IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN:2278-487X, p-ISSN: 2319-7668. Volume 28, Issue 2. Ser. 2 (February. 2026), PP 55-60
www.iosrjournals.org

The Cost Benefit Analysis Of Implementing Improved Inventory Systems In Small Clothing Stores In Lusaka Zambia

Margaret Mwansa
Master Of Business Administration General
The University Of Zambia

Abstract
The retail industry in Lusaka, Zambia, has experienced significant growth, with small clothing stores playing a vital role in meeting the demand for affordable and trendy fashion. However, these businesses face persistent challenges in inventory management, including stock outs, overstocking, and inaccurate tracking, which hinder profitability and customer satisfaction. This study conducted a cost-benefit analysis of implementing improved inventory systems in small clothing retail stores, focusing on financial, operational, and strategic implications.
Using a mixed-methods approach, the research incorporated qualitative and quantitative data collected from 50 store owners and managers in Lusaka through structured questionnaires. The findings revealed that 40% of respondents still rely on manual inventory systems, leading to inefficiencies. While initial setup costs were identified as the primary barrier to adoption by 60% of respondents, the perceived benefits, such as enhanced stock control (40%), reduced operational costs (30%), and increased customer satisfaction, demonstrated the long-term viability of inventory systems.
The study validated the Resource-Based View (RBV) and the Technology Acceptance Model (TAM), highlighting that improved inventory systems represent a strategic resource, and their adoption depends on perceived usefulness and ease of use. The research concluded that adopting cost-effective, user-friendly inventory systems significantly enhance operational efficiency and business sustainability.
The study recommends financial incentives, capacity-building initiatives, and the development of tailored technological solutions to support small retailers. These measures will enable them to overcome inventory management challenges, improve competitiveness, and contribute to the broader economic growth of Zambia.
Keywords: *Inventory management, cost-benefit analysis, small clothing retailers, Resource, Technology Acceptance Model.*

Date of Submission: 02-02-2026 Date of Acceptance: 12-02-2026

I. Introduction

Background to issue

The retail industry in Lusaka, Zambia, has experienced significant growth over the years, driven by the increasing demand for affordable and trendy fashion. Small clothing retail stores play a crucial role in catering to this demand. However, these businesses often face challenges related to inventory management, such as stock shortages, overstocking, and poor tracking of sales trends, which can lead to financial losses and reduced competitiveness (Ngoma, 2019). These businesses can use improved inventory systems to address these challenges. Such systems utilize technology to streamline stock management processes, improve accuracy, and reduce operational inefficiencies (Kumar & Kumar, 2021).

A cost-benefit analysis (CBA) of implementing these systems is essential to determine whether the benefits, such as improved stock control, better customer satisfaction, and reduced operational costs, outweigh the costs of installation, training, and maintenance. The CBA can also highlight the potential return on investment and help store owners make informed decisions about technology adoption (Shim & Siegel, 2019).

Gap in existing research

Several studies have explored the cost-benefit analysis of implementing improved inventory systems in small clothing retail businesses. However, several research gaps remain that need to be addressed.

There is a noticeable lack of literature focused specifically on the adoption of technology driven inventory systems by small clothing retail businesses in Zambia. Most existing research tends to emphasize larger companies or general small and medium enterprises (SMEs) without focusing on the unique challenges faced by small clothing retailers. For example, Ngoma (2019) highlights that much of the academic work related to inventory management in Zambia has not explored sufficiently the small retail sector, which plays a critical role

in the local economy. As a result, small businesses in this space have been overlooked, despite their growing influence.
This problem matters academically because it will add to board of knowledge to the researchers.

Research Objectives

The General Objective of this study was to evaluate the cost-effectiveness and potential benefits of implementing improved inventory systems in small clothing retail stores in Lusaka, Zambia.

i. Assess current inventory management practices in small clothing retail stores in Lusaka.
ii. Identify factors that lead to the adoption or non-adoption of improved inventory systems.
iii. Evaluate the impact of adopting improved inventory systems on operational efficiency and customer satisfaction.

Structure of the paper

Title page, Main Body (Introduction, Method, Results, Discussion), References.

II. Literature Review

Theoretical foundation

The theoretical framework for this research is grounded in the Resource-Based View (RBV). Theory and Technology Acceptance Model (TAM) Theories. These theories help explain how the adoption of technology, specifically inventory systems, can improve business performance.

