

**LEAN INFORMATION LOGISTICS MANAGEMENT PRACTICES AND
OPERATIONAL PERFORMANCE OF NEWS BROADCAST TELEVISION
STATIONS IN KENYA**

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DECLARATION

This Research project is my original work and has not been submitted in any other university or learning institution.

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

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DEDICATION

To my dear family, for always being my anchor in the middle of every storm.

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ABBREVIATIONS AND ACRONYMS

CAGR Compound Annual Growth Rate

KBV Knowledge Based-View Theory

MCK Media Council of Kenya

PWC Price Waterhouse Coopers

RBV Resource Based View Theory

ABSTRACT

The study was on lean information logistics management practices and operational performance of news broadcast media stations. The objectives were to establish the lean information logistics management practices that are implemented by news broadcast media stations in Kenya and to decide the connection between lean information logistics management practices and the operational performance of news broadcast media stations in Kenya. The study employed a descriptive design with an illustration of a census survey. Data was collected using a structured questionnaire administered through drop and pick later method and also electronically via email. Descriptive statistics such as standard deviation, mean scores and frequency distribution were employed to determine the lean information logistic management practices implemented by news broadcast media stations. Multiple regression analysis was then executed to test the existing association between lean information logistics management practices and the operational performance of the news broadcast media stations in Kenya. The study found that news broadcast media stations in Kenya have adopted lean information logistics management practices (Kaizen (continuous improvement), standardization of work, Poka-yoke (Mistake proofing), Value stream mapping, Total productive maintenance) to a high extent. The findings also established that Kaizen (continuous improvement), standardization of work, Poka-yoke (Mistake proofing) have a negative correlation to operational performance while Value stream mapping and Total productive maintenance have a positive correlation with the operational performance of news broadcast media stations in Kenya. The study concluded that lean information logistics management practices influence the operational performance of news broadcast television stations in Kenya in both a positive and negative significant way. Therefore, the study recommends news broadcast media stations should focus only on the lean information logistics management practices that influence the operation performance in a positive significant way. The study was limited to news broadcast media station in Kenya and the solely use of a structured questionnaire for data collection. Suggestions for further research were; future studies should be done on lean information logistics management practices and operational performance in other contexts and research should also be done on the implementation of these practices and the challenges that may occur.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

As oxygen is to human life so is information to an organization (Al- hakim 2008). Information is constantly flowing through organizations but frequently it is not accurate, readily available or relevant. Information processes are vital in any organization (Redeker and Kipper, 2019). So as to identify the main cause of any challenges along the supply chain accurate information is required. A well-informed decision on the solution can only be established with the use accurate information as well. The effectiveness of a supply chain and its performance is dependent on the sharing of information during the production operations (Koperberg, 2006).

Information logistics is the activity of organizing the movement of the correct information at the precise time in the right way, in the accurate quality at the right place and to the right receivers and at the precise place (Haftor and Kajtazi, 2009). The provision of the correct information at the right time can result to an improvement in the overall improvement of all the functions along supply chain (Chopra and Meindl, 2004).

The study is anchored on the knowledge-based view theory (KBV) which suggests the formation of knowledge structures that are heterogeneous across the firm structure so as to attain a sustainable knowledge-based competitive advantage (Ogolla, 2017). The KBV theory considers Knowledge based resources as the most significant to an organization (Thompson and Walsham, 2004). The study is also influenced by the theory of planned approach to organizational change which is a methodology that dictates organizations consciously embark upon change and not by accident, impulse or force. It involves: employee empowerment to; make communications open, simplify possession of change processes, promote culture of learning that is continuous and collaboration within the firm (Wambomba, 2010).

1.1.1 Lean Information Logistics Management practices

Lean information logistics management practices are a set of principles, techniques and tools that are integrated into the communication and information processes in the supply chain so as to improve time, assets, human resources and efficiency while still retaining the customer's service or product quality requirement (Redeker and Kipper, 2019). It is important for information firms to implement lean thinking within a managerial context because managers now focus on probing for the right questions and not having the right answers (Cervon, 2015). This approach is more effective because it provides the staff who are more knowledgeable on the tasks that they perform regularly the opportunity to provide the right answers instead.

Wormley (1978) defined Information logistics as the business function that manages all the operations that facilitate the movement of information as a product within the supply chain. The management of information is critical because unlike the other supply chain flows its movement is bi-directional (Nurmilaakso, 2007). That is, it moves both upstream and downstream. The faster the information flow the more effective the supply chain will be (Bsaikrishna, 2016). This is because frequent updates based on accurate information are required so as to attain effective planning and decrease waste along the supply chain (Kaipai, 2009).

The benefits commonly associated with the use of lean information logistics management practices are quality enhancement, productivity of labour with decreasing lead time, customer cycle time and minimization of manufacturing costs (Hicks, 2007). Cervon (2015) observes that despite the numerous benefits associated with lean thinking it is rarely incorporated into operations by information organizations. One of the benefits being it gives visibility to the processes that go on inside individuals' heads (Ross 2013). It also enables cross-functional work to be performed more effectively while also making the contributions by team members along the supply chain more visible (Swank, 2003). The study adopted the following lean information logistics management practices; Kaizen, total productive system, standardization of work, poka-yoke, value stream mapping and total productive maintenance.

1.1.2 Operational Performance

The purpose of developing operations functions in any organization is to achieve competitive advantage through operations (Clark, 1996). Operational performance is defined as the quantifiable facet of any organization process (Voss, Ahlstrom and Blackmon, 1997). Neely (2005) describes it as a set of standards that are employed to quantify the effectiveness or efficiency of the processes and activities within an organization. Effectiveness being the capability to attain customers' needs whereas efficiency the degree as to which the organizations utilize their resources economically (Kamau, 2016).

According to Croom and Johnson (2003), firm operational performance quantifies the efficiency and of an activity to achieve operational excellence in order to provide customer value. Slack, Chambers and Johnston (2004) propose that operational performance of the firm has objectives which include: the capability to lower the price (cost), The capability to produce without errors (quality), The capability to accomplish objectives faster in response to the demands of customer hence offering lead times that are short (speed), The capability to meet the customer's specifications when producing and delivering services and products (dependability) and The capability to change operations (flexibility). The operational performance objectives form the criterion which operational performance is measured against. The study adopted the operational performance measurement indicators as those identified by slack et al (2004): cost, quality, speed, dependability and flexibility.

1.1.3 News Broadcast Television Stations in Kenya

News broadcast stations provide the service of information. They collect and disseminate information on behalf of the public to utilize to make more informed decisions (Osombah, 2011). The manner in which television broadcast stations manage their information is critical to their success because it is the actual product that they produce and it's constantly flowing within their supply chains.

News is both a product and a process that is constructed within a complex organization structure (Hannabuss, 1995). The management and production of information in news broadcast television stations is usually centralized in an area known as the newsroom. A newsroom is defined by Sheikh (2015) as a central place where stories are collected, written, put together and edited to be broadcasted as the news. Degeler (2009) describes newsrooms as the heart of the news production process. He goes on to point out that the manner in which communication is shared in the newsrooms impacts the organization's output. Newsrooms are designed according to either the physical layout or workflow (Esser, 1998). Some of the different functions within a newsroom include producers, editors, reporters, researchers, sound technicians, sound mixers, camera operators etc.

News broadcast television stations play a crucial part in the Kenyan society. It is within their mandate to provide the public with access to comprehensive information that is unbiased. They act as a tool of both political and social change. Githaiga (2011) summarizes their role as to provide information from various sectors, ensure freedom of speech, promote free flow of information and ideas in order to assist the public to make well informed decisions and finally to facilitate democracy. The sector also acts as a tool of economic growth and development. Bosire (2018) reports as of 2013 the sector which mostly depends on advertising to generate its revenue employed around 8500 people. According to Price Waterhouse Coopers (PwC) Entertainment and Media Outlook report (2017–2021) the Kenyan media market revenue is predicted to rise at a compound annual growth rate (CAGR) of 8.5 percent hitting the KSh.300 Billion mark in 2020 and totaling KSh.320 Billion in 2021. The sector is also experiencing a lot of growth mainly due to the digital migration enforced by the Government of Kenya in 2015. The move has seen some TV stations rise to 66 and that of radios double to 178. This can be accredited to the significant reduction in the capital investment required for transmission infrastructure installation costs (Mengo, 2019).

