



Patni helps a mid-sized manufacturing company develop a business case for implementing RFID

Using its proprietary ROI tool for RFID deployments, Patni helped the client gain a realistic understanding of the investments that would be needed to successfully deploy RFID.

The challenge

The company has a distribution warehouse in the US where it receives bulk consignments from India. These consignments are stored and then repacked and distributed to its customers based on the orders received.

The manufacturing process and shipping from India to the US contribute to a long supply lead-time. Hence to maintain satisfactory service levels to the US customers, the client needed to maintain a large finished goods inventory in its US warehouse.

The client

A mid-sized electrical conduit manufacturing company with manufacturing plants in India and sales exclusively in the US, the client is a market leader in its segment.

The solution



Patni carried out an assessment of the client's supply chain and based on the findings and follow-up discussions with the client, Patni identified the following pain areas in the supply chain.

Manufacturing Supply Chain

- High raw material inventories
- More time, low accuracy and high labour for receiving and inventorying process
- Poor lot-control for raw material processing
- Inaccurate data for ATP (Available-to-Promise) commitment
- Errors in order fulfilment and reconciliation time and effort.

Distribution Supply Chain

- Low visibility to the finished goods inventory
- Higher efforts, time and low accuracy for receiving and storage
- Poor visibility to customer-specific shipments
- Poor data accuracy for ATP (Available-to-Promise) commitment
- High picking times with errors in order fulfilment
- Physical inventory of stored goods
- Inability to identify cross-docking opportunities due to poor inventory visibility.

Most of these pain points could be attributed to:

- Lack of visibility (tracking & identity) as goods traverse the supply chain
- Inability to identify goods at a granular level
- Limitations of automated data capture.

Patni Recommendations

Patni recommended that RFID could help eliminate these problems by increasing the visibility through its ability to track and trace goods as they traversed through the supply chain.

Patni, using its proprietary ROI tool for RFID Deployments, analysed various scenarios and prepared a business case for the client showing the investments that the client would have to make to set up the RFID system and the benefits that this RFID deployment would deliver.

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The key findings of the ROI Analysis were summarized as follows.

Potential Benefits:

Benefits due to RFID	Business Drivers	Value Drivers	Saving Potential	Sales @ \$60 m
<ul style="list-style-type: none"> • Better visibility to demand-supply pipe • Better demand planning due to timely sales data • Reduction in thefts, misplacements • Better asset tracking • Faster asset turn-around • Reduction in non-value add operations • Reduction in transaction errors • Increased process accuracy & throughput • Reduced Out-of-Stocks • Increased correct deliveries 	Inventory reduction	<ul style="list-style-type: none"> • Reduction in working capital servicing cost 	Inventory reduction by 5-20% Projected : 7%	0.1 m USD
	Asset reduction	<ul style="list-style-type: none"> • Reduction in working capital servicing cost • Reduction in asset carrying cost 	Asset reduction by 1-20% * Projected : 1%	0.11 m USD
	Reduction in COGS (cost of goods sold)	<ul style="list-style-type: none"> • Better margins on sales 	COGS reduction by 0.5-10% # Projected : 0.5%	0.46 m USD
	Increase in sales	<ul style="list-style-type: none"> • Additional revenue 	Increase in sales by 0.5-1% Projected : 0.5%	0.3 m USD
				0.97 m USD

*Reduction in Assets is assumed at 1% since the organization is a capital intensive manufacturing company.
Reduction in COGS is assumed at 0.5% since the organization has a long supply chain with manufacturing in India and sales in the US.

Deployment Costs:

Cost Head	Cost (million USD)	Remarks
Readers - Fixed	0.06	Dock doors, conveyors & other fixed locations
Readers - Mobile	0.02	Readers on forklifts and hand-helds
RF Infrastructure	0.18	Cost for RF data, power, network infrastructure
Software & Consulting	0.14	
One-time Costs Total	0.40	
Tagging Costs (for first year)	0.27	
Maintenance Costs (for one year)	0.02	
Recurring Costs Total	0.29	
Total Cost (for first year)	0.69	

Return on Investment (RoI)
= (Benefits - Costs) / Costs
= 40.58 %

Payback Period
= Cost / Benefit x 12 months
= 8.5 months

The benefits



- Patni, using its RFID ROI Tool, was able to demonstrate to the client a Return on Investment (ROI) of approx 40%, and a payback period of 8.5 months.
- Patni helped the client identify business processes for which implementing RFID would deliver major benefits.
- Patni helped the client to gain a realistic understanding of the investments that would be needed to successfully deploy RFID.