Resource-Based View (RBV) Theory

The RBV theory posits that a firm's resources, particularly those that are valuable, rare, inimitable, and non-substitutable, can provide a competitive advantage Barney (1991). According to D'Oria et al., (2021), the resource-based view (RBV) suggests that competitive advantages arise due to the possession of strategic resources, and researchers have extended this logic to explain performance differences. In the context of small clothing retail stores, effective inventory management through improved systems represents a valuable resource that can streamline operations, reduce costs, and improve profitability. Using advanced inventory management systems, these companies can leverage technology as a strategic asset, allowing them to better align their inventory with market demand, improving operational efficiency and customer satisfaction.

Technology Acceptance Model (TAM)

TAM is a theory of information systems that models how users come to accept and use a technology. According to Davis (1989), the two primary factors influencing technology adoption are perceived usefulness and perceived ease of use. In this research, the implementation of improved inventory systems is seen to be influenced by these two factors. Small retail owners must perceive inventory systems as beneficial to their business operations and as easy to integrate and use. TAM helps to understand the factors that will motivate store owners to adopt technology and their willingness to incur the initial cost for long-term gains.

Limitation in existing literature

The gaps identified are that data have not been clarified, reported, or elucidated, there is incompleteness of data, timeliness of data, and there is lack of appropriate data coverage for policy decisions to shaky data flows of the research topic.

Clear rationale that leads to my research questions

Small clothing retail stores in Zambia are essential contributors to the local economy, providing employment and serving the fashion needs of the country at the community level. However, these businesses often struggle with many challenges such as stock losses, stock outs, overstocking, inaccurate tracking of inventory, and poor sales forecasting, which can lead to a variety of operational challenges.

These inefficiencies negatively affect profitability, customer satisfaction, and overall business productivity and sustainability. The absence of a streamlined and technology-driven inventory management system makes it difficult for small retailers to optimize their stock levels, resulting in lost sales opportunities and unnecessary holding costs (Kumar & Kumar, 2021). Furthermore, the lack of real-time inventory insights hinders decision-making and limits the ability of store owners to respond effectively to fluctuations in market demand. Although the implementation of inventory management systems is considered an expensive venture, especially for small businesses, it has also been linked to improved productivity (Panigrahi, Shrivastava, & Nudurupati, 2024).

Conceptual/ Theoretical Framework

The conceptual framework outlines the relationship between the independent and dependent variables in the study, illustrating how the implementation of improved inventory systems affects business performance in small clothing retail stores in Lusaka.

Relevant Theory

Independent Variables Theory (IVT)

Use of Improved Inventory Management System

This variable will be measured by whether the inventory management system is actively utilized within the business operations. Usage will be assessed based on system adoption, frequency of use, and integration into daily inventory processes.

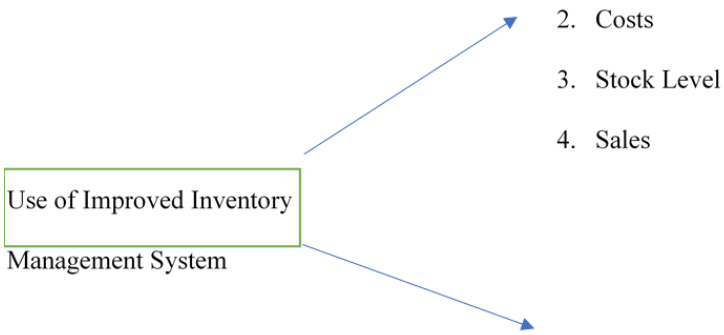
Dependent Variables Theory (DVT)

Operational Efficiency: This will be measured by profitability, costs, stock levels, and sales volumes.

Customer Satisfaction: Improved customer service through better product availability, reducing the likelihood of stock outs. This will be measured by the number of returning clients.

Conceptual model and linkages between variables/themes

1. Customer Satisfaction
2. Number of return clients
3. Number of referrals



III. Methodology

Research design

In general, there are two basic types of research conducted by researchers: primary and secondary. Primary research, as stated by (Sampson et al., 2018), is the research process in which researchers collect data for research directly from data sources with the participation of human participants. However, as argued by (Shields & Whetsell, 2018), on the other hand, there is a secondary research type, in which data and information are collected solely from the dominant literary sources that have already been presented by other prominent researchers, without the involvement of any human participant.

Population and sample for the study

Population of the Study

For this study, the target population included owners and managers of small clothing retail stores in Lusaka city. Small clothing retail stores were defined for the purpose of this study as clothing businesses with fewer than fifty employees and an annual revenue of less than ZMW 1 million. The study frame consists of a list of registered clothing retailers from the Lusaka City Council database.