1.2 Research Problem

The reason for most of service management failures is that most organizations focus on producing a "missing a product" as opposed to concentrating on their service delivery

process (Gronroos, 1998). Johnston (1999) together with Seddon and O'Donovan (2010) indicate the major issue in lean service is the assumption that models can be interchangeably used for instance those designed to be used in the service environment being used in the manufacturing environment or vice versa. The difficulties emerge from trying to apply the manufacturing models of lean on intangible products (Arfman, Fedirico and Barbe, 2014). The news broadcasting sector is far from consistent with new trends constantly emerging. Most of the trends are borrowed from manufacturing industries. Due to the nature of their service, which is to provide information, media houses need to shift from manufacturing models to service models when selecting their business models (Sullivan, 2006).

The concept of information logistics management is generally new and constantly evolving however, recently the subject has gained a lot of attention in terms of research but mostly from a manufacturing perspective e.g. in relation to order processing time, inventory management, set up time, supplier feedback etc. The lack of research on information logistics management from a service context is what prompted the desire to carry out this study. The interest to carry out this research was also piqued by the challenges faced in the news broadcasting sector. According to Osombah (2011) the main challenge is managing the phenomenon of Information explosion which is the large amounts of information collected over long periods of time. This may include video clips, audio clips and newspapers etc. The difficulty in managing this information arises from issues related to the actual storage and security. Information technology firms in Kenya provide secure data storage facilities but the service comes at a high cost which most stations cannot afford. Efficiency in information logistics management will assist news broadcast stations to combat this issue.

A number of studies have been carried out on different lean management practices and performance. Castle and Harvey (2009) carried out a study on the application of lean information management in health care and established that applying lean positively impacted the performance of the health cares. Boyle, Rathje and Stuart (2011) researched on the influence that external information sources have on lean improvements and established that the level of exposure to lean external information sources such as plant

visits, training sessions and conferences affected the lean thinking and commitment by the management of organizations.

Locally, Mungai (2014) conducted a study to establish how lean thinking practices influences logistics performance in prisons in Kenya and found that not all lean practices had a positive influence on the performance; some revealed a negative co-relation meaning that their adoption could adversely affect the performance. Othieno (2016) researched on the influence of lean management practices on the performance of operations in the Nation newspaper printing division and found that the use of lean had no significant influence on the operational performance on Nation newspaper printing. Mohamed and Mwanyota (2018) looked into the effects that lean management practices have on the private hospitals' financial performance in Mombasa County in Kenya and found that lean practices positively impacted the financial performance of hospitals in terms of data collection and storage.

It is observable from the previous studies mentioned that lean information logistics management practices and performance has received inadequate focus by researchers. The study strived to respond to the following research questions: What are the lean information logistics management practices implemented by news broadcast media stations in Kenya? How does lean information logistics management relate to the operational performance of news broadcasting media stations in Kenya?

1.3 Research Objectives

The study was guided by the following objectives:

- i. To establish the lean information logistics management practices that are implemented by news broadcast media stations in Kenya.
- ii. To decide the relationship between lean information logistics management practices and the operational performance of news broadcast media stations in Kenya.

1.4 Value of the Study

The study findings will assist policy makers in Kenyan broadcast television stations to ascertain the level which lean practices are influencing their operational performance. This information will enable them to formulate better decisions about their firm's operations.

Due to the mandate and responsibility of news broadcasters to provide information that is accessible to all regardless of the economic or social status they belong to (Bussiek and Bussiek, 2004), the general public will also find this study of value. The findings will assist the news broadcasting stations to make well informed decisions to improve their operational performance. Improvement in their performance translates to the public being well informed not only on local issues but international issues. This information is important especially when it comes to selecting their leaders and holding them accountable.

Apart from contributing to the limited literature in this area of study, researchers may also use it as a foundation for further research on lean practices and other related fields especially in other service industries.

CHAPTER TWO: LITRETURE REVIEW

2.1 Introduction

Chapter two focuses on previous researches that inform the study. The key areas looked into are lean service and lean information logistics management practices. The chapter will also cover the theoretical foundation of the study, the empirical literature and conclude with a conceptual framework.

2.2 Theoretical Literature Review

Numerous existing theories can be used to explain the nature of lean information logistics management. The study adopted the following theories: Knowledge-Based review theory being the main theory, and the planned approach to organization change theory.

2.2.1 Knowledge-Based View Theory

The Knowledge-Based Review theory is a management theory that demonstrates strategies to attain competitive advantage by way of continuous acquisition and transfer of knowledge within a business organization (Madiavale, 2016). Knowledge is considered to be the single most strategically significant resource within any organization (Thompson and Walsham, 2004). It originated from the Resource-based view (RBV) as its proponents argued that the role of knowledge in achieving competitive advantage wasn't been fully recognized by the latter (Helfat and Peteraf, 2003). The major bone of contention being the fact that RBV identifies knowledge as a generic source rather than one with special characteristics. KBV theory fills this gap by expounding on the strategic importance and distinctive characteristics of the several types of knowledge-based resources that provide an organization with a competitive advantage (Curado and Lupi, 2006).

The KBV theory is used to explain the difference in performance of organizations with good bundles of knowledge over their competitors who don't within similar industries (Ogolla, 2017). The knowledge is demonstrated in its diverse forms on different levels of the organization. Afterwards, it's collected and transferred to different members in the

organization to influence quality and efficiency of production (Jayaram and Xu, 2016) thus ensuring continuity and continuous improvement (Madaviale, 2016).

2.2.2 The Planned Approach to Organizational Change

This theory was initially developed by Kurt Lewin in 1947. He categorized organizational change into three stages. The first being the enlightening phase stage also known as “unfreezing”. The unfreezing stage entails creating the perception that change is desired. The top management has to show the employees how the old behavior and current state of affairs are hindering their progress (Connelly, 2016). The second stage is the transitional phase known as the changing phase. This is when the actual change is implemented and is usually characterized with confusion, fear and anxiety as the employees familiarize themselves with the new behavior (Wambomba, 2010). The last stage which is the refreezing stage involves solidifying the change by taking the necessary steps to ensure the employees don’t revert back to the old behavior (Cummings, Bridgman and Brown 2016).

Burnes (2004) articulates that the success of an organization is dependent on planned changed which involves putting together all teams and individuals to combine their resources to function better amongst other factors. Lean service implementation is not different; Sakar (2007) indicates that the process should involve all individuals in the organization. Bowen and Youngdahl (1998) emphasize the focus should be on the people aspect instead of the equipment. Organizations can benefit from lean service if it is implemented according to the nature of the service and the focus should be on the change process so that all the employees can accept the change into lean and continuously improve their regular duties. (Asnan, Nordin & Othman, 2015)

2.3 Lean Service

Lean service is quite a new concept that is continuously evolving hence academicians, practitioners and stakeholders haven’t yet been able to agree on a suitable definition of the term that accurately describes it (Ritchie & Angelis 2009). Lean has achieved a lot of success in manufacturing industries however in the service industries the results have

been mixed when the concept was applied. Arfmann et al (2014) attributes this to failing to recognize the difference between the challenges faced in service and manufacturing environments during its implementation. They stress that this does not translate to lean not being applicable in a service environment but the techniques and tools of lean have to be interpreted and developed in a manner that can address these challenges from a service context.

Various researchers such as Vargo and Lusch (2004) and Parasuraman et al. (1988) propose that in order to establish any framework that aims at improving service delivery one must make well known the main characteristics of a service: perishability; intangibility; inseparability; lack of ownership and variability. This is very important especially when it comes to identification of the wastes which is the first phase of lean implementation. Qu, Ma and Zhan (2011) acknowledge that waste identification in lean service is critical as it gives direction in terms of the techniques and tools that will be applied.

