



Leverage of Big Data Analytics for Banking Sector

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ABSTRACT

In the global economy data are now woven into every sector and function. Much of modern economic activity simply could not take place without big data and like other essential factors such as hard assets and human capital. The large pools of data that can be brought together and analyzed to aware patterns and used to make better decisions. It will become fundamental part and important aspect for enhancing productivity, the competition and growth for individual firms, and creating significant value for the world economy by reducing waste and increasing the quality of products and services.

In IT investment the history of previous trends and innovation and its impact on competitiveness and productivity strongly suggest that Big Data can have a similar power, namely the ability to transform our lives. The same preconditions that allowed previous waves of IT-enabled innovation to power productivity, i.e., technology innovations followed by the adoption of complementary management innovations, are in place for Big Data, and we expect suppliers of Big Data technology and advanced analytic capabilities to have at least as much ongoing impact on productivity as suppliers of other kinds of technology.

All companies need to take Big Data and its potential to create value seriously if they want to compete. For example, some retailers embracing big data see the potential to increase their operating margins by 60 per cent.

Big Data Challenges Faced by Banks

Customer-centric business companies, such as banks have more data about their consumers but relatively very little intelligence about them. The world is increasingly interconnected, instrumented and intelligent and in this new world the *velocity, volume, and variety* of data being created is unprecedented. As the amount of data created about a consumer is growing the percentage of data that banks can process is going down fast.

In a nutshell, not being able to gain insights from the goldmine of data means banks are allowing their competitors to identify critical business trends and act on those before they can, ultimately losing business.

Why Banks Should Care About Interactive Big Data Management?

Lily Enterprise™ is a powerful, single, integrated solution that uniquely combines interactive Big Data management and customer experience management together. Lily Enterprise allows banks to gain competitive agility by embracing the power of Big Data and helping to better understand customers. Without dramatically changing organizational infrastructure and skillsets, Lily allows banks to identify trends and changes in consumer behavior faster than their competition. With Lily Enterprise, banks can:

- Know their customers better by creating individual DNA of each customer,
- Drive revenues with one-to-one targeting and personalized offers in real-time,
- Reduce business risk by leveraging predictive analytics for detecting fraud.
- Achieve greater customer loyalty with personalized retention offers,
- Tap the power of Big Data without worrying about

complexities and steep learning curves.

Key Banking Use Cases that Drive Business Value

The Big Data market is growing exponentially. While banking executives agree that Big Data has the potential to transform their businesses, they are often unsure which use cases they should consider when implementing a Big Data solution. While working with a number of Fortune 500 banks, use cases have been identified and addressed that are delivering significant business value:

- Mobile wallet for one-to-one marketing
- Fraud detection and prevention of false positives
- Risk management based on unique risk profiles
- Segmentation, targeting and risk based pricing

Definition:

- 1) Big Data refers to the massive amounts of data collected over time that are difficult to analyze and handle using common database management tools.
- 2) **Big data** is high-volume, high-velocity and high-variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision making.

Objectives

- 1) To study the present scenario of big data analytics, various challenges and uses for banking sector.
- 2) To suggest measures for improvement the system.

Research Design

The present study is empirical research. It is based on the analysis of secondary as well as primary data. The secondary data is availed from various journals, internet, websites of banks and books. The primary data is collected with the help of structured schedule. The opinions of bank

managers' as well technical staff about use of big data analytics for banking are taken into consideration. The data collected from the various sources has been analyzed and interpreted.

Executive Discussion

With 60 percent of the world's population and some of the fastest growing economies, Asia has emerged as the most promising market for retailers around the world. According to a recent industry research Asia will remain the main engine of global retail development with an average annual growth rate of 6 percent, between 2011 and 2015. The expected growth rate in these regions is higher than the others. Asia also projects phenomenal progress in online retailing with an average growth rate of 20 percent per annum.

