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Turning Shrinkage into Strategic Profitability in Retail

Whitepaper

An RPG Company

"Shrinkage" emerged in the mid-20th century as a retail and inventory term describing inventory losses due to theft, damage, fraud, spoilage, or errors. Essentially, it’s the inventory that has "shrunk" from expected levels.

Shrinkage costs the global retail industry over $112 billion annually (NRF Retail Security Survey, 2023). Traditionally seen as a sunk cost, shrinkage is now recognized as a strategic lever. Addressing it proactively can drive profitability, streamline operations, and enhance customer trust.

Beyond profits, shrinkage disrupts operational efficiency, undermines customer trust, and threatens long-term business sustainability. Retailers are adapting operations to combat shrinkage by reducing self-checkout options, increasing staff presence, and enhancing surveillance.

Shrinkage categories

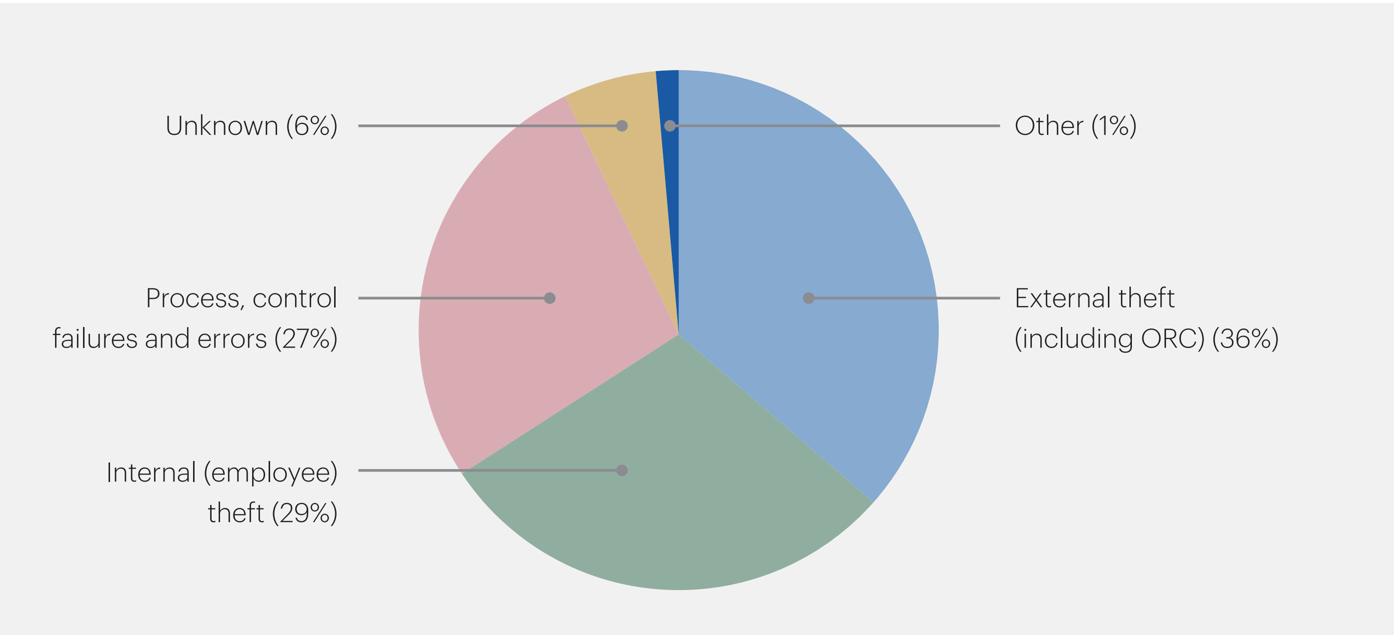
External theft: Rising Shoplifting and organized retail crime (ORC) have surged, with ORC-related losses in North America rising by 26.5% since 2021 (NRF, 2023).

