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Evaluating the Significant Sources of Inventory Shrinkage at a Zambian Department Chain Store

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ABSTRACT
This research study aimed to comprehensively evaluate the significant sources of inventory shrinkage at a Zambian Department Chain Store and to formulate strategies for its mitigation. Employing a mixed-methods approach, the study integrates data from security reports and structured open ended interview responses from various employees within the organization. The research specifically focuses on three objectives: identifying the sources of shrinkage, assessing its impact on the store both financially and non-financially, and developing mechanisms for its elimination or minimization. The findings reveal a multi-faceted problem with significant contributions from employee theft, shoplifting, administrative errors and vendor fraud. Financially, the store incurred a loss of over K35,973.81 in a span of six months, highlighting the urgency of addressing the issue. Beyond the financial toll, the study also uncovers the adverse effects of shrinkage on employee morale and customer relations, adding layers of complexity to the problem. Given the multi-dimensional nature of the issue, the study proposes a phased, multi-faceted strategy tailored to different management levels within the organization. The study not only offers practical solutions for the Zambian Department Chain Store but also contributes to the academic discourse on retail shrinkage.

Keywords: *inventory shrinkage, retail management, multi-faceted strategy management, zambia*

I. INTRODUCTION

Retail is known to be detail as it involves knowing the details of everything about stock movement including what may be perceived to be insignificant, from the supplier loading bay through receiving, storage all the way to the point of sale until the exit point. Brophy (2022) offers that retail involves the sale of goods to the public in relatively small quantities for use or consumption rather than for resale. According to Teller, et al., (2018), retail store operations have significant impact on costs, profits, and the service provision of retailers and are key success factors in the retail industry. According to Beck (2017), measuring losses at retail prices is probably the most common method adopted to capture the scale of inventory shrinkage. Sabanoglu (2022) postulates that in the retail industry, the number of units sold per item to customers is limited, it is from this background that makes retail business very sensitive and reactive to stock movement, which can either be through sales or other means such as mismanagement or theft which can be adverse and detrimental to a business. As well said by Lambordi (2020), while a loss may occur in any industry, prevention is critical for retail stores.

As a way of evaluating its operational efficiency, the store on focus conducts inventory audits periodically, mostly quarterly, depending on the outcome of the previous stock take, with a threshold being 0.6%. As of May 2019 stock count, the outcome surpassed the threshold by 0.17% as it recorded 0.77%. As of October 2019 the stock take outcome surpassed the threshold by 0.73% as it recorded 1.33%. This adversely affects the profitability and sustainability of the business directly. Furthermore, with the current economic turbulences our country and the World at large are facing, compounded by the effects of Corona Virus (Covid19), business has been adversely affected, as such, the Store's shrinkage threshold has been reduced from 0.6% to 0.4%, making shrinkage control a vital component in managing the business. It is for this reason that the researcher embarked on this study, to understand the significant sources of inventory shrinkage at the store, paying particular attention to the effects inventory shrinkage has on the store and offering practical mitigation alternatives.

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II. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Sources of Shrinkage in Department Stores

At global level, the US National Retail Federation (NRF) is a retail trade association, founded in 1911, that is made up of members from all phases of the retail industry responsible for representing the retail industry in all facets (Chen & Smith, 2022). One of its responsibilities is collecting global shrinkage data, analysing it and then communicating the findings. According to National Retail Federation (2020), the sources and causes of shrink vary massively from store to store. The 2020's shrink data identified the most commonly reported reasons for shrink from the previous year. The breakdown indicated that 36.5% is linked to shoplifting, 30.0% is linked to employees (error, intentional and unintentional damage or loss), 21.3% is linked to administrative errors, 5.4% is linked to fraud and the cause of the last 6.8% is unknown and unaccounted for. Joseph (2023) corroborates this by stating that shrinkage comprises about 2.3 percent of supermarket sales, with 57 percent of shrinkage resulting from employee theft alone. The Loss Prevention Magazine (2019) postulates that according to the 2018 survey conducted by the National Retail Federation (NRF), shrinkage impacted the US retail economy by almost $46.8 billion in 2017. According to Erickson (2019), the causes of shrinkage in retail business include Shoplifting, Employee Theft, Administrative Errors, Fraud and Operational Loss. Erickson (2019) goes further to say effectively reducing loss involves implementing systems that help you identify your unique points of vulnerability, through closely monitoring the daily operations of your business. Hudson (2020) argues that in the retail world, shrinkage, or shrink, the term used to describe a reduction in inventory is due to shoplifting; employee theft; administrative errors such as record keeping, pricing, and cash counting; and supplier fraud. While retailers have to factor loss into their bottom line, it is a costly problem for all.

