

Metro RFID Case

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1. Strategic and Operational Benefits of RFID Rollout

Strategic Benefits from RFID Rollout

- **Improved Inventory Visibility:** RFID technology enables Metro to track the movement of its inventory in real time, thus offering better visibility of stock levels at each stage of the supply chain. With this transparency, retailers can do a better demand forecast to strategically manage their inventory.
- **RFID Adoption: A Shift Towards Competitive Advantage and Industry Leadership:** Adopting RFID makes Metro a technologic innovator in the retail world, facilitating stronger partnerships with suppliers, as well as attracting tech-savvy consumers.
- **Catalyst for Future Tech:** RFID in place also gives Metro a starting point to develop other retail automation innovations — like cashier-less stores, "smart shelves" and "smart carts" — that could revolutionize customer experiences down the line.

Operational Benefits from RFID Rollout:

- **Improved inventory accuracy and stock availability:** Since the tracking of products will be performed in different stages in the supply chain, Metro Group would be able to cut down its level of inventory and thereby reduce the occurrence of stockouts, improve high on-shelf product availability, and increase customer satisfaction drastically.
- **Improved Efficiency of Labor:** Radio Frequency Identification soothes out the inventory management by automating the manual scanning at a DC and stores. It reduces the labor-intensive process such as physical inventory count and scanning of bar code.
- **Reduced shrinkage:** Radio Frequency Identification or RFID improves the accuracy and tracking of inventory, hence reducing theft and errors associated with manual processes.
- **Improved Planogram Compliance:** Data derived with RFID is utilized to check whether the items are stocked in the right location on the shelves or not. It enhances promotional execution and planogram compliance due to that.

2. Evaluating the Costs and Benefits of Implementing RFID at the Pallet and Case Levels

To assess the viability of RFID implementation at Metro, we calculate both benefits and costs.

1. RFID Benefits (Cell B1)

RFID offers benefits through labor savings and improved supply chain visibility at both the pallet and case levels.

- **Pallet-level savings:** \$0.50 per pallet for manufacturers, \$0.157 for retailers.
- **Case-level savings:** \$0.07 per case for manufacturers, \$0.089 for retailers.

Summing up these savings across Metro's operations, **annual benefits** are estimated at **\$1,000,000**. This figure should be entered into **Cell B1**.

2. RFID Project Costs (Cell B6)

RFID implementation involves hardware (portals and readers) and software costs.

- **Portals:**
 - $436 \text{ stores} \times 1 \text{ portal} + 10 \text{ DCs} \times 2 \text{ portals} = 456 \text{ portals}$
 - **Cost:** $456 \text{ portals} \times \$8,500 = \$3,876,000$
- **Readers:**
 - $436 \text{ stores} \times 2 \text{ readers} + 10 \text{ DCs} \times 5 \text{ readers} = 922 \text{ readers}$
 - **Cost:** $922 \text{ readers} \times \$2,500 = \$2,305,000$
- **Total Hardware Cost** = $\$3,876,000 + \$2,305,000 = \$6,181,000$
- **Software Cost** = $2 \times \text{hardware cost} = 2 \times \$6,181,000 = \$12,362,000$
- **Total Project Cost** = $\$6,181,000 + \$12,362,000 = \$18,543,000$ (Cell B6)

This information allows for calculating the NPV to determine if RFID implementation is financially viable. (calculations continued in excel)

NPV = -\$12,463,871, this indicates that the project would result in a net financial loss over the projected period.

3. Strategic Risks in Implementing RFID

- **High Setup Costs and Risky ROI:** There are huge upfront costs in hardware, software, and infrastructure that play an important role in the practice of RFID, other than that the maintenance and training also must be taken into consideration. It is an evolving technology in which returns are yet to be fully guaranteed since the adoption from the suppliers is non-uniform.
- **Technological Reliability:** Low read accuracy, interference with metal or liquid-containing products, and middleware connection are a few of the core problems. Early implementations did point to a fact that the read accuracy improved from 30% to 90%, but it is consistency in high accuracy that forms the heart of effectiveness relating to RFID.
- **Ineffective or Inconsistent Reliance on Supplier Compliance:**

For maximum benefit from RFID, suppliers must tag the merchandise in a consistent manner to the standard set by Metro. Suppliers that are unwilling or inconsistent to use high-quality

tags may compromise the benefits derived from RFID.

- **Operational Disruption and Training Needs:** Since RFID requires staff training and process adaptation in the DCs and stores, poor change management may lead to resistance among employees, and operational disruption will hurt productivity.

4. **Recommendation that Mierdorf and Wolfram should propose to the to the RFID Steering Committee**

Recommendations worthy of consideration by the Steering Committee based on the strategic goals of Metro and experience from implementation are the following:

- **Best Option:** Move to case-level RFID with the manufacturers currently engaged in the pallet-level rollout.

- **Justification:** Case-level RFID inventory tracking offers Metro much greater inventory management and insight than has ever been possible. This will go a long way in the minimization of stockouts, increasing the accuracy of shelf replenishment, and shifting Metro closer to its vision for data-driven retail operations and supporting efforts for inventory optimization. Whereas seven major suppliers are interested in using RFID for its advantages with data sharing, which improves supplier relationship.

- **Considerations:** This option requires investment in training, tags and even coordinating with the suppliers. Metro must take care that the suppliers use high quality RFID, and employees are well trained to take maximum operational advantage out of case-level tagging.

- **Alternative Recommendation:** Option A - Expand the scope of the current pallet-level RFID rollout

- **Justification:** If the implementation at case level proves to be too expensive or too complicated to handle in the immediate future, then the pallet-level tagging is scalable. That would enable Metro to continue the exploitation of improved visibility and operational efficiency from a broader part of the supply chain while sustaining costs and complexity at manageable levels.

- **Considerations:** Pallet-level tagging is less granular than case-level tagging and Metro will, thus, realize fewer benefits in areas of stock replenishment and shelf accuracy.

Therefore, Option B is the best recommendation because it meets Metro's strategic objectives and has the potential to operate with the highest efficiency. However, Option A provides a good alternative for the cases where the financial or operational issues may be difficult to work out at the case level.