Execution Environments for Distributed Computing

Big data, Analytics and KPIs in E-commerce and Retail Industry

Homework number: 3
Group number: 6
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Master in Computer Architecture, Networks and Systems - CANS
● How Retail Industry applies Analytics

● Types of big data Analytics in Retail
  ○ Customer Analytics and KPIs
  ○ Merchandising KPIs
  ○ Store operation Analytics and KPIs
  ○ Vendor and SKU Management Scorecards and KPIs
  ○ Marketing Analytics and KPIs
  ○ Returns, Fraud and Loss Prevention Analytics

● Examples
How Retail Industry applies Analytics

- Retail Industry makes up a sizable part of the world economy (6% - 7%)
- Downward pricing pressure in Retail environment
- "Point, scan, analyze" technologies gives customer powerful pricing information, "Red Laser"
- Point of transactional data obtained from bar-code appeared
How Retail Industry applies Analytics

Analytics use cases in Retail
- Corporate Express
- Liz Claiborne
- Limited Brands
- Netflix
- BestBuy

Goal of using Analytics
- Drive topline and bottomline improvements through improved merchandising decisions
- More timely responses to information requests
- Cost reduction initiatives
- Enhanced employee productivity
- Better service to customers
Customer Analytics and KPIs

Objective: Understand your Most Valuable Customers. Target them to Maximize Profits and Loyalty.

What can we do with Customer Analytics:

- Discover who your customers are.
- Expectation and sentiment tracking.
- Track impact of promotions on basket and provide a holistic view of behavior.
- Tap into the transactional data to connect the dots between customers, stores, products and promotions.
- Move beyond basic segmentation, personalities, and list pulls to create targeted microsegments.
Types of big data Analytics in Retail

Merchandising KPIs

Objective: Significantly reduce costs, eliminate the expense of stock-outs and overstocks, and make powerful, rapid decisions.

Users can:
- Quickly accelerate shipments by evaluating top-selling products.
- Make markdown decisions based on seasonal sell-through.
- Cancel shipments for bottom-selling products.
- Communicate more effectively with vendors.
Types of big data Analytics in Retail

Store operation Analytics and KPIs


- It addresses the challenges of
  - sales assistance,
  - queues,
  - merchandising/promotions,
  - stock out
The store-specific metrics allow retailers to tailor appropriate staffing.
The solution offers the following benefits:

• Increased profitability

• More visibility into service levels, operational performance, and customer preferences

• Optimized staffing, improved service levels, and enhanced customer experiences

• Reduced out-of-stock situations

• Improved efficiency by facilitating management of compliance across hundreds or thousands of stores
Vendor and SKU Management Scorecards and KPIs

Objective: Analyze Vendor Performance, Drive Improvement, and Strengthen Negotiations. Improve Performance Across the Supply Chains.

- The **SKU Management System** enables collaboration between retailers and suppliers to achieve a combined goal of accurate and efficient management of item information.

- The system allows for electronic SKU submissions from suppliers, online SKU set-up, and automated SKU management workflow.
The solution offers the following benefits:

- Increased sales as products reach sales floor faster
- Increased data accuracy for inventory management and replenishment
- Reduced costs through elimination of data entry and manual processes
Types of big data Analytics in Retail

Marketing Analytics and KPIs

- As more customers move online and social becomes a big factor in how people are influenced to make a purchase, a good marketing analysis application should include:
  - Traffic Sources
  - Social Media Conversations
  - Reach (how many subscribers & followers do you have)
  - Prospects
  - Blog
  - Keyword Performance
  - Competitive Marketing Analysis

as metrics and KPIs
Types of big data Analytics in Retail

Returns, Fraud and Loss Prevention Analytics

**Return:**
- .. correlated well to customer satisfaction.
- .. predicting return trends
- .. keeping necessary reserves

**Loss Prevention:**
- .. private investigation into theft. Investigation generally includes
  - credit fraud, check fraud...
- .. is often a big focus in a low margin industry.
- .. Retail theft jumped by $3.6 billion to $37.1 billion (*)

(*) from National Retail Federation in 2010 (www.nrf.com)
Examples

- Amazon
  ... prompt you might also want

- Neiman Markus
  ... understand buying patterns

- Placecast
  ... location-based ads

- Williams-Sonoma
  ... has DB of households tracking variable

- Netflix
  ... "what your friends thought"
Conclusion

- The use of IT and digital data in the retail industry is boosting the profitability.

- Tight margins (typically 2-6% range) retailers are facing a set of challenges.

- Margin declines can be stopped by improvements in selling, general, and administrative costs and reduced inventories.

- Retailers need to
  - manage costs in the short-term.
  - build a sustainable competitive advantage.
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