Big Data – Case Studies Examples for different Industries

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Big Data Approach

- Gartner’s 3 V’s of big data ...
  - High Volume with an estimated 2.5 quintillion bytes of data created every day.
  - Comes in a Variety of formats...text strings, images, web logs, documents, numeric data etc. across a diversity of formats and sources.
  - This is data in motion, constantly changing high Velocity the relevance of which can decay rapidly

- Digital data is diverse... which makes it difficult for most traditional technologies to enable capture, storage & analysis

- New world requires a different approach:
  - Un-aggregated, lowest level data
  - Advanced analytics to enable ‘discovery’ & enable complex queries
  - Fast, real time processing capability
How well do you know your customer?

- Male, born in 1948
- Grew up in England
- Married twice, children
- Successful, wealthy, celebrity
- Loves dogs and the Alps

2 Quite Different Segments to identify in time to respond too
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<th>Demographics</th>
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Source: Joseph Plummer, Journal of Marketing
Learn what your customers want

And connect every interaction that Your Customer Has With Your Brand

LEARNING is a cross-channel effort by nature
Are you ready to combine all this information in TIME?
Big Data Analytics for Customer Analytics
Examples with Business value...
Creating Value with Data
Industry Applications of Big Data

- Banking and Finance: Customer Insight & Real Time Offers
- Communications: Big Data Insight & Monetization
- Public Sector: Intelligence Hub & Cyber Security
- Retail and CPG: Customer Insight & Real Time Offers
- Manufacturing: Remote Service Delivery Platform
- Healthcare Life Science: Real World Data
- Connected Healthcare
- Risk and Fraud
- Genomics
- Risk and Fraud
- Demand Management
- Test Cycle Acceleration
Monetizable Data of Mobile Operators

- Customer Data
- Location updates and signals
- Service use and Billing
- Call Data
- Clickstream of web visits, app usage, and tethering
App#1 Social Network Analysis
App#1 Social Network Analysis
We translate social metrics into decisions

1. Marketing influence
2. Roles
3. Churn
4. Community Changes
App#2 Intelligent Location Analytics

- Analyze location & behavior of your customers
- Ability analyze petabytes of data
- Segment your customers based on location and their behavior
- Do more targeted marketing based on the insights generated
Customer Event Stream Analytics
Real-time Journey Analytics

- Collect data
- Generate an event stream
- Generate journeys
- Compute customer states in real time
Plan and prioritize your actions
Real-time churn prediction

- Proactive
- Right Context
- Right Time

Lift = 5.6 (10%), 8.35 (5%)
Reach rate %13.5
Using R models → Scoring in Spark
Creating Value with Data

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Customer Insight & Real Time Offers

Genomics

Demand Management

Test Cycle Acceleration
360° view of Customer Value

Business challenge

Retailers interact with customers across multiple channels, so customer interaction and transaction data is often stored in different data siloes. This means that few retailers can accurately correlate eventual customer purchases with marketing campaigns and online browsing behavior to predict the lifetime value (LVC) of its customers.

For example, a major home improvement retailer sells online and across thousands of stores worldwide. But its data on website traffic, POS transactions and in-home services existed in fragmented silos. Lack of a unified “golden record” of customer behavior limited the retailer’s efforts to quantify the lifetime value of its relationships. Without this granular segmentation information, the company couldn’t prioritize marketing efforts according to expected LCV

Solution

The retailer installed Big Data at its head office to consolidate all customer information into one data lake. Now the golden record ties together structured ERP and CRM data with clickstream, web media, geo-location and POS transactional data.

The company uses this data lake for precise, highly targeted segmentation and LCV calculations. That comprehensive information drives specific outbound actions such as customized coupons, promotions and emails.

Results

Now Big Data gives this retailer a 360° view of its customers, segmented on multiple dimensions including: shopping basket analysis, preferences expressed on web media, and observed feedback from marketing campaigns. Better analytics increase sales, reduce inventory expenses and improve customer lifetime value.
Product Recommendation Engine

Business challenge

A major specialty department store wanted to improve its product marketing precision. The marketing team wanted to roll out personalized promotions, coupons and product recommendations over multiple customer touch points: in-store, kiosk, web and mobile apps. The company was particularly interested in enabling in-store, real-time product promotion among its shoppers.