2.2 Effects of Shrinkage on Department Stores

Shrinkage does not just remove the opportunity to earn money due to missing stock. It costs extra money since the damaged or lost stock has to be replaced. It causes loss, and increases costs. Sell (2019) postulates that there is an inverse relationship between shrinkage and profits, the higher the shrinkage, the lower the profits realized. Shrinkage takes a bite out of the business' bottom line. This largely affects retailers as they operate on razor-thin profit margins to remain competitive, so any event that cuts into their profits is likely to have a significant negative effect. Kenton & Berry (2020) contributes that if inventory is lost through shrinkage, the cost of the merchandise cannot be recovered because there is nothing to sell or return, which directly impacts your bottom line which is profits. This is especially negative in retail environments, where businesses operate on low margins and high volumes, meaning that retailers have to sell a large amount of product to make a profit. If a retailer loses inventory through shrinkage, it cannot recoup the cost of the inventory itself as there is no inventory to sell nor inventory to return, which trickles down to decrease the bottom line. Shrinkage is a part of every retail company's reality, and some businesses try to cover the potential decrease in profits by increasing the price of available products to account for the losses in inventory. These increased prices are passed on to the consumer, who is required to bear the burden for theft and inefficiencies that might cause a loss of product. If a consumer is price-sensitive, shrinkage works to decrease a company's consumer base, causing them to look elsewhere for similar goods. In addition, shrinkage can increase a company's costs in other areas such as security, as there is need to intensify. These costs work to further reduce profits, or to increase prices if the expenses are to be passed on to the customer. Jenkins (2023) adds that shrinkage is a multibillion-dollar problem that is not going away, with effects such as loss of revenue as it increases a business's cost of goods sold (COGS).

Shrinkage apparently, has a direct correlation with profit, the higher your shrinkage, the lower your profits. Lambordi (2003) argues that shrinkage causes revenue to deplete, the long and short of it is that shrinkage amounts to lost revenue for your business. If your tills are coming up short on a regular basis or your merchandise is damaged or stolen, you will experience shrinkage. All of these situations affect your bottom line. Lambordi (2003) goes further to indicate that shrinkage decreases purchasing capacity, affects the profitability of a business. In an industry like retail, where profit margins are razor thin, shrinkage can be the difference between turning a profit and being in the red. It also lowers the business value, causes operating problems, as the store shelves might be bare more often than not in this case. You might also have issues getting the funding you need to invest in new technologies or even to hire the people you need to provide excellent customer service. It raises debt ratios since revenue is lost, you may need to rely more on credit to keep the lights on. If the situation does not change, debts may continue to pile up, further decreasing your profitability and the valuation of the business.

2.3 Mechanisms of Eliminating Shrinkage in Department Stores

Eliminating or rather reducing shrinkage to a minimum is one of the main objectives of business owners as it empowers them to maximize their profits. According to Turner (2023), the results of reducing shrinkage include reduced waste (referred to by retailers as "shrink"), reduced costs, increased sales and higher margins/profitability. Joseph (2023) postulates that internal theft has negative effects on the profitability of every business while also negatively affecting employer-employee relationships and the overall workplace environment. It is imperative that a retailer finds and applies efficient and effective