Internal theft: Employee fraud accounts for up to 28% of global shrink, often due to refund fraud, theft, or supplier collusion (Loss Prevention Magazine, 2023).

Administrative and process errors: Mispricing, scanning mistakes, and data entry errors affect stock accuracy and forecasting. Such inaccuracies cause 15%–25% of stockouts (McKinsey & Company, 2022).

Supplier fraud and delivery issues: Fraudulent invoices, misdelivered goods, and unauthorized product substitutions are prevalent in regions with fragmented supply chains.

Fraudulent and abusive returns: Customers returning used, damaged, or different items. Retailers lost **$103 billion** due to fraudulent and abusive returns and claims. (Digital commerce 360).



The top reasons for shrinkage in Retail, according to the National Retail Federation (2022)

Understanding shrinkage

Inventory tracking: Inventory tracking is the process of monitoring and managing the flow of goods in and out of a business to ensure accurate stock levels. Retailers, warehouses, and e-commerce businesses must maintain efficiency, reduce shrinkage, and meet customer demand.

Recorded vs. actual inventory: The inventory level shown in your inventory management system or records is called the recorded inventory. It reflects purchases, sales, returns, transfers, adjustments, etc.

It's based on data entries, not physical verification. Physical stock present in stores, warehouses, repackaging centers , distribution centers and even stock which is in transit from one place to another place is known as actual Inventory.

Inventory discrepancies: Retail shrinkage refers to the discrepancy between recorded inventory and actual stock levels, often due to theft, fraud, or errors.

Stock count and cycle count: Retailers frequently perform the process of counting the actual inventory (physical goods) and comparing it against the system inventory to find out inventory discrepancies. Grocery retailers follow a more frequent cycle count than fashion retailers. Cycle count focuses on units, not the value of goods. Stock count refers to the actual value of goods along with the count.

Shrinkage (%) = (Recorded Inventory−Actual Inventory)/Recorded Inventory×100

e.g., If your system shows you should have $100,000 worth of inventory, but you only counted $95,000 worth of inventory: Shrinkage % = (100,000−95,000)/ 100,000×100=5%

Financial impact: Shrinkage reduces available stock, affects sales, and increases costs. It can also distort inventory data, leading to poor decision-making and resulting in lost revenue.

Impacted KPI

Inventory accuracy: Inaccuracy can exceed 65% in some stores (Auburn University RFID Lab).

On-shelf availability: A direct contributor to lost sales and poor customer experience.

GMROI (Gross margin return on investment): Shrink reduces overall margin and return on inventory investment. Inventory typically represents **70%-80% of a retailer's assets,** making GMROI a critical metric for profitability. Shrinkage in inventory increases the average carrying cost of the inventory and results in low GMROI.

GMROI= Gross Margin / Average Inventory Cost
Average Inventory Cost = Average value of inventory over a specific period.

Gross Margin = Sales Revenue − Cost of Goods Sold (COGS)

E.g., A retailer sells $200,000 worth of goods with a COGS of $120,000 and holds an average inventory of $40,000:

- Gross Margin = $200,000 − $120,000 = $80,000
- GMROI = $80,000 / $40,000 = 2.0

This means the retailer earns $2 for every $1 invested in inventory.

Forecasting precision: Inaccurate inventory distorts demand patterns. Budgeted shrinkage helps mitigate this at a category level.

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Retail format differences

Grocery retail: Shrink ranges from 1.5% to 3% of sales, driven by perishables, self-checkout misuse, and vendor fraud (FMI – Food Industry Association, 2023).

Fashion retail: Return fraud, ticket switching, and misplaced items are common. RFID adoption improves visibility and reduces shrinkage by up to 20% (McKinsey: The State of Fashion, 2023).

Convenience retail: Key drivers are shoplifting (38%) and employee theft (32%). A UK convenience chain co-operative reported shrinkage costing £33 million per year.