But the company’s customer data was fragmented, and this prevented it from developing those data-driven marketing promotions. For example, the website or a kiosk should not recommend a product that the same shopper had already purchased in the store.

Financial obstacles blocked proposals for an IT project to modernize the data architecture.

Solution

Now a Big data data lake integrates all the raw data from customers across different product lines. The company ingests and integrates data in real-time and batch, in both structured and unstructured formats. An ETL process transform the raw data, which is then consumed by learning algorithms. The retailer can now deliver real-time recommendations and promotions through all channels, including its website, store kiosks and mobile apps.

Results

This retailer built an omni-channel recommendation engine similar to what Amazon does online. Thirty-five percent of what consumers purchase on Amazon and seventy-five percent of what they watch on Netflix comes from such product recommendations based on that type of analysis.

This retailer can vary recommendations based on weather, loyalty, purchase history, abandoned carts or life stage triggers—and deliver those to shoppers in its stores.
Product Placements and Store layout

Business challenge

A major omni-channel retailer knew that in-store layout, merchandising and product placement affected sales. Yet the company’s brick-and-mortar stores lacked “pre-cash register” visibility into how its customers shopped before they made decisions. The company wanted the same level of customer path visibility and analysis that its clickstream data gave for customers visiting its website.

In-store sensors, RFID tags and QR codes could fill that data gap, but those technologies generate data in formats and volumes that the company’s legacy systems were ill-equipped to handle.

The retailer became a relatively early adopter of Hadoop because the platform did not enforce a schema-on-load paradigm that would have hampered ingestion and storage of the location data needed for the program.

Solution

The company began testing iBeacon technology in its flagship stores. iBeacons capture in-store location data from the shoppers’ iPhones and Android devices. The data then streams into Big data, revealing how customers move through the retail stores (which can be compared to the location of particular product categories). As the iBeacon program grows, Big data can store and process that huge volume of sensor and micro-location data.

Results

Though the results of this specific pilot are not public, the retailer’s big data analytics program boosted store sales by 10 percent. As data in Big data helps the company optimize its in-store experience, it sees the potential for additional programs that reduce unnecessary inventory and improve customer satisfaction through smarter product placement and updates to store layouts.
Creating Value with Data

Industry Applications of Big Data

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- Communications
- Public Sector
- Retail and CPG
- Manufacturing
- Healthcare

Customer Insight & Real Time Offers
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Risk and Fraud
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- Real World Data
Case Study

COMPANY OVERVIEW

- Garanti is the 2nd largest private bank in Turkey with a reputation for innovation. $104.1 billion consolidated assets in 2013. 1000 branches, 4000 ATMs and 20,000 employees
- Industry: Banking

BUSINESS CHALLENGES/OPPORTUNITIES

- Siloed data across channels, like online & ATM
- Need improved security/data governance, collecting and management of data
- Need a consolidated repository for all customer data
- Need a consolidated, self-service discovery and analytics capability

SOLUTION/RESULTS

- Reduced cost of operations with integrated Data Management Platform
- Increased sales via Marketing and Sales integration
- Correlated all customer data
- Analyzed more complex data (web, call center, social media etc.)
- Opened the data store to the analytical tools
- Added high performance and visual analytics
- Added context sensitivity (location, click stream)
- Measure your customers with your own social media/community matrix
- Real Time and InMemory performance enhancement
Crediting Big Data and Analytics for Fraud Reduction

• Opportunity:
  – Identify and reduce credit card transaction fraud

• Data and Analytics:
  – Hadoop-based analytics can model fraud down to the actual merchant terminal
  – Has increased 10-fold to 500, the number of transaction aspects analyzed, and can add new ones to models in under 1 hour (versus 2 to 3 days)
  – Runs 16 distinct fraud models for different geographic and market segments

• Results:
  – Approaching ability to analyze all transactions
  – Identifies more fraud situations annually
Oracle’s Big Data example for ING

Turning possibility into reality

Our project is to help ING connect with customers and play a central role in a rapidly expanding digital marketplace.

Play the video
Any Questions?

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