Sample for the Study

A stratified random sampling technique was used to select the sample for this study, with strata defined by store size (small versus medium), to ensure diverse representation between the diverse types of small retail stores in Lusaka. Ahmad et al. (2023) stated that random sampling ensures representativeness of the study sample. Due to the enormous size of the target population, it is important that a small number or sample is selected. According to Andrade (2020), using a sample allows a researcher to study a smaller group while still making reasonable assumptions about the larger population.

Sampling method (s) for the Study

There are several sampling techniques, which are implied for selecting the relevant samples, such as random probability and convenience non-probability. The researcher has opted for the random probability sampling method for the survey participants so that each of them has an unbiased opportunity to respond to the questions and express their opinions.

Sampling technique (s) for the Study

In terms of interviews, the sampling technique has been convenience so that only the eminent and eligible participants could be selected, who have sufficient knowledge of the research topic or issue.

Data Sources

Depending on the way the data are collected in research, there are two major types of data sources, primary data and secondary data.

Data Presentation and Analysis

As described by (Uerz et al., 2018), they are collected directly from human respondents, while secondary data sources are collected from literary sources such as books, journal articles, newspapers, government reports, and peer-reviewed articles. In the current research, both secondary and primary data were collected. In the current investigation, the researcher has also used online and offline surveys, as well as interviews, as means of collecting primary data, which are qualitative and quantitative in nature, respectively.

Reliability and validity of the study

The reliability and validity of the study analysis data depend on the type of data analyzed. In the current investigation, qualitative and quantitative data were collected from interviews and surveys, respectively. Regarding the analysis of interview-based data, as mentioned by (Ma et al., 2018), the use of transcripts and logical considerations of the researcher are required, which help them to critically analyze the findings based on literature. For the survey data, the survey question-answers were arranged in a tabulated format, with the frequency of responses being put along with their response percentages, options, and total respondents. The statistical findings were calculated using mean, mode, and standard deviation, which were analyzed using descriptive statistics. Finally, charts, bar graphs, and diagrams were used for data representation.

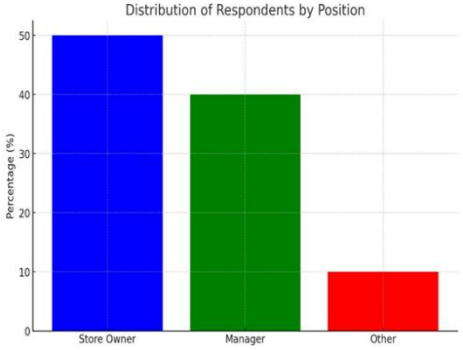
Ethical and legal considerations of the study

In the current research, the researcher has maintained a very strict norm of ethical consideration. Firstly, it has been observed that no biased data have been provided to the investigation and all data, regardless of whether they were primary or secondary, have been kept in their true form. During interviews and surveys, the identities of the respondents were kept confidential, no irrelevant personal questions were asked, and no personal data was used for any other purpose than the research itself, as per the 2018 Data Protection Bill (Lusaka Times, 2018). The respondents were not forced to do the research and were free to discontinue the same if they felt discomfort.

Study Limitation / Accessibility Issues

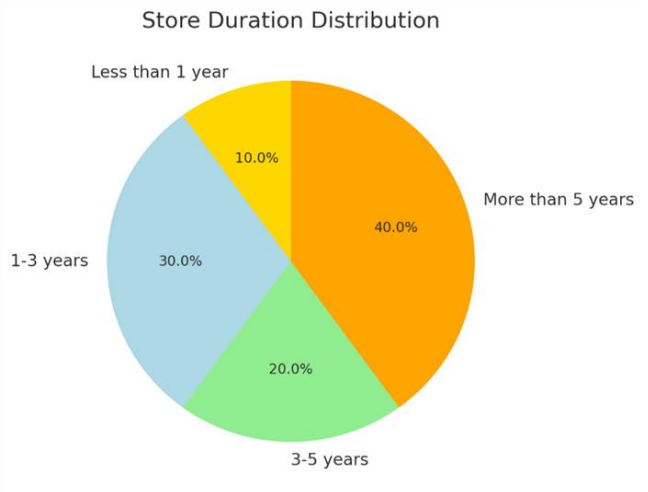
At the time of conducting research, researchers face the problems of accessing certain data sources, which is generally termed accessibility issues. As mentioned by (Ameen et al., 2018), accessibility issues arise as most researchers conduct their research with limited resources. In the current research, the researcher has mainly opted for interview and survey questions, the use of the internet, which at the time of the research was interrupted temporarily, making many respondents leave the survey in between. In terms of the interview, only a limited number of supervisors were available.