2.4 Lean Information Logistics Management Practices

There are various lean information management practices that can influence the firms' operational performance; the study examined the following: Kaizen (Continuous Improvement), standardization of work, poka-Yoke (mistake proofing), value stream mapping and total productive maintenance

Kaizen is considered an initial for all lean practices (Othieno, 2016). It's a combination of two Japanese words: Kai meaning change and Zen meaning good, directly translating to change for good. Pieczonka and Tabor (2003) define Kaizen as a step-by-step continuous process that aims at achieving improvements that are continuous in quality, costs and flexibility (Bessant, Burnell, Harding & Webb, 1993) and productivity (Choi, Rungtusanatham and Kim, 1997). It involves the creation of Kaizen events which are cross functional teams specifically tasked to identify problems that can lead to waste and to carry out an analysis on the best way to eliminate the problem (Cooper, Keif and Macro, 2007). It requires change in people's behaviors and authority based on experience

hence the full engagement of top management and all employees in the organization is crucial (Brodnicka and Jakubiec, 2016).

Standardization of work is a key principle in the elimination of waste. It involves creating a system to improve the methods in which production is carried out, it tells the employees what, when and in what order to do what they do (Dennis, 2007). According to Liker (2004) standardization of work is important since if the production process is constantly changing any enhancements will just result to another variation that may be ignored. It forms the foundation needed for continuous improvement (Whitmore, 2008). Takt time is a tool used in standardizing work. Takt (German for rhythm or beat) time is the level at which services and goods are produced so as to meet the customer demand (Liker, 2004). Standardizing work is considered by Whitmore (2008) as the secret weapon of being lean for all jobs that contain a series of tasks as it presents the best way for workers of carry out their duties.

Poka – Yoke is a Japanese word which means removing error or error proofing. It's a tool that is used to remove the error in the system. Poka-Yokes are devices or solutions in any mechanism or idea that either prevent mistakes from occurring or make them more easily detected at a glance. The system performs a 100% inspection in its steps in order to ensure the product goes to the next step without any possibility of defects (Bruno Diego de, Nilo Antonio de José Wilson de and Bernardo Bastos da 2018). Sable and Dakhore (2014) stress that the ability to detect errors at a glance is important because they will not turn into defects if feedback and action take place at the point in which they initially occur.

Rother and Shook (2003) defines value stream mapping as a lean tool often employed when examining the present state and structuring a future one for the arrangement of exercises that take a service or product from its origination to when it is conveyed to the customer. It provides a visual graphical presentation of the production process giving a deeper understanding of how to eliminate waste and delivering the required value (Li, 2014). Planning activities does not only make it simple to detect waste in the whole

process but also provides opportunities for improvement as well (Cooper, Keith and Macro, 2007).

Wang (2006) defines Total productive system (TPM) as a management tool that makes use of the whole human resource of an organization to improve its maintenance functions. All the employees are responsible for maintaining the equipment that they use regularly. Ljunberg (1998) proposes that TPM comprises of three major concepts; autonomous maintenance by operators, maximizing equipment effectiveness and small group activities. Parker (2012) notes that the main objective of TPM is to improve production while increasing job satisfaction and morale as well.

2.5 Operational Performance Measurement

Bandeira and Brunstein (2003) argue that measuring operational performance is only necessary when the goal is to improve it. If it can't be measured, it can't be managed, therefore you cannot improve it" (Filho and Calarge 2014).The benefits of operational performance measurement include: better decision making through visibility of performance and results, better communication between different departments in the organization and better communication with suppliers on desired expectations (Handfield, Monczka, Giunipero and Patterson, 2013).

Establishing what exactly to evaluate is just as important to the success of an organization as the operational performance evaluation because a wrong analysis could lead to a wrong decision which could translate into losses (Filho and Calarge, 2014).The difficulties in measuring operational performance in lean service usually emerge from the complexities associated with the special characteristics of services (Piercy and Rich, 2008). Operational performance measurement should therefore be applied in a way that can change according to the current reality of the organization (Neely 2005). The study adopted the operational performance measurement indicators as those identified by slack et al (2004): cost, quality, speed, dependability and flexibility.

Cost is the capability to yield at the lowest price (Batista and Luciano 2009).This facilitates pricing goods and services appropriately for customers (Keita, 2015). The

lower the price of production, the lower the selling price to the customers (Musyoka, 2016).

Quality is the ability to produce without errors (Slack et.al 2007). Neely (2011) emphasizes that quality entails more than just conforming to specifications. He further states that quality is also the level of appeal of the service or product, its life cycle and how well the product or service functions and how much is its value from the customers perspective.

Speed is the ability to respond promptly to the customers' demand translating to short lead times (Keita, 2015). The speed of operations within a firm is related to the overall flexibility of the firm (LaMarco, 2019). Dependability is the capability to deliver services and products in conformity with agreements made with the customers (Slack et.al 2007). It translates to delivering products or services exactly as promised and developing trust with customers (Batista and Luciano 2009).

Flexibility is the capability to alter operations. It includes aspects such as: the capability to change the production quantity, the capability to alter the production time according to demand, the ability to modify the current products or services to meet the customers' demands and the capability to create new products and services to introduce to the market (Slack et. al 2007).

2.6 Empirical Literature Review

Supply chain studies in the past have investigated various aspects of lean management, information logistics and organization performance in various industries. Castle and Harvey (2009) carried out a study on lean information management in the health care sector. The study sought to compare and contrast the practical observational approaches that are closely related to lean thinking and the traditional data collection approaches employed in health care a case of National Health Service in the United Kingdom. The researchers found that application of lean allowed instant root cause identification increased the morale of the employees as everybody felt engaged in the change and it enabled quick feedback therefore leading to the overall improvement in the performance

of the hospitals. The study also confirmed that accurate information is required in order to make correct management decisions. The gap arises from the nature of observational data which was the focus of the study; people may act differently because they know they are being watched.

Boyle et al. (2011) looked into the impact of external information sources while making lean enhancements in an organization. The researchers came up with a proposed model to accentuate the relationship between lean drivers, commitment to lean by management, external information sources and lean thinking in general. The study established that an increase in adoption of lean external information sources such as plant visits and conferences and training sessions increases the management's commitment to lean and also the level of lean thinking in the firm as a whole. The study relied on data by Canadian manufacturers thus applying the findings outside of Canada and in other service industries may be difficult.

Iranmanesh et al. (2019) inquired into the influence that lean manufacturing practices have on the organization's sustainable performance. The researchers investigated the influence that the practices have on the company's environmental performance using lean culture as the moderator. The study employed questionnaire to gather data from 187 Malaysian manufacturing firms. They concluded that practicing lean manufacturing practices positively impacted sustainable performance and that the relation was significant. The findings further established that the level of the lean culture also influenced sustainable performance. Although the research met its objectives it was limited to Malaysia and it did not focus on any specific industry. The data was collected from different manufacturing industries making it difficult to generalize the results.

So as to establish the association between adoption of lean thinking and performance, Mungai (2014) examined the influence of lean thinking practices on the performance of prison services in Kenya. The data collection procedure utilized both primary data where structured questionnaires were used and secondary data from previous research studies. The findings revealed the adoption of lean is mostly beneficial but some of the practices revealed a negative correlation which suggests that their adoption could adversely affect

performance. The researcher settled that firms should adopt as many lean practices as possible. He further resolved that firms should refrain from those lean practices that did not elevate their performance or adjusted their implementation to best suit their operations.

Madiavale (2016) examined lean practices influence on the microfinance institutions' operational performance in Mombasa County. The study intended to establish lean practices impact on the microfinance institutions operational performance in the region. A census survey was used to cover all the 17 micro finance institutions registered in the county. The study established that there exist a positive association between the variables and that the association was significant. The researcher recommended that the implementation process of these practices should be given top priority during the organization policy formulation. The study was limited to microfinance institutions in Mombasa and it did not consider any other factors that may also affect the operational performance other than the lean practices put in place by the organizations such as the social-economic and technological factors.