A popular survey also highlights India as one of the most preferred retail destinations. The government's decision to allow 100 percent FDI in single brands will further boost the Indian retail industry. New international retail giants like Walmart have already begun the process of setting shop in India and the existing players are expanding their reach to the country's tier 2 and tier 3 markets. As competition increases, retailers are interested in solutions that will help them differentiate themselves from their competitors and attract customers. Need for Big Data analytics within retail

In the retail market where margins are under constant pressure and product duplication is almost immediate, retail leaders need the capability to swiftly respond to changes in customer demand. They need to adopt technology solutions that allow improved decision-making and drive faster response times to market needs. The 'browse but not buy' behavior is a well-known problem for established brick-and-mortar large stores around the world. Added to this, retail customers are today modernized and are online, selective and social. Before making a purchase online, they compare prices on the web, scan QR codes and browse at the stores. During the process, they want the hand over from one touchpoint to another to be as smooth an experience as possible.

In a nut-shell, today's customers are expecting a seamless shopping experience across the multiple sales channels – web, mobile, and physical store location, with the customers now expecting to be presented with a personalized, tailored offering, unique to the individual customer. Due to these factors, CEOs of major retail organizations are seriously considering Big Data platform and predictive customer behavioral analytics so as to get a holistic view of customers in terms of interaction models, channels, behavioral segmentation, responses, marketing strategy, and marketing execution and in turn improve on its relevance and perceived customer value.

Modern retailers are today exploring technology solutions to analyze structured data from diverse applications across their major operations including sales and marketing process, shelf space management, payment/refund, customer service, logistics and warehouse operation, strategic sourcing, procurement, financial management, back-office operation, merchandising and promotion. They are also looking for tools to analyze unstructured data from social networks such as Facebook, Twitter, Google, web and software logs, information-sensing mobile devices etc. Business benefits of Big Data analytics for retail sector

To improve the customer satisfaction and to prevent any kind of customer churn, retailers are realizing that it has to do more than simply tracking complaints. Combining structured data from sales, marketing and supply chain with unstructured or semi-structured data from surveys, syndication data and other outside sources can give retailers a new perspective of their customers. For example, merging structured with unstructured content to find underlying customer satisfaction issues allow enterprises to proactively monitor customer satisfaction levels. In many organizations, sales and customer service work in separate silos and customer feedback is often not allowed to flow freely between the different operations, resulting in ineffective distribution channels.

However, a COO would be interested in the convergence of sales information and call center operations to get a holistic perspective of customer engagement. Tracking the social media and analyzing feeds from Twitter and Facebook can, in effect, help retailers find a correlation between product sales, support and customer voice to validate the true issues impacting customer satisfaction. Another customer satisfaction issue solved by Big Data is to identify the most valuable customers from a 360 degree view; to be able to reward them with offers and benefits relevant to a loyalty program, and to exclude those customers who merely take advantage of discounts without shopping from the merchants again. So, Big Data can help retailers understand customer behavior segmentation and what actions trigger behavior attributes in different segments and channels.

It allows for real-time marketing execution at the time of purchase. Big Data also enables improvements to loyalty programs by revealing what factors truly impact customer loyalty and retention, such as customer experience, ease of use, value for money and effect from rewards programs. These Big Data insights can be leveraged by a retail organization to optimize product offerings and promotions, give offers to specific customer segments or even precisely targeted customers and drive higher returns and greater customer satisfaction.

Merits and Demerits

Use of Big Data is becoming a crucial way for leading companies to outperform their peers. In most industries, established competitors and new entrants alike will leverage data-driven strategies to innovate, compete, and capture value. Indeed, we found early examples of such use of data in every sector we examined. In healthcare, data pioneers are analyzing the health outcomes of pharmaceuticals when they were widely prescribed, and discovering benefits and risks that were not evident during necessarily more limited clinical trials. Other early adopters of Big Data are using data from sensors embedded in products from children's toys to industrial goods to determine how these products are actually used in the real world. Such knowledge then informs the creation of new service offerings and the design of future products

Big Data will help to create new growth opportunities and entirely new categories of companies, such as those that aggregate and analyse industry data. Many of these will be companies that sit in the middle of large information flows where data about products and services, buyers and suppliers, consumer preferences and intent can be captured and analysed. Forward-thinking leaders across sectors should begin aggressively to build their organisations' Big Data capabilities.

In addition to the sheer scale of Big Data, the real-time and high-frequency nature of the data are also important. For example, 'now casting,' the ability to estimate metrics such as consumer confidence, immediately, something which previously could only be done retrospectively, is becoming more extensively used, adding considerable power to prediction. Similarly, the high frequency of data allows users to test theories in near real-time and to a level never before possible.