IV. Findings / Results



This study targeted a sample of 50 participants and received 100% responses rate. Of the 50 respondents 50% were owners of the businesses, 40% were Managers tasked with the responsibility of managing the day-day operations of the businesses while the remaining 10% were responsible for other tasks. This shows that the respondents had some level of authority and decision-making oversight making them suitable to participate in this study. Figure above is a visual representation of the specific roles that the study participants had in their businesses.

The businesses sampled for this study had been in operation for quite some time and it was assumed that they were running their businesses in a manner that makes them understand some basic business processes. 40% of the sampled businesses had been in operation for more than 5years while 20% had been in business for between 3 to 5 years. 30% of the businesses sampled had been in business between 1 to 3 years while the remaining 10% were in operation for less than a year. Figure below is a graphical representation of the period of operation of the study respondents.



V. Discussion

This chapter discusses the findings and evaluates the implications of the results, providing insights into the cost-benefit analysis of adopting improved inventory systems in small clothing retail stores in Lusaka. The discussion also considers the theoretical frameworks that were adopted by this study, the Resource-Based View (RBV) and the Technology Acceptance Model (TAM), to interpret the findings.

Linking Objectives with Finding

Objective 1

The first objective of the current thesis aimed at assessing current inventory management practices in small clothing retail stores in Lusaka and consider their respective significance in organizational setting. In order to meet the requirements of the current objective of the thesis paper, the secondary sources that are mainly focused on thematic and variable-based discussions, which again are presented in the literature review section. The subheadings including empirical evidence, the factors leading to a significant number of small clothing retailers in Lusaka continue to rely on manual inventory systems. This reliance creates inefficiencies in managing stock levels, sales trends, and customer demand.

Objective 2

The second objective of the current research has aimed at Identifying factors that lead to the adoption or non-adoption of improved inventory systems. In order to meet the requirements of the second objective, a combination of literary sources, survey question response, and interview question answers have been deemed necessary. Frequent stock outs remain a pressing issue for small retailers. Stock outs negatively impact customer satisfaction and revenue, as customers often turn to competitors for their needs.

Objective 3

The current objective of the thesis tends to suggest evaluating the impact of adopting improved inventory systems on operational efficiency and customer satisfaction. The highest contribution has come from the primary data, although the secondary data made available in the literature review section have also provided ample information. As for the primary data, the response to survey questions asked showed Inaccurate inventory tracking was identified as one of the most critical issues. Small retailers in Lusaka face additional challenges related to

their operational environment. Limited access to technological resources, inadequate training, and financial constraints exacerbates these issues. The detailed information gathered in the form of the responses to the interview questions has also made the meeting of the aim of the third objective possible.

VI. Conclusion

Summary of key insights

The study revealed that many small clothing retailers in Lusaka still rely on manual inventory systems, contributing to challenges such as stock outs, overstocking, and inaccurate tracking. These inefficiencies negatively affect profitability and customer satisfaction. Despite financial and operational barriers, most respondents recognized the potential benefits of improved inventory systems, such as enhanced operational efficiency, cost savings, and increased customer satisfaction.

Recommendations of the study

Adoption of Cost-Effective Inventory Systems

Government Initiatives

Government agencies, financial institutions, and business associations should collaborate to provide financial support to small retailers. Initiatives such as subsidies, grants, and low-interest loans can ease the burden of initial setup costs. Policymakers should create programs that incentivize the adoption of technology in the retail sector.

Financial Support and Incentives

Small retailers should prioritize adopting inventory management systems that align with their budget and operational scale. Cloud-based and mobile solutions, which offer affordability and scalability, are suitable options. Technology providers should develop user-friendly systems tailored to the needs of small businesses in Zambia.

Capacity Building and Training

Training programs should be organized to enhance the technical skills of small retailers and their staff. These programs should focus on the use and maintenance of inventory systems to ensure effective implementation and usage. Partnerships between educational institutions and industry stakeholders can facilitate such initiatives.

Scope for future research

Future studies should explore the long-term impacts of inventory system adoption on profitability, customer retention, and business sustainability. Expanding research to other sectors and regions would provide broader insights into the applicability of inventory systems across different contexts.

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