Othieno (2016) additionally researched on the connection between lean management practices and operational performance. A case of study of the Daily Nation newspaper was conducted. The study was centered on the printing division. Secondary and primary data was gathered through a questionnaire and operational performance measures from the firm's records. According to the findings lean practices did not influence operational performance significantly. It was then recommended by the study that adoption of a more holistic approach during implementation for more positive results as he observed some departments did not apply the lean practices. The study was inclined to a manufacturing perspective; it focused more on the process of printing and the physical distribution of the newspaper.

Mohamed and Mwanyota (2018) researched on the lean management practices' effects on private hospitals' financial performance in Mombasa County in Kenya. Due to the size of the population they carried out a census survey. The target population was 40 private hospitals in the region. The findings of the study revealed that all the lean management

practices had a positive influence on the financial performance. The researchers recommend that top management be fully committed to the process of lean application as they found it to be a critical factor for achieving positive financial performance. The gap in this study is that it only examines the financial aspect of performance and does not consider other measures of operational performance.

2.7 Summary of the Literature Review

A summary of the literature review is provided in table 2.1. The table lists the authors, their topic of research, their major findings, the emerging knowledge gaps and how they shall be addressed.

Table 2.1: Summary of Literature Review and Knowledge Gaps

Author (s)	Title of the study	Major Findings	Knowledge Gap (s)	How current study addresses the gap (s)
Castle and Harvey (2009)	Lean information management: the use of observational data in health care.	The use of lean (observational methods) had a positive impact on operational performance.	The results may not be accurate because people act differently when they know they are being watched.	Data collection will be carried out using an anonymous questionnaire.
Boyle et al., (2011)	Learning to Be Lean: The Influence Of External Information Sources in Lean Improvements.	An increase in exposure to external information sources leads to increase in lean thinking and its commitment within organizations.	The study was limited to manufacturing.	The study looks into a sector in service.
Iranmanesh et al., (2019)	Impact of Lean Manufacturing Practices on Firms' Sustainable Performance: Lean Culture as a Moderator	Lean manufacturing practices had a positive and significant effect on the sustainable performance.	The study was limited to manufacturing firms in Malaysia and did not focus on any specific industry.	The study will focus on television news broadcast service providers in Kenya.

Author (s)	Title of the study	Major Findings	Knowledge Gap (s)	How current study addresses the gap (s)
Mungai (2014)	Lean Thinking Practices And Logistics Performance In The Kenya Prisons Service.	Lean practices can impact performance both positively and negatively.	The findings were based on a single case study.	The target population of the research is all news broadcast television stations in Kenya.
Othieno (2016)	Lean Practices and Operational Performance of Nation Newspaper Printing Division, Kenya.	Lean practices did not have any significant impact on the operational performance.	Based on his findings, the researcher recommended a holistic approach during lean implementation.	Lean practices by all functions in the newsroom will be examined.
Madiavale (2016)	Effect of Lean Practices on Operational Performance of Microfinance Institutions in Mombasa County.	A significant positive relationship exists between lean operations and operational performance.	It was also limited to microfinance institutions in Mombasa.	The study will give a new perspective on this area of research as it will focus on news broadcast stations and information management.
Mohamed and Mwanyota (2018)	Effects of Selected Lean Management Practices on Financial Performance of Private Hospitals in Mombasa County, Kenya.	Lean management practices had a positive impact on the financial performance.	The study only considered the financial performance of the organizations.	The impact of lean practices will be examined against all five indicators of the organization's operational performance.

Source: Researcher's Compilation, 2019

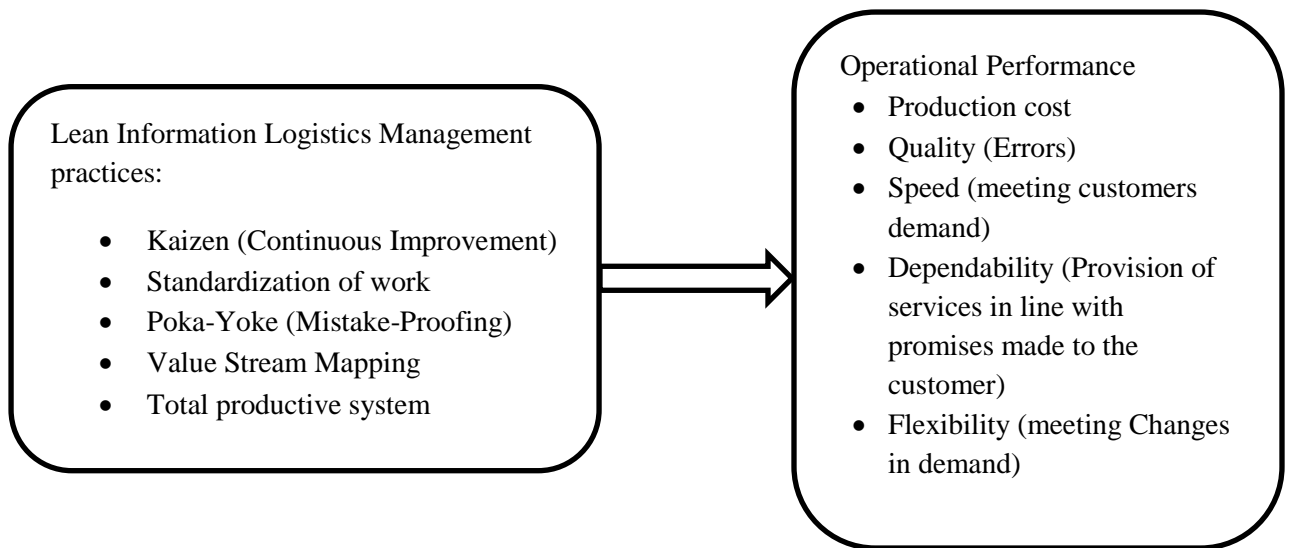
2.8 Conceptual Framework

This study's conceptual framework depicts the relationship between the independent variables and the dependent variable. Lean information logistics management practices adopted by the study; kaizen, poka-yoke and value stream mapping form the independent variables of the study. The dependent variable will be the operational performance whose indicators are cost, quality, speed, dependability and flexibility. Othieno (2018) concluded that the use of lean management practices had no significant influence on the operational performance of Nation newspaper printing division. On the contrary, Maldivile (2016) found that there exists a positive association which was considered significant between lean practices and operational performance in Microfinance Institutions in Mombasa County. However Mungai (2014) while studying the use of lean practices in the Kenya prison service came to the conclusion that lean practices can have a positive or negative influence on logistics performance of organizations.

Figure 2.1 Conceptual Model

INDEPENDENT VARIABLES

DEPENDENT VARIABLE



Source: Mungai, N.L (2014)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design, target population, data collection and data analysis.

3.2 Research Design

The study employed a descriptive research design since it facilitates the collection of detailed information about the problem under study through description without any unit being left out (Kabuga, 2012). The most suitable research design was descriptive design since the study involved the researcher conducting a survey that involved the researcher traveling to the target population for the respondents to elaborate on certain facts on the problem under review. For instance, Mohamed and Mwanyota (2018) opted to use this design while researching on the association between the operational performance of hospitals and lean management practices in Mombasa County.

3.3 Target Population

The target population of the study comprises of all news television broadcast stations in Kenya. According to the Media Council of Kenya (MCK) directory, August, 2019, there are 42 news broadcast television stations in Kenya as per appendix II. The subjects under examination were few therefore a census survey was performed. A census survey was considered to be the most suitable because it eliminates sampling errors and collects data from all the individuals in a population (Kothari 1990) hence obtaining the highest level of accuracy. For instance, Madiavale (2016) used a census survey while researching the influence that lean practices have on the operational performance of micro finance institutions in Mombasa County. The researcher was able to capture an accurate fact-based depiction of the population under study through collecting data from most of the target population.