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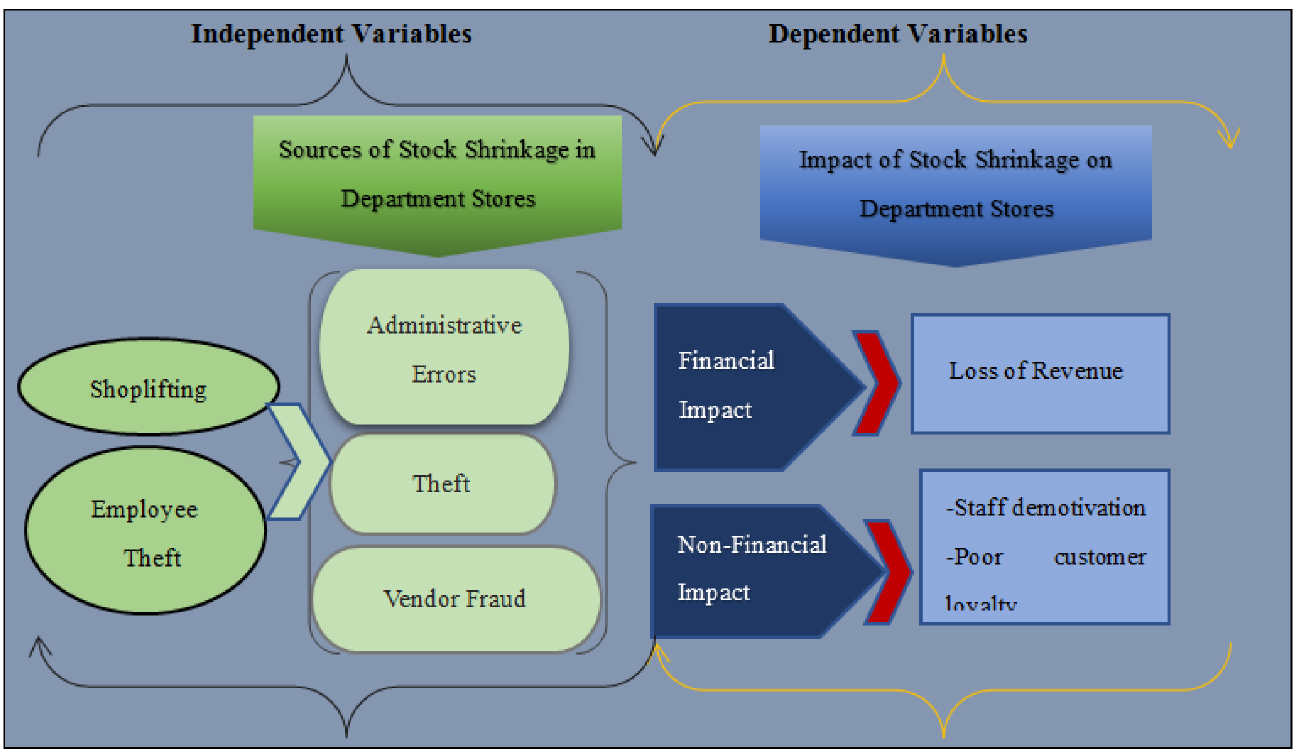
mechanisms to ensure shrink is kept at the minimum. Indeed Editorial Team (2023) suggests that retail shrinkage refers to loss of product from causes other than sales. Whether it is from theft, accounting errors or broken items, shrinkage is often measurable and preventable.

Turner (2023) goes further to say that shrinkage is the difference between what you recorded for the company inventory on the balance sheet and what the actual inventory is. It is a serious problem affecting the retail industry today. Furthermore, Turner (2023) suggest that clarifying company policies and ensuring employees are well abreast of their expectations can help mitigate shrinkage. He goes further to say training employees is another way that can help fight shrinkage. Equally, reducing human errors with checklists and reporting, as well as conducting frequent inventory audits, setting up signs and video surveillance, hiring a loss prevention manager to focus solely on shrinkage control, triple checking your vendors in terms of documentation and paperwork and finally taking advantage of technology are some of the well-known tactics that can be used to fight inventory shrinkage.

According to Joseph (2023), internal theft has negative effects on the profitability of every business while also negatively affecting employer-employee relationships and the overall workplace environment. Thus, it is very cardinal to put up measures to fight this vise. Depending on the nature of the business, this may involve hiring plainclothes or uniformed security guards to patrol the premises and monitor the activities of employees and customers. They may need to install security cameras and other electronic devices. The business may also need to install strict internal control measures to monitor bookkeeping and inventory control. Though the presence of more security may exacerbate the feeling of mistrust between management and employees. Joseph (2023) goes further to say businesses with high shrinkage often require that management place more focus on loss prevention. To encourage managers to be more vigilant, some retail organizations include loss prevention incentive programs as part of a manager's compensation program.

