Application of RFID in Retail

Bangkok, May 11th 2006

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Bar Code Value Worked Backwards into the Supply Chain

Symbol's Focus on Supply Chain Technologies - Yesterday
Symbol’s Focus on Supply Chain Technologies - Today

RFID Solutions for Retailers

Operational Benefits
- Reduces labor “touches”
- Real-time visibility of inventory
- Increases material handling speeds
- Accelerates decisions at point of activity
- Improved error correction at the edge

Business Benefits
- Increased sales through improved in stock positions
- Enhance Customer Experience & responsiveness
- Increased accuracy & visibility
- Real-time decision making
Phase I:
Pallet Level
- Shipping & Receiving
- Tracking and tracing
- Inventory mgmt
- Asset management

Phase II:
Case Level
- Quality Control
- Distribution Productivity
- Tracking and Tracing
- Inventory management
- Asset management
- Shelf maintenance
- High value goods

Phase III:
Item Level
- Customer insight
- Shelf availability
- Self checkout
- Returns
- Maintenance

What we are seeing today...

Phase III:
Item Level ROI – Closed Loop Applications

Phase II:
Case Level ROI

Phase I:
Pallet Level ROI
RFID Today: Retail Supply Chain Visibility

**ISSUE**
- $69B in lost revenue* due to out of stocks
- Poor inventory velocity from DC→Store→Shelf

**SOLUTION**
- Supplier Compliance: Tagging all cases & pallets
- RFID to automate visibility & tracking onto shelf

**RESULTS**
- Increased inventory velocity from DC→Store→Shelf
- Real-time visibility
- Inventory reduction
- Better supply-demand alignment

*Retail Out of Stocks: A Worldwide Examination of Extent, Causes and Consumer Response, Emory Univ., Univ. of St Gallen, and Univ. Of Colorado, 2002

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**One Market Force**

**WAL*MART**

Annual Revenues = $315.6B
Net Income = $11.2B
Profit Margin = 3.5%

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**RFID Image**
29-week study analyzed **out-of-stock merchandise** at 12 pilot stores equipped with RFID technology and 12 control stores without the technology

**Business Objective:** Drive improved product availability for its customers

**Results of the Impact of RFID:**

- **30%** reduction in product out-of-stocks
- Manual orders placed by stores were **reduced by approximately 10%**

**Results of EPC tagged vs. non-tagged:**

- Reduction in out-of-stocks on EPC tagged items at a rate **three times** faster than that of the non-tagged items within the same store

**Cold Chain Applications**

- Date
- Location
- Temperature
- Authentication
Number 1 Issue for Retailers

Out of Stock is the #1 Concern:
- On average 7.1%* of SKU’s are out
- Some categories of SKU’s up to 30%
- Most stock is available but not on shelf

Why?
- Can’t find it
- No tools
- No time
- Not their problem

*Source: Efficient Consumer Response (ECR) Europe

Early Adopters in Item Level Tracking

Yodobashi

MITSUKOSHI
### Item Level Tagging Best Target Markets

**Apparel** – significant variety management challenge to maintain stock, some categories of sufficient price

**CD/DVD** – many titles, significant organizational challenge in maintaining stock and display

**Shoes** – significant variety, especially helpful in self-service shoe departments

Some factors that make in-store retail attractive:

- Many sizes and varieties
- Hard for customers to find
- High shrink/high loss
- Time sensitive – needs to sell quickly
- Goods heavily handled by consumers
- High price points

### The Basic Application

- Tags are applied to selected categories of merchandise within a designated group of stores

- RFID devices are used to conduct rapid, accurate, and frequent product cycle counts, leading to significantly more accurate, near real-time information, which can be used to:

  1. Increase sales through improved in-stock position
  2. Relocate mis-placed goods (misplaced goods are effectively out of stock)
  3. Rapidly locate items sought by customers on the retail floor or in the backroom, (e.g. size, color)
  4. Identify shrink quickly (reduce loss)
  5. Reduce manual inventory costs (reduced labor)
  6. Replace EAS systems (in the future)
The Ideal Scenario

- RFID tags are attached to all items in one or more categories
- A handheld RFID reader is used to quickly take daily cycle counts
- The updated on-hand detail is used to drive immediate replenishment
- Symbol has demonstrated an effective 97% read on cloth based goods stacked on a typical retail shelf

Will In-Store RFID Work For Me?

1. Is replenishment a problem for me today?
2. Do my goods turn quickly enough that stockouts are an issue?
3. Do I stock many varieties of a good (colors, sizes, titles) that make in-store availability particularly challenging?
4. Is brand substitution likely?
5. Is the unit value of my goods high enough to justify a tag cost?
6. Are the goods which I am selling RFID friendly? Yes means that they can be read easily (and at lower cost)
7. Is it easy for me to control how these goods are tagged? Do I have them made for me or do I tag goods myself in the DC or store?
8. Does a lost sale have a multiplicative effect on revenue loss for me? (I can't buy the bra so I don't buy the matching underwear)

KEEP IN MIND: These are questions you ask about categories of goods individually, not the whole store or the mix
What Affects These Costs?

Tag Commissioning

• Commissioning = Attaching a tag to an item and associating it with information critical to restocking – SKU, size, color – dependent on product category

• Commissioning is easiest and cheapest when done at the point of manufacture – products over which you have a lot of control (closed loop) are a good place to start

• Commissioning can also occur at the DC, at a specialty tagging operation, or in the store, albeit typically at a higher cost

Store of the Future

Inventory Readers

Price Check Readers

Dressing Room Readers

Integrated Security

Shelf Readers

Employee Access

Shipping & Receiving

Mobile Readers
Questions?