3.4 Data Collection

The researcher made use of primary data gathered by way of a questionnaire. Questionnaires are favorable for the research because they enable the collection of information which cannot be observed directly for instance motivations, attitudes, emotions, experiences and accomplishments (Kothari, 2004). The study questionnaire has three sections: Section A: focused on general background information, Section B: The lean information management practices adopted by each station, Section C: The association between the lean information logistics management practices and the operational performance of the stations. The questionnaire used a five-point Likert for the close ended questions and also contained some open-ended questions that allowed the respondents to add any other information where necessary.

The respondents for the study were news producers who are the managers in the newsroom. It is believed they are most qualified to participate in the study because their role requires extensive in-depth knowledge on every step of the broadcast production process (Shaikh, 2015). One producer was examined in each news broadcast station. The questionnaires were delivered both manually using dropping and picking later approach and electronically via email.

3.5 Data Analysis

The study utilized both descriptive and regression analysis. Section A and B were analyzed using descriptive statistics which involved measures of central tendency and dispersion. In section C, regression analysis was be used to ascertain the association between lean information logistics management practices and firm operational performance. Regression analysis was appropriate because it is a statistical tool used to explore the relationships between variables (Lord and Mannering, 2010).

The conceptualized regression model shown was used to decide the association linking lean information logistics management practices and operational performance.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + \varepsilon$$

Where;

Y= Operational performance (determined by cost, quality, speed, dependability and flexibility)

a= the constant of regression (intercept)

b1, b2, b3, b4 and b5 = regression coefficients (extent in which X variables affect Y)

X1=Kaizen practices practices

X2- Standardization of work practices

X3- Poka Yoke (Mistake proofing) practices

X4- Value Stream Mapping practices

X5= Value Stream Mapping practices

X1- X5 – The independent variables

ε – Stochastic error term estimate

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter is comprised of research analysis, findings and discussions presented according to the research objectives and methodology of the study. The study made use of primary data obtained by way of structured questionnaires that were administered to the producers of the news broadcast television stations in Kenya. The data sought was in relation to the relationship between lean information logistics management practices and operational performance of news broadcast television stations in Kenya. The data was analyzed using both descriptive and inferential techniques.

4.2 Response Rate

A total of 42 questionnaires were administered to newsroom producers of news broadcast television stations in Kenya by the researcher. The researcher collected 31 questionnaires that were correctly filled. This signifies a response rate of 74%. This is considered adequate since Richardson (2005) recommended a response of 50% as sufficient for analysis. The results are revealed in Table 4.1.

Table 4.1 Response Rate

Response rate	Frequency	Percentage
Response	31	74
Nonresponse	11	26
Total	42	100

Source: Research Findings (2019)

4.3 General Information

The questionnaire gathered the respondent's general information in the first section.

4.3.1 Year of establishment of the News Broadcast Television Stations

Concerning the year that the news broadcast television stations were established, the study found that majority (32.2%) of news broadcast television stations were established between 2011 – 2015, followed by (25.8%) that were established after 2016, then (9.6%) of those established before 1995, (6.5%) established between 1996 – 2000 and then (6.5%) of news broadcast television stations were established between 2001 – 2005 as revealed in Table 4.2. The findings imply that the number of stations established after 2011 are higher than those established prior. According to Mengo (2019) this can be accredited to the enforcement of the digital migration by the Kenyan government which simplified the process of establishing television stations.

Table 4.2 Year of establishment of the News Broadcast Television Stations

Year Established	Frequency	Percentage
Before – 1995	3	9.6
1996 – 2000	2	6.5
2001 – 2005	2	6.5
2006 – 2010	6	19.4
2011 – 2016	10	32.2
After – 2016	8	25.8
Total	31	100

Source: Research Findings (2019)

4.4 Ownership of the Company

The study set to find out the kind of ownership of the news broadcast television stations

Table 4.3 Ownership of the Company

Type of Ownership	Frequency	Percentage
Locally owned	26	83.9
Foreign owned	5	16.1
Total	31	100

Source: Research Findings (2019)

The results as revealed in Table 4.3 imply that majority (83.9%) of the news broadcast television stations are locally owned. The rest (16.1%) are foreign owned. Mengo (2019) attributes the increase of locally owned news broadcast television stations to the significant reduction in the capital investment required for transmission infrastructure installation costs as a result of the digital migration.

4.4.1 Current Number of Employees

The study determined the number of employees that the news broadcast television stations have. The results are revealed in Table 4.4.

Table 4.4 Current Number of Employees

Number of Employees	Frequency	Percentage
10 – 20	4	12.9
21 – 50	4	12.9
51 – 100	11	35.5
Above 100	12	38.7
Total	31	100

Source: Research Findings (2019)

Majority (38.7%) of the news broadcast television stations had more than 100 employees, followed by (35.5%) those that had between 51 -100 employees, then (12.9%) those that have between 21 – 50 employees and then (12.9%) those that have between 10 – 20 employees. According to the findings majority of the stations have more than 100

employees. Bosire (2018) reports that the news broadcasting sector acts as tool of economic growth and development employing around 8500 people.

4.4.2 Length of Time in the Organization

The study determined the length of time that the respondents had worked in the news broadcast television stations.

Table 4.5 Length of Time in the Organization

Period in Years	Frequency	Percentage
0 – 4 Years	22	71
5 - 9 Years	7	22.6
10 – 14 Years	1	3.2
15 Years and above	1	3.2
Total	31	100

Source: Research Findings (2019)

As revealed by the findings in Table 4.5, majority (71%) of the respondents had been in the news broadcast television stations for between 0 – 4 years, followed by (22.6%) those that had been with the stations for between 5 – 9 years, then (3.2%) those that had been with the stations for between 10 – 14 Years and then (3.2%) those who had been with the station for more than 15 years. This shows that respondents had engaged themselves in the television stations operations for long enough to have a clear understating of the operations within the organization.

4.4.3 Highest Level of Education

The researcher sought to establish the respondents’ highest level of education. The results are as follows in Table 4.6.

Table 4.6 Highest Level of Education

Level of Education	Frequency	Percentage
PhD	3	9.7
Masters	13	41.9
Bachelor	13	41.9
Diploma	2	6.5
Total	31	100

Source: Research Findings (2019)

From the findings, majority (83.8%) of the respondents had either a masters or bachelor's degree, followed by (9.7%) those who had a PhD and then (6.5%) those that have a Diploma. This illustrates that the respondents have acquired knowledge to give feedback on the topic under research.

4.5 Lean Information Logistics Management Practices

The study set out to establish the level of lean information logistics management practices implement by news broadcast media stations in Kenya. The lean information logistics management practices identified by the researcher were: Kaizen (continuous improvement), Standardization of work, Total productive maintenance, Value stream mapping and Poka- Yoke. Table presents the findings on implementation of lean information logistics practices.

Table 4.7 Lean Information Logistics Management Practices

Lean Information Logistics Management Practices	Mean	Std. Deviation
Standardization of work	4.3484	0.72799
Value Stream Mapping	3.83228	0.808278
Kaizen (continuous improvement)	3.7483	0.821786
Total productive maintenance	3.717612	0.782424
Poka-yoke (Mistake – Proofing)	3.61936	0.86028
Aggregate Mean	3.8532	0.8002

Source: Research Findings (2019)

It was found as shown in Table 4.7 that lean information logistics management practices of standardization of work, value stream mapping, kaizen (continuous improvement), total productive maintenance and poka-yoke are all implemented by news broadcast media stations to high extent ($M=4.3484$, $SD=0.72799$) ($M=3.83228$, $SD=0.808278$), ($M=3.7483$, $SD=0.821786$) ($M=3.717612$, $SD=0.782424$) and ($M=3.61936$, $SD=0.86028$) respectively).

4.6 Firm Operational Performance

The researcher focused on examining the current performance level of news broadcast television stations. The findings are as follows in Table 4.8.