Q-commerce: Limited staffing and high turnover rates lead to vulnerabilities in inventory tracking and loss detection. While physical theft is less common than in brick-and-mortar stores, online retailers face unique challenges that contribute to shrinkage, including shipping errors, return fraud, warehouse theft, inventory miscounts, and supplier issues. High-value small items (cosmetics, supplements, premium snacks) are easier targets for theft. Hyper-fast order picking can lead to errors and mis-picks, damaging customer trust and causing discrepancies between system and physical inventory updates.

Specialty retail: The high value item shrinkage of 1.5% can consume up to 10%-30% of profit. Specialty retailers are paying higher insurance costs for items and heavily investing in high-tech security. BBY invests $100 million annually in loss and prevention tech and staffing. Lowe's reported $700 million shrinkage cost in 2023, and around 1.2% of net sales. **Lowe's and BBY have established dedicated task forces to combat organized retail crime through partnerships with law enforcement.**

Global strategies to address shrinkage

AI and computer vision: Used to detect theft patterns and prevent self-checkout fraud. AI-powered cameras can detect suspicious behavior in stores or warehouses. It also identifies shoplifting, employee misconduct, or unsafe handling of goods. Target, Walmart, and Tesco use video analytics for proactive intervention (NRF, 2023).

RFID: Enables item-level tracking. Zara saw a 15% increase in sales and reduced shrinkage with RFID rollout across 2,000+ stores (Inditex Annual Report, 2023). A combination of RFID and generative AI is helping retailers uncover the causes of shrinkage. These systems can track products in real time, identify when and where items go missing, and even detect organized retail crime (ORC) activities.

Predictive analytics: Retailers use ML models to predict shrink hotspots and schedule labor accordingly (Deloitte: Shrinkage Report, 2022).

Self-checkout monitoring: Real-time detection of fraud scanning using AI cameras and weight sensors — used in Amazon Go, Sainsbury's Smart Shop, and 7-Eleven.

Shrink dashboards: Retailers like Decathlon and Best Buy use cross-functional dashboards linking shrink data with HR, operations, and compliance to assign accountability.

Smart inventory management: ML algorithms optimize stock levels and track discrepancies between expected and actual inventory. Reduces errors and improves accountability.

Retailer case studies

Walmart (US): Invested heavily in loss prevention tech, uses store-level shrink data for dynamic staffing and inventory audits (Retail Dive, 2023).

Decathlon (France): Achieved a 20% reduction in shrinkage in high-risk categories through RFID and AI analytics (Decathlon Tech Blog, 2022).

Shoprite (South Africa): Combines supplier compliance data with CCTV and warehouse POS logs to reduce fraud.

Reliance Retail (India): Uses integrated point-of-sale (POS) and security feeds to audit cash handling and reduce internal theft.

Target: Introduced **limited self-checkout** to customers with **10 items or fewer** to reduce theft. In 2023, it **closed nine stores,** citing retail theft as a major factor.

Five Below: Reported "higher-than-planned shrink" in Q4 2023 despite investing in mitigation efforts like hiring guards, reducing self-checkout usage, and increasing associate-assisted transactions. CEO Joel Anderson emphasized that shrinkage was worse in stores with self-checkout, prompting operational changes.

Walgreens: Attributed slumping earnings to theft and return fraud. Has taken steps to restructure store layouts and security protocols.

7-Eleven Japan: Using AI to analyze suspicious transactions, reducing shrinkage cost by $50 million annually.

Conclusion

Modern retailers are reframing shrinkage not as a loss to tolerate but as a signal to optimize operations. By deploying technology-driven prevention strategies, integrating shrink metrics into performance KPIs, and breaking silos across departments, retailers can unlock millions in profit while strengthening brand trust and operational agility. AI and ML are increasingly becoming powerful catalysts in shrinkage reduction.

As shrink becomes a key boardroom agenda, the shift from reactive loss prevention to proactive profit recovery is not just smart — it's essential.

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