Drawing on the lessons learnt from reviewing the empirical studies, the conceptual framework below was developed by looking at the concept of retail shrinkage, evaluating the sources of retail shrinkage and the impact they have on department stores. In this conceptual framework, the independent variables are the sources of shrinkage, which are Theft made up of Shoplifting and Employee Theft, Administrative Errors and Vendor Fraud. The dependent variables are the impact shrinkage has on a business, which are encapsulated in loss of revenue, signaled by lower business value, customer dissatisfaction, reduced patronage, operational challenges and higher debt ratios, as well as staff demotivation as there is no salary increment, and it may even lead to suspicions and mistrust among employees, shown in the conceptual framework below:



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III. RESEARCH METHODOLOGY

This research used a mixed method approach as it deals with both quantitative and qualitative research approaches. Thus, it applied the positivism and constructivism research philosophies respectively. It is a case study targeting a Zambian Chain Store, thus it is a descriptive research, as it highlights the significant sources of shrinkage at the store. It narrows its population focus on workers of the store as a case in point, whose total workforce according to the records by the Human Resource (2023) stands at 190 employees across its branch network. According to a similar study which was conducted in South Africa by Borniface (2016), the researcher targeted management members who are relevant in the field of stock control. Applying the same philosophy, the 2023 Human Resource Records for the Store indicates that the store has a total number of 13 management team; the Store manager, 2x Sales managers, the Administration manager, 2x Loss control managers, 5x Sales floor managers and 2x Warehouse managers. The security team has 2 supervisors and 1 cleaning team supervisor. This makes the total number of management members in the store to be 16.

Since this study applied the mixed method approach, the quantitative approach used document review to collect primary data. In order for the data to be reflective of what is currently trending, the researcher used purposive sampling as it involved the researcher applying judgement to pick the most recent security documents – July 2022 to December 2022. The qualitative approach used structured open ended interviews to collect data from all the 16 store management members.

IV. RELIABILITY AND VALIDITY

Reliability and validity are very important features in any research as they help the researcher to collect quality and reliable data. Validity and reliability increase transparency and decrease opportunities to insert researcher bias in qualitative research (Singh, 2014). Reliability and Validity were ensured in the sense that the method and measurement technique used were of high quality and targeted to measure exactly what answered the research questions.

V. ETHICAL CONSIDERATIONS

In this research ethical considerations were put into account to ensure that the research was scientifically sound while being respectful towards human beings who participated in the study. Issues of confidentiality, honest, none discrimination and respect for intellectual property were of high importance in this research.

VI. ANALYSIS OF THE RESULTS

6.1 Response Rate

The data collection process involved two primary methods: document analysis and structured interviews. For the document analysis, security reports for the year 2022 were meticulously reviewed. These reports provided a comprehensive view of shrinkage figures for six months and serve as a reliable source for this study. The structured interviews targeted all the 16 management team members, yielding a 100% response rate. The diversity in the respondents' roles - spanning store employees, security personnel, and cleaning staff - provides a broad perspective, thereby enriching the quality of the data collected for this research. This high response rate enhances the validity of the structured interviews data and lends credence to the findings that will be discussed in subsequent sections.

6.2 Sources of Shrinkage at the Chain Store

The findings in this section are based on two main data collection methods: document analysis and structured interview responses.

The security reports for the year 2022 indicate a diversified range of sources contributing to shrinkage, as shown in table 1 below:

Table 1: Document Analysis on Sources of Shrinkage

Source of Shrinkage	**Total Amount (K)**
Employee Theft	16,483.67
Shoplifters	9,520.14
Admin Errors	9,080.00
Retail Fraud	890.00

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The interviews were conducted to capture perceptions about the sources of shrinkage. Out of the 16 respondents, a majority cited internal and customer theft as the most common causes. Other factors such as administrative mistakes, shortfall in delivery, poor inventory management, and lack of staff training were also highlighted. This confirms the data from the document analysis but adds nuances. For instance, lack of staff training was not a category in the security reports but appeared in the structured interview responses. When respondents were asked to rank these factors, internal theft was ranked highest, followed by customer theft, shortfall in delivery, and mistakes in the store. This ranking is somewhat aligned with the document analysis but adds the element of delivery shortfalls, which was not covered in the security reports.

Both the document analysis and interview insights contribute to a comprehensive understanding of the sources of shrinkage at the chain store. While the security reports provide quantifiable data, the interview adds qualitative aspects, making the findings more robust. Employee theft emerges as a significant issue from both data sources, necessitating urgent action. Additionally, administrative errors and poor inventory management are areas that require procedural tightening and perhaps retraining of staff.

6.3 Effects of Shrinkage on Department Stores

6.3.1 Financial Effect of Shrinkage

One of the most immediate and tangible impacts of shrinkage is on the financial performance of the store. The document analysis reveals that a total of K35,973.81 was lost to various forms of shrinkage in just six months. This financial loss, if annualized, would represent a substantial amount, potentially affecting the profitability and sustainability of the store.