Table 4.8 Firm Operational Performance

Firm Operational Performance Parameters	Mean	Std. Deviation
The structures put in place have cut down the total production costs.	3.6452	.66073
Accuracy of the information provided during the news broadcast	4.0323	.79515
Response rate to breaking news	4.1935	.70329
Regular news updates provided according to a schedule.	4.5484	.62390
The provision of different varieties of news for the station viewers.	3.9032	1.01176
Aggregate Mean	4.06452	0.758966

Source: Research Findings (2019)

It was established that the level of performance of news broadcast television stations has improved to a high extent ($AM=4.06452$, $SD=0.758966$). The study established that the television stations have put in place structures to cut down the total production costs to a high extent ($M=3.6452$, $SD=.66073$). The accuracy of the information provided during the news broadcast was found to have improved to a high extent ($M=4.0323$, $SD=.79515$). The response rate to breaking news was found to have improved to a high extent ($M=4.1935$, $SD=.70329$). The findings also show that the television stations

provide regular news updates according to schedules to a high extent ($M=4.5484$, $SD=.62390$). The study found that the television stations provide different varieties of news for the station viewers to a high extent ($M=3.9032$, $SD=1.01176$).

4.7 Regression Analysis

A multiple regression examination was done to ascertain the association between lean information logistics management practices and the news broadcasting television stations' operational performance in Kenya. The coefficient of determination was conducted to show the level to which changes in the independent variables can explain the level of changes in the dependent variable.

4.7.1 Model Coefficients

The tables below show results for model coefficients of operational performance as measured by cost, quality, speed, dependability and flexibility.

Table 4.9 Model Coefficients for operational performance measured by Cost

Model	Unstandardized Coefficients		Standardized Coefficients	Z	Sig.
	B	Std. Error	Beta		
(Constant)	.132	1.230		.107	.915
Kaizen	.292	.292	.195	.999	.327
Standardization of work	-.437	.296	-.366	-1.477	.152
Poka Yoke (Mistake proofing)	-.137	.282	-.125	-.486	.631
Value Stream Mapping	.401	.292	.320	1.372	.182
Total productive maintenance	.882	.272	.559	3.241	.003

a. Dependent Variable: Production Cost

Source: Research Findings (2019)

Table 4.10 Model Coefficients for operational performance measured by quality

Model	Unstandardized Coefficients		Standardized Coefficients	Z	Sig.
	B	Std. Error	Beta		
(Constant)	-.727	1.351		-.538	.595
Kaizen	-.158	.321	-.088	-.492	.627
Standardization of work	.017	.325	.012	.053	.958
Poka-yoke (Mistake proofing)	.202	.309	.154	.653	.520
Value Stream Mapping	.771	.321	.511	2.400	.024
Total productive maintenance	.429	.299	.226	1.433	.164

Dependent Variable: Quality

Source: Research Findings (2019)

Table 4.11 Model Coefficients for operational performance measured by Speed

Model	Unstandardized Coefficients		Standardized Coefficients	Z	Sig.
	B	Std. Error	Beta		
(Constant)	-1.183	1.145		-1.033	.312
Kaizen	.046	.272	.029	.170	.866
Standardization of work	.070	.275	.055	.255	.801
Poka-yoke (Mistake proofing)	-.108	.262	-.093	-.410	.685
Value Stream Mapping	.682	.272	.511	2.505	.019
Total productive maintenance	.719	.253	.428	2.839	.009

Dependent Variable: Speed

Source: Research Findings (2019)

Table 4.12 Model Coefficients for operational performance as measured by Dependability

Model	Unstandardized Coefficients		Standardized Coefficients	Z	Sig.
	B	Std. Error	Beta		
(Constant)	-.127	.943		-.135	.894
Kaizen	-.092	.224	-.065	-.411	.684
Standardization of work	.158	.227	.140	.697	.492
Poka-yoke (Mistake proofing)	-.304	.216	-.295	-1.409	.171
Value Stream Mapping	.868	.224	.733	3.872	.001
Total productive maintenance	.567	.209	.381	2.719	.012

Dependent Variable: Dependability

Source: Research Findings (2019)

Table 4.13 Model Coefficients for operational performance as measured by Flexibility

Model	Unstandardized Coefficients		Standardized Coefficients	Z	Sig.
	B	Std. Error	Beta		
(Constant)	1.006	1.929		.522	.606
Kaizen	-.434	.458	-.189	-.948	.352
Standardization of work	-.169	.464	-.093	-.365	.718
Poka-yoke (Mistake proofing)	-.277	.442	-.166	-.628	.536
Value Stream Mapping	1.499	.458	.781	3.271	.003
Total productive maintenance	.140	.427	.058	.327	.746

Dependent Variable: Flexibility

Source: Research Findings (2019)

The following equations are derived from the regression analysis;

$$Y = 0.132 - 0.292X_1 - 0.437X_2 - 0.137X_3 + 0.401X_4 + 0.882X_5 + \varepsilon$$

$$Y = -0.727 - 0.158X_1 + 0.017X_2 + 0.202X_3 + 0.771X_4 + 0.429X_5 + \varepsilon$$

$$Y = -1.183 + 0.046X_1 + 0.070X_2 - 0.108X_3 + 0.682X_4 + 0.719X_5 + \varepsilon$$

$$Y = -0.127 - 0.092X_1 + 0.158X_2 - 0.304X_3 + 0.868X_4 + 0.567X_5 + \varepsilon$$

$$Y = 1.006 - 0.434X_1 - 0.169X_2 - 0.277X_3 + 1.499X_4 + 0.140X_5 + \varepsilon$$

The regression coefficients of Kaizen were - 0.292, - 0.158, 0.046, -0.092 and - 0.434 which means that the Kaizen practices have a positive influence on speed but a negative relationship with cost, quality, dependability and flexibility. The analysis further shows that the coefficients of standardization of work were - 0.437, 0.017, 0.070, 0.158 and - 0.169. This means that standardization of work has a positive influence on the quality, speed and dependability and a negative influence on cost and flexibility. The study findings are similar to the findings of Mungai (2014) who carried out a study to ascertain how lean thinking practices influenced prisons service logistics performance in Kenya and found that not all lean practices had a positive influence on the performance; some showed a negative co-relation meaning that their adoption could adversely affect the performance.

Poka-yoke coefficients were - 0.137, 0.202, -0.108, - 0.304 and -0.277. This shows that Poka-yoke has a negative relationship with cost, speed, dependence and flexibility and a positive relationship with quality only. The analysis also show that the coefficients of value stream mapping include; 0.401, 0.771, 0.682, 0.868 and 1.499. This shows that value stream mapping has a positive influence on cost, quality, speed, dependability and flexibility. The study also found that the coefficients for total productive maintenance are; 0.882, 0.140, 0.719, 0.567 and 0.429. This implies that total productive maintenance positively influences cost, quality, speed, dependability and flexibility. These findings thus reveal that Lean information logistics management practices generally influence the operational performance of news broadcast television stations in Kenya. These findings

are similar to the findings by Mohamed and Mwanyota (2018) that examined the effects of lean management practices on financial performance of private hospitals in Mombasa County and established that all the lean management practices had a positive significant impact on the financial performance. This study however differs with the findings of Othieno (2016) who evaluated the impact of lean management practices on operational performance with focus on the Daily Nation newspaper’s printing division and found that lean practices did not have any significant impact on the operational performance.

4.7.2 Model Summary

The regression analysis between lean information logistics management practices and the operational performance of news broadcast television stations are shown in Table 4.14, 4.15, 4.16, 4.17 and 4.18.