FIVE WAYS TO LEVERAGE BIG DATA

1. Big Data can unlock significant value by making information transparent. There is still a significant amount of information that is not yet captured in digital form, e.g., data that are on paper, or not made easily accessible and searchable through networks. We found that up to 25 percent of the effort in some knowledge worker workgroups consists of searching for data and then transferring them to another (sometimes virtual) location. This effort represents a significant source of inefficiency.

2. As organizations create and store more transactional data in digital form, they can collect more accurate and detailed performance information on everything from product inventories to sick days and therefore expose variability and boost performance. In fact, some leading companies are using their ability to collect and analyse big data to conduct controlled experiments to make better management decisions.

3. Big Data allows ever-narrower segmentation of customers and therefore much more precisely tailored products or services.

4. Sophisticated analytics can substantially improve decision-making, minimise risks, and unearth valuable insights that would otherwise remain hidden.

5. Big Data can be used to develop the next generation of products and services. For instance, manufacturers are using data obtained from sensors embedded in products to create innovative after-sales service offerings such as proactive maintenance to avoid failures in new products.

Conclusions

It can be concluded that the use of big data is very important in business organizations particularly in banking sector. In banking sector due to use of big data one can get benefit of fraud detection and avoidance, providing the correct services to the customers. It is also possible to find the solution of any complicated problem related to banking transactions therefore big data is useful and may be used in the banking sector for any type of complicated analysis.

REFERENCE

1. ELMA KOLCE (ÇELA), NEKIFRASHERI "A LITERATURE REVIEW OF DATA MINING TECHNIQUES USED IN HEALTHCARE DATABASES", ICT INNOVATIONS 2012 WEB PROCEEDINGS - POSTER SESSION ISSN 1857-7288 | 2. FARHANISMAEELDAKHEEL, RAOOFSMKO, K. NEGRAT, ABDELSALAMALMARIMI, "USING DATA MINING TECHNIQUES FOR FINDING CARDIAC OUTLIER PATIENTS", WORLD ACADEMY OF SCIENCE, ENGINEERING AND TECHNOLOGY 49 2011 | 3. JYOTISONI, UJMA ANSARI, DIPESHSHARMA, SUNITASONI, "PREDICTIVE DATA MINING FOR MEDICAL DIAGNOSIS: AN OVERVIEW OF HEART DISEASE PREDICTION" INTERNATIONAL JOURNAL OF COMPUTER APPLICATIONS (0975 – 8887) VOLUME 17– NO.8, MARCH 2011 | 4. N. ADITYASUNDAR, P. PUSHPALATHA, M. RAMA CHANDRA, "PERFORMANCE ANALYSIS OF CLASSIFICATION DATA MINING TECHNIQUES OVER HEART DISEASE DATA BASE", INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE & ADVANCED TECHNOLOGY ISSN: 2250-3676 [IJESAT] VOLUME-2, ISSUE-3, 470 – 478 | 5. NIDHIBHATLA, KIRANJYOTI, "AN ANALYSIS OF HEART DISEASE PREDICTION USING DIFFERENT DATA MINING TECHNIQUES", INTERNATIONAL JOURNAL OF ENGINEERING RESEARCH & TECHNOLOGY (IJERT) VOL. 1 ISSUE 8, OCTOBER - 2012 ISSN: 2278-0181 | 6. N.S.NITHYA, S.SARUMATHI, DR.K.DURAISWAMY, ASSESSMENT OF THE RISK FACTORS OF HEART ATTACK USING FREQUENT FEATURE SELECTION METHOD" INTERNATIONAL JOURNAL OF COMMUNICATIONS AND ENGINEERING VOLUME 01– NO.1, ISSUE: 01 MARCH 2012 | URLS | 1) <http://www.gartner.com/it-glossary/big-data> date:22/05/2014 | 2) <http://iveybusinessjournal.com/topics/strategy/why-big-data-is-the-new-competitive-advantage#>.U4LXh3l73Sk date:24/05/2014 | 3) <http://www.informationweek.in/informationweek/news-analysis/177582/analytics-benefit-retail-sector> dated:26/05/2014