6.3.2 Effect on Employee Morale and Customer Relations

According to the interview responses, shrinkage has a multi-faceted impact beyond financial loss. Respondents indicated that shrinkage contributes to staff demotivation as there is no salary increment, and it may even lead to suspicions and mistrust among employees. This could result in a toxic work environment, which further exacerbates the problem of shrinkage. From the customer perspective, frequent instances of shrinkage may lead to increased prices as the store tries to compensate for the losses. This could result in customer dissatisfaction and reduced patronage, affecting the store's reputation and customer loyalty.

The analysis clearly shows that the impact of shrinkage is not limited to financial loss but extends to employee morale and customer relations. Both the financial and non-financial impacts are significant enough to warrant immediate attention and corrective measures.

6.4 Mechanisms for Eliminating Shrinkage in Department Stores

6.4.1 Proposed Mechanisms Based on Document Analysis

The document analysis, while revealing the extent of the problem, also provides some clues as to possible solutions. For instance, the high incidence of employee theft suggests that more stringent internal controls may be beneficial. Similarly, the losses attributed to administrative errors suggest the need for better training and perhaps an overhaul of existing procedures.

6.4.2 Mitigation Alternatives as Proposed by the Store Management Team Vis-à-vis Structured Interviews

The interview provided a wealth of suggestions for combating shrinkage. The respondents recommended intensifying security patrols, ensuring 100% count when receiving valuable items, and conducting random spot checks in various departments. Enhanced security features, such as camera installation and increasing the number of security officers, were also mentioned.

VII. DISCUSSION OF RESULTS

7.1 Sources of Shrinkage at the Chain Store

The document analysis, which relied on security reports for the year 2022, presented an alarming scenario. Employee theft was the most significant source of shrinkage, accounting for a total of K16,483.67 over six months. This was followed by losses attributed to shoplifters at K9,520.14, administrative errors at K9,080.00, and retail fraud at a much lower K890.00. The high rate of employee theft presents an internal crisis that necessitates immediate managerial intervention. The structured interview results largely confirmed the findings from the document analysis but added nuanced layers to the understanding of shrinkage. While internal and customer theft were highlighted as the most common sources, additional factors such as administrative mistakes, shortfall in delivery, poor inventory management, and lack of staff training also came to the fore. Particularly noteworthy was the absence of 'lack of staff training' in the security reports, despite its emergence in the structured interviews as a significant concern. When ranked by the respondents, internal theft received the highest ranking, followed by customer theft, shortfall in delivery, and mistakes in the store. This ranking suggests a perception among staff that internal factors are more pressing issues than external ones, an insight that was not as explicitly evident from the document analysis alone. The phenomenon of inventory shrinkage in retail settings has been a subject of academic scrutiny for years, given its pervasive impact on profitability and operations. Scholars have approached the issue from various angles, providing insights that can inform the current study. For instance, the study by Garg et al. (2018) examined the extent of shrinkage in retail stores in Punjab and found that while shrinkage does occur, it's on a smaller scale. However, the study also noted that the impact could be significant over time, especially if left unaddressed. This aligns with our findings regarding the multifaceted sources of shrinkage at the Store.

7.2 Effects of Shrinkage on Department Stores

The financial toll of shrinkage on the store is quite evident from the document analysis. A loss of K35,973.81 in just six months showcases a significant drain on the store's resources. When annualized, this figure could prove detrimental to the store's profitability, thereby affecting its long-term viability. Such a financial setback can lead to a cascade of challenges, including the potential need for budget cuts in other operational areas, which can further compromise the quality of service and products. Notably, the study by Min Choi et al. (2019) in the grocery retailing industry also underscores the financial ramifications of inventory shrinkage, reinforcing the urgency to address this issue. However, the repercussions of shrinkage are not confined to the financial realm alone. As gleaned from the structured interviews responses, shrinkage has a corrosive effect on employee morale and customer relations. The absence of salary increments, possibly due to financial losses from shrinkage, has led to staff demotivation. This is a critical issue, as demotivated staff are less likely to be vigilant, thus potentially exacerbating the shrinkage problem. A study by Jaclyn M. Jensen et al. (2019) similarly found that performance pressure and store-level incivility are predictors of retail shrink, linking the issue to the broader organizational behavior context. Moreover, the issue of shrinkage has fomented an atmosphere of suspicion and mistrust among employees. This could be detrimental to team cohesion and overall productivity. On the customer side, the financial burden of shrinkage often gets transferred to them in the form of increased prices, leading to customer dissatisfaction and reduced loyalty.