Table 4.14 Model summary for operational performance as measured in terms of cost

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.614	.376	.252		.57156

Predictors: (Constant), Total productive maintenance, Kaizen, Value Stream Mapping, Standardization of work, Poka-yoke

Source: Research Findings (2019)

Table 4.15 Model summary for operational performance as measured in terms of quality

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.693	.480	.376		.62793	1.582

Predictors: (Constant), Total productive maintenance, Kaizen, Value Stream Mapping, Standardization of work, Poka-yoke

Source: Research Findings (2019)

Table 4.16 Model summary for operational performance as measured in terms of speed

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.723	.523	.428		.53212	1.752

Predictors: (Constant), Total productive maintenance, Kaizen, Value Stream Mapping, Standardization of work, Poka-yoke

Source: Research Findings (2019)

Table 4.17 Model summary for operational performance as measured in terms of dependability

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.767	.589	.506	.43838	1.699

Predictors: (Constant), Total productive maintenance, Kaizen, Value Stream Mapping, Standardization of work, Poka-yoke

Source: Research Findings (2019)

Table 4.18 Model summary for operational performance as measured in terms of flexibility

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.588	.346	.215	.89617	2.003

Predictors: (Constant), Total productive maintenance, Kaizen, Value Stream Mapping, Standardization of work, Poka-yoke

Source: Research Findings (2019)

The Model summary tables above show an adjusted R square of 0.252, 0.376, 0.428, 0.506 and 0.215 for the operational performance of news broadcast television stations in terms of cost, quality, speed dependability and flexibility. The values show an association that is strong between lean information logistics management practices and the

operational performance of news broadcast television stations. The R2 values; 0.376, 0.480, 0.523, 0.589 and 0.346 from the table indicate the variance in operational performance that is explained by lean information logistics management practices (Kaizen, Standardization of work, Poka-yoke, Value Stream Mapping and Total productive maintenance).

4.7.3 Analysis of Variance (ANOVA)

Table 4.19 ANOVA model for operational performance as measured in terms of cost

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.930	5	.986	3.018	.029
Residual	8.167	25	.327		
Total	13.097	30			

Predictors: (Constant), Total Productive Maintenance, Kaizen, Value Stream Mapping, Standardization of Work, Poke - yoke

Source: Research Findings (2019)

Table 4.20 ANOVA model for operational performance as measured in terms of quality

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.110	5	1.822	4.621	.004
Residual	9.857	25	.394		
Total	18.968	30			

Predictors: (Constant), Total Productive Maintenance, Kaizen, Value Stream Mapping, Standardization of Work, Poke - yoke

Source: Research Findings (2019)

Table 4.21 ANOVA model for operational performance as measured in terms of speed

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	7.760	5	1.552	5.481	.002
Residual	7.079	25	.283		
Total	14.839	30			

Predictors: (Constant), Total Productive Maintenance, Kaizen, Value Stream Mapping, Standardization of Work, Poke - yoke

Source: Research Findings (2019)

Table 4.22 ANOVA model for operational performance as measured in terms of dependability

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.873	5	1.375	7.153	.000
Residual	4.804	25	.192		
Total	11.677	30			

Predictors: (Constant), Total Productive Maintenance, Kaizen, Value Stream Mapping, Standardization of Work, Poke - yoke

Source: Research Findings (2019)

Table 4.23 ANOVA model for operational performance as measured in terms of flexibility

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.632	5	2.126	2.648	.047
Residual	20.078	25	.803		
Total	30.710	30			

Source: Research Findings (2019)

The p-values for the above models are .029, .004, .002, .000 and .047. The p-values are less than 0.05. This shows that the model meets the 95% confident level. This indicates that lean information logistics management practices (Kaizen, Standardization of work, Value Stream Mapping, Poka-yoke and Total productive maintenance) significantly

influences the operational performance of news broadcast television stations in Kenya. The computed F in the tables were greater than the critical F which signify that the regression model used was appropriate in predicting operational performance.

4.8 The General Estimated Model

Lean information logistics management practices (Kaizen, standardization of work, Poka-yoke, value stream mapping and total productive system) have a combined positive influence on the operational performance of the news broadcast television stations in Kenya as indicated by the regression coefficients. This is revealed in Table 4.24.

Table 4.24 Regression Coefficients for the general estimated model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
(Constant)	.180	.697		.258	.799
Kaizen	-.069	.166	-.056	-.418	.680
Standardization of work	-.072	.168	-.073	-.430	.671
Poka Yoke (Mistake proofing)	-.125	.160	-.139	-.782	.442
Value Stream Mapping	.844	.166	.816	5.096	.000
Total productive maintenance	.547	.154	.421	3.549	.002

a. Dependent Variable: Firm Operational Performance

The coefficient of determination analysis revealed that lean information logistics management practices (Kaizen (continuous improvement), standardization of work and Poka-Yoke), produced a significant negative influence on the operational performance of the news broadcast television stations in Kenya, while value stream mapping and total productive system produced a significant positive influence on the operational performance of the news broadcast television stations in Kenya as evidenced by high t-values and low p-values of less than 0.05. This differs with the findings of Mohamed and Mwanyota (2018) who examined the influence that lean management practices have on private hospitals financial performance in Mombasa County and confirmed that all the

lean management practices had a significant positive influence on the private hospital financial performance.

The p-and t-values recorded were: Kaizen (Continuous Improvement) (t= -.418, p=. 680), Standardization of work (t= -.430, p= .671), Poka Yoke (Mistake proofing) (t= -.782, p=.442), Value Stream Mapping (t= 5.096, p= .000) and Total productive maintenance (t= 3.549, p= .002).

The regression equation was conveyed as follows:

$$Y = 0.180 - 0.069X_1 - 0.072X_2 - 0.125X_3 + 0.844X_4 + 0.547X_5 + \varepsilon$$

Y – Firm Operational Performance (Dependent variable)

The model constant value of 0.180 reveals the level of operational performance of news broadcast television stations in Kenya in the absence of lean information logistics management practices (Kaizen (continuous improvement), standardization of work, Poka-yoke, value stream mapping and total productive system). The model's stochastic error term was estimated at zero for the purpose of estimating the regression equation.

This implies that an increase in Kaizen (continuous improvement), standardization of work, poka-yoke ,value stream mapping, and total productive system by one unit increase or decrease in the operational performance of news broadcast television stations by - 0.069, -0.072, -0.125, 0.844 and 0.547 respectively. These results are alike to those of Mungai (2014) who analyzed how logistics performance is affected by Lean thinking practices among prison services in Kenya and concluded that not all lean practices had a positive influence on the performance; some revealed a negative co-relation meaning that their adoption could adversely affect the performance.

4.9 Discussions of Findings

This study set out to find the association between lean information logistics management practices and the performance of the operations of news broadcast television stations in Kenya. The study issued 42 questionnaires and collected 31 questionnaires which were correctly filled representing a 74% response rate.

A review of Lean information logistics management practices among news broadcast media stations revealed that, Standardization of work, Value stream mapping, Kaizen, Total productive maintenance, and Poka-yoke practices have been implemented by news broadcast media stations to a high extent. The study found that the level of operational performance of news broadcast television stations has improved. The study established that there exists a strong association between lean information logistics management practices and the production cost of news broadcast television stations in Kenya as revealed by R of 0.614.

It was also found that there exists a strong association between cost, quality of information, speed of response to breaking news, station dependability, flexibility and lean information logistics management practices as revealed by R values of 0.614, 0.693, 0.723, 0.767 and 0.588 respectively. The study also found that different lean information logistics management practices have different effects on the operational performance, some establishing a negative influence for instance Kaizen, Standardization of work and Poka Yoke while others including value stream mapping and total productive maintenance suggest a positive influence.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Chapter five presents the study's summary, conclusion, limitations encountered during the study and recommendations for future studies. The study pursued the association between lean information logistics management practices that are embraced by Kenyan news broadcast television stations and their operational performance.

5.2 Summary of Findings

It was found by the study that news broadcast television stations in Kenya have implemented the Kaizen, standardization of work, , Poka-yoke ,value stream mapping and total productive maintenance practices to a high extent. The study also found that the level of operational performance of news broadcast television stations has improved to a high extent. This implies that news broadcast television stations in Kenya have implemented lean information logistics management practices to a high extent. The study's alpha co-efficient is .889 suggests that there exists a high internal consistency in the questionnaire.

From the regression examination, the researcher found that there exists a positive association that is considered strong between lean information logistics management practices (Kaizen, standardization of work, Poka-Yoke, value stream mapping and total productive maintenance) and the operational performance (as measured by production cost, quality, speed, dependability and flexibility) of the news broadcast television stations in Kenya as revealed by an R-value of 0.840. The study findings further indicate that lean information logistics management practices accounts for 64.7% of the total variance in the operational performance of news broadcast television stations in Kenya as evidenced by an Adjusted R Square of .647. However, statistic scored of 1.982 by the Durbin-Watson examination indicates that the regression model residuals are not consecutively correlated. These findings are similar to Castle and Harvey (2009) who evaluated lean information management on health care and established that the applying lean practices improved the performance of hospitals.

