Kenya Breweries Limited
14	JJASM Distillery Ltd
15	Two Cousins Distillers Ltd
16	Mashwa Breweries Ltd
17	Platinum Distillers Ltd
18	Tihan Limited
19	Elle Kenya ltd
20	Vine pack ltd
21	Patiala Distillers (K) Ltd
22	Kedsta Investment Ltd

Source: https://nacada.go.ke/

KRA Licenced Excise Manufacturers