7.3 Mechanisms for Eliminating Shrinkage in Department Stores

The document analysis pointed to significant lapses in internal controls as a primary contributor to shrinkage, particularly in the form of employee theft. Instituting more rigorous vetting procedures during the hiring process could serve as a preventive measure. For example, background checks and psychometric evaluations could be included in the hiring process to assess the integrity and reliability of potential employees. Ongoing training programs focusing on organizational ethics, compliance, and operational procedures could further deter internal theft. Staff could also be trained to use advanced inventory management systems, minimizing the risk of administrative errors.

The structured interviews responses brought forth a variety of practical suggestions. Intensifying security patrols, for instance, could serve as a visible deterrent against both internal and external theft. It's not just about increasing the frequency of patrols but also about varying the times and routes, making it difficult for potential thieves to predict patrol patterns. Ensuring a 100% count when receiving valuable items is another straightforward yet effective measure. This could be implemented in tandem with supplier audits to ensure that the products received match the invoice, further reducing the possibility of shrinkage at the initial stages. The recommendation for enhanced security measures like camera installations warrants a cost-benefit analysis. While initial installation costs may be high, the long-term benefits in terms of reduced shrinkage could justify the investment. Periodic assessments should be conducted to evaluate the effectiveness of these measures.

VIII. CONCLUSIONS AND RECOMMENDATION

The research study set out to investigate the phenomenon of shrinkage in retail settings, with a specific focus on a Zambian Chin Store. The objective was threefold: to identify the sources of shrinkage, to assess its extent and impact, and to propose mechanisms for its reduction or elimination. The study's findings, rooted in document analysis and structured interview responses, offer a comprehensive view of shrinkage's multifaceted nature and its implications for retail operations, particularly for the Zambian Chain Store.

The first objective aimed to establish the sources contributing to shrinkage. The document analysis revealed four primary sources: Employee Theft, Shoplifters, Administrative Errors, and Retail Fraud. Employee theft was identified as the most significant contributor, with losses amounting to K16,483.67 over six months. Shoplifting and administrative errors also showed notable contributions, indicating that both external and internal factors play a role in shrinkage at the chain store. The structured interview responses further supported these findings but also introduced additional elements like poor inventory management and lack of staff training, which were not initially covered in the security reports.

The second objective was to assess the extent to which shrinkage affects the chain store. The financial impact was substantial, with a total loss of K35,973.81 over a six-month period. If annualized, this loss could pose a significant threat to the store's profitability and long-term sustainability. Beyond the financial aspect, shrinkage was found to have a corrosive effect on employee morale and customer relations. The negative workplace environment caused by mistrust among employees,

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and the potential increase in product prices to offset losses, could result in a decline in customer satisfaction and loyalty, further exacerbating the store's challenges.

The third objective focused on developing strategies for mitigating the problem. Both the document analysis and structured interviews responses offered valuable insights. Low-cost interventions, such as staff training and enhanced security patrols, were recommended for immediate implementation by line management. Medium-cost interventions, like revising internal controls and conducting periodic reviews, were suggested for senior management. High-cost interventions, requiring substantial investment like technological upgrades and organizational restructuring, were earmarked for executive management, as shown in the table below:

Table 2: Categorized Strategies Across Different Management Levels and Cost

Proposed Solution	**Description**	**Management Level**	**Cost of Implementation**
Staff Training	Basic ethics and procedural training aimed at reducing errors and theft.	Line Management	Low-Cost
Enhanced Security Patrols	Increase in the number of security personnel and frequency of patrols.	Line Management	Low-Cost
Conduct Random Spot Checks	Random inspections to ensure compliance and deter theft.	Line Management	Low-Cost
100% Count When Receiving Valuable Items	Ensuring accurate counts of high-value items at the receiving stage.	Senior Management	Medium-Cost
Implement Robust Internal Audit Systems	Internal audit system to flag inconsistencies and errors.	Senior Management	Medium-Cost
Periodic Reviews and Adjustments	Ongoing assessments with necessary adjustments.	Senior Management	Medium-Cost
Revision of Internal Controls	Review and upgrade existing internal controls to prevent shrinkage.	Senior Management	Medium-Cost
Technological Upgrades	Advanced inventory management and monitoring systems.	Executive Management	High-Cost
Organizational Restructuring	New departments or roles focused on monitoring and auditing.	Executive Management	High-Cost
Enhanced Security Features (e.g., cameras)	Surveillance cameras and electronic article surveillance (EAS) systems.	Executive Management	High-Cost

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