A p-value of .000 was further recorded by the study. This being less than 0.05 implies that the association between lean information logistics practices and the performance of news broadcast television stations' operations is significant. Regression statistics confirms that there is a positive association between lean information logistics practices and the operational performance of news broadcast television stations and that the relationship is strong. From the Regression Coefficients analysis, the study established that an increase in Kaizen, standardization of work, Poka-Yoke, value stream mapping and total productive system by one unit increases the operational performance of news broadcast television stations by -0.069, -0.072, 0.125, 0.844 and 0.547 respectively.

5.3 Conclusions

The research findings imply that news broadcast television stations in Kenya have implemented to a high extent lean information logistics management practices. It is also concluded that in the association between lean information logistics management practices (Kaizen, standardization of work, Poka-Yoke, value stream mapping and total productive system) and the operational performance of news broadcast television stations, exists a strong relationship. The study further concluded that there exists a strong association between Kaizen, standardization of work, Poka-Yoke, value stream mapping and total productive system and the performance of news broadcast television stations' operations as revealed by a p-value of .000 which is less than .05.

The study also found that different lean information logistics management practices have different effects on the operational performance; some have a negative influence for instance Kaizen, Standardization of work and Poka Yoke while others including value stream mapping and total productive maintenance have a positive influence.

5.4 Recommendations

It is recommended by the researcher that the management of all news broadcast television stations to prioritize the successful lean information logistics management practices implementation to enhance their operational performance. This is accredited to the results of the research which suggest that lean information logistics management practices account for 64.7% of the total variance in the performance of news broadcast television

stations' operations. The study also recommends News broadcast television stations to conduct benchmarks regularly with other organizations on the successful implementation of lean information logistics management and its influence on the operational performance. This will give insights into the best ways of implementing lean information logistics practices.

In addition, the research also acclaims that the management of all news broadcast stations to focus on the lean information logistics management practices that have positive significant beneficial relationship with their operational performance. This is attributed to the findings which revealed that Kaizen, standardization of work and Poka-yoke are all practiced to a high extent yet they have a negative association with the operational performance of news broadcast television stations in Kenya.

5.5 Limitations of the Study

There existed numerous limitations faced while undertaking the research. Firstly, the availability of local literature with respect to lean information logistics management practices and operational performance of news broadcast media stations. This challenge was overcome by consulting foreign literature and referencing other relevant locally published materials.

Another challenge faced was the respondents were hesitant about providing delicate information about their operations. However, the researcher ensured the respondents that the questionnaire was anonymous and would only be used for academic purposes.

In addition, using a questionnaire solely for data collection also limited the study. Seeing that all the respondents only answered the questions provided in the questionnaire and did not add any additional information that may have given a different perspective brought by first-hand experience. Conducting Interviews would have enabled the researcher to attain more information.

Lastly the study discussion was limited contextually to news broadcast media stations in Kenya. Therefore, it makes it difficult to generalize the results. Despite of this, the

researcher conducted a census survey in order to attain a true depiction of the subject under study.

5.6 Suggestions for Further Research

Lean information logistics management practices as established by the findings, account for 64.7% of the total variance in the operational performance of Kenya's news broadcast television stations. Studies in the future should be done to determine the factors that justify the rest of the total variance in the operational performance of Kenya's news broadcast television stations.

The study only considered five lean information logistics management practices, however there are other lean information logistics management practices which should be considered by future researchers. In addition, the study also focused on the existing lean information logistics management practices without considering how they are implemented. The research thus suggests more inquiries be conducted on the implementation process of lean information logistics practices and the challenges that may be involved. Future studies should also focus on other contexts other than news broadcast television stations for benchmarking purposes.

One of the challenges faced in doing the study was the limitation of data collection to the solely use of a questionnaire. These influenced the respondents to only focus on the given questions without giving any extra information. Future studies should consider the use of other data collection tools together with the questionnaire in order avoid getting limited information from the respondents.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

SECTION A: BACKGROUND INFORMATION

1) Name of your Organization: _____

2) When was your company established? _____

3) Indicate the ownership of your company

Locally owned Foreign owned

4) Current number of employees

10-20 21-50 51-100 Above 100

5) What is your position in the organization? _____

6) For how long have you been employed in the organization? _____

7) Highest education level

PhD Masters Bachelors Diploma Certificate

SECTION B: LEAN INFORMATION LOGISTICS MANAGEMENT PRACTICES

Identify and tick the type of lean practices that you consider are undertaken within your

Organization indicating the extent to which you agree using the following scale

1=Very low, 2=Low, 3=Moderate, 4=High, 5=Very high

Level of Application

Lean Practices	1	2	3	4	5
Kaizen (Continuous Improvement)					
1. Cross-functional teams work on resolving recurring problems.					
2. Continuous training of employees					
3. Open communication within the organization					
4. Performance Feedback is given to the employees.					
5. Well defined employee targets					
Standardization of work					
6. Work instructions are properly documented					
7. Process startups are the same					
8. Process shutdowns are the same					
9. News available on a regular schedule for stations audience.					
10. Desired quality of news bulletins is clearly defined					
Poka-Yoke (Mistake-Proofing)					
11. The news production process is designed to fail safely					
12. Use of automation in monitoring the news production process					
13. Root cause analysis are regularly done to determine problems					
14. News editing is the top priority during production.					
15. Systems put in place to verify accuracy of information from news sources					
Value Stream Mapping					
16. Customers are involved in value identification					
17. Customer satisfaction reviews are regularly conducted					
18. Clear communication of the value stream to the employees					
19. Changes within the station are always pre-planned					
20. News production process clearly defined i.e. ability to answer the who, what, when, where, why and how of operational activities					
Total Productive Maintenance					
21. Self-maintenance of office equipment					
22. Production equipment are maintained as per the schedule					
23. Clearly outlined Safety and Health Policy					
24. Optimization of existing equipment before purchasing new ones					
25. Provision of employee motivation scheme					

SECTION C: OPERATIONAL PERFORMANCE MEASUREMENT

This section requires you take into account a number of statements in respect with your company's current performance level. For each of the listed attributes please specify your level of agreement by selecting a single number ranging from 1 to 5 **where: 1=Very low, 2=Low, 3=Moderate, 4=High, 5=Very high**

Levels of Effect

Operation Performance objectives	1	2	3	4	5
1. The structures put in place have cut down the total production costs.					
2. Accuracy of the information provided during the news broadcast.					
3. Response rate to breaking news.					
4. Regular news updates provided according to a schedule.					
5. The provision of different varieties of news for the station viewers.					
Any other (Specify)					
1.					
2.					

APPENDIX II:

LIST OF NEWS BROADCAST TELEVISION STATIONS IN KENYA

	News Broadcast Television Stations in Kenya
1.	Africa 24
2.	British Broadcasting Corporation
3.	Citizen Television
4.	China Global Television Network
5.	CNBC Africa
6.	Daystar Television
7.	Ebru Television
8.	Edu Television
9.	Elimu Television
10.	Fanaka Television
11.	Good News Broadcasting System
12.	Gikuyu Television
13.	Gor Television
14.	Hope Television
15.	Inooro Television
16.	Kameme Television
17.	Kass Television
18.	Kenya Broadcasting Network
19.	Kenya Television Network
20.	Kenyatta University Television
21.	Kyeni Television
22.	K24 Television
23.	Lake Victoria Television
24.	Lolwe Television
25.	Mbugu Television
26.	Metropol Television

27.	Mt. Kenya Television
28.	Nation Television
29.	Njata Television
30.	Nuru Television
31.	Pwani Television
32.	Raia Television
33.	Sayare Television
34.	Star Television Network
35.	Switch Television
36.	Tandao Television
37.	TV 47
38.	Utugi Television
39.	Weru Television
40.	West Television
41.	Youth Television
42.	Y24

Source: Media Council of Kenya (MCK), Directory, July, 2019