Value Driven through Business Analytics
Report on Seminar held on 2nd July 2016 at IIBF, Mumbai

Introduction

The Institute organised a Seminar on Business Analytics on 2nd July 2016 at its Leadership centre, Mumbai Corporate Office. The seminar was inaugurated by Mr. A.P.Hota, Chief Executive Officer, National Payments Corporation of India (NPCI). The special address on the topic was delivered by Mr. Kajal Ghose, Chief General Manager, State Bank of India. This was followed by a panel discussion amongst eminent banking experts from varied perspective. The topics, of each speaker, were:

- Mr. Rajat K. Gupta, Executive Vice President, Yes Bank on "*Role of Technology in Business Analytics*"
- Mr. Jaspal Singh, Business Head, Business Intelligence Unit, ICICI Bank on "*How Business Analytics helps in optimizing the business mix of a bank*"
- Mr. Vijay Kumar Kottapalli, Senior Advisor – Analytics, State Bank of India on "*Use of Analytics in Developing Bank Business and in Resolution of Asset Quality Challenges*"
- Mr. Deep Mukherjee, Chief Product Officer, CIBIL on "*Effective use of Analytics in credit rating process*"
- Mr. Prashant Yadav, Partner and Leader – Analytics Management Consulting, KPMG Services Private Limited on "*Lessons in Adoption of Analytics*"

Report

Business Analytics means how to assimilate data, integrate, convert and interpret this data for effective business purposes. Though Analytics is a relatively new subject, it has been a part of our life for a long time. The most important component, for any sort of analysis to be carried out, is DATA.

Management Information System (MIS) / Data analysis is a critical requirement for any business to take informed decisions. It helps in understanding the past, present and future. Traditionally, data was available in a structured manner by running queries, using statistical models / packages to have some basic minimal understanding of the activities undertaken. This sort of data was however available subsequently whereby, good business opportunities were delayed or missed, thereby leading to delayed generation of profits.

Presently, with adoption of analytical tools and technology, data is now available real time. Data are captured from various sources, assimilated and disseminated to the teams concerned. The present way of monitoring and tracking of data is also quite different.

Data can be classified into two types:

(i) Primary data – relates to data captured internally from systems used in banks like NEFT, RTGS, Core banking, Internet Banking, mobile banking, ATM cards, credit cards, debit cards etc.

(ii) Secondary data – relates to data that is not made available in bank's database and are captured from external sources like discussions in Social Media, transactions carried out on online shopping websites etc.

Such humongous data are now readily available and also rich in information. But these need to be harnessed into more valuable information. This is where technology has played a significant role. All data available, both primary and secondary, can now be technically integrated, unified and mined to do multiple processing in one single platform or simultaneously across multiple platforms using the Extraction, Transformation and Load (ETL) concept, to help get more valuable information. This is then forwarded to Business Intelligence / Business Analytics Cell and from there on to the departments concerned. For instance, money transferred to a third party, transactions carried out on online shopping websites etc. can now be mined and figured out to integrate the services provided by the websites or offer a product that most suits the individual.

The challenge earlier faced by every organisation was the scale of data that can be analysed. This meant that the systems took time to process the data, for which adjustments or compromises were made to shorten the output time taken. This limited or restricted the capability of analysts to perform their job better. But with technological advancements, a wide platform is provided to analyse vast amounts of data in various dimensions and parameters.

Further, multiple types of reports can be generated with visual graphics, trends, transactions of the previous day and/or for the week / month etc. Each report is rich with the desired information which can be analysed from various aspects. This enables senior or top management to control and monitor the activities. This is the power of Big Data which enables analysis of a rich variety of data at an optimal cost.

From the above, it can be inferred that data should be available:

i. on various dimensions and parameters
ii. to provide a trend with historical data comparison
iii. to predict / project the requirement

There are three types of Business Analysis. These are:

1. Descriptive Analysis – refers to the current / existing database, reviews the inherent problems and analyses what is the way forward to improve the situation.

2. Predictive Analysis – is a model which looks at the probability of default or probability of attrition etc. This is called in econometrics as Statistical Arbitrage wherein, a prediction is made to know how many of your good customers are being targeted to shift preferences to another bank. For instance, a customer holding 3 cards of different banks but the share spent on one card is high as compared to the others. So, to increase the share in another card, some additional benefits can be extended.

3. Prescriptive Analysis – relates to operational research / activities of the bank. This means that what is the optimum product that can be given to the customer and how operationally this can be implemented to have a win-win situation for both, the bank and the customer.

The utilities of Data Analysis are manifold. To mention a few:

(a) Requirements of the customer can be derived basis the transactions carried out, products invested in and discussions in social media. A grading scale can then be assigned basis which, the next best product can be found suitable to the customer. This can be disseminated to the managers concerned for converting the analysis into actual business, thereby making it a delightful experience for the customer.

(b) Customers can be acquired through reviewing of transactions carried out by existing customers.

(c) Customer can be informed about the loan facilities of the bank when found that loan has been availed from another bank but repayments made from the account holding bank. If the customer is convinced, the loan can then be moved from the other bank.

(d) Customer attrition can also be identified when symptoms of fall in balances or amounts being transferred to another bank is analysed. These can be set right and the customer retained by resolving any issues faced by the customer.

(e) Accounts which are going to turn bad in the next few months can be identified and preventive measures can be taken.

(f) Process analysis can be done, meaning, transactions across a bank's ATMs can be studied for placing appropriate cash at the said ATMs. Such an analysis may help the bank avoid having excess cash at ATMs which do not earn interest for the bank.

(g) Transactions that are fraudulent in nature or likely to be fraudulent can also be detected by carrying out Fraud Analytics. Additionally, this can also help in identifying a real time fraudulent transaction. Hence, this is another important and emerging area of Analytics.

Policy documents can be devised after analysing on a broad perspective like laying down the cap and threshold limits for extending high and low quality loans respectively. This will help in managing the asset quality along with an effective business mix. Appropriate charging of interest rates across different accounts can be analysed for correcting instances, if any, regarding under charging of interest

The basic element of analysis is assimilation of widely available data. Banks are in the business of buying and selling goods which happens to be money. And customer, being the focal point, is at the centre of Analytics. Hence, it is very important to chalk out an analytical strategy on what is required to be generated. This helps to set the expectations right, both from the IT perspective as well as the business perspective.

At the time of acquiring customers, an application form is received by the bank. This is the basic or limited information that is known about the customer, called as the "Thin" file which has to be built upon. One of the ways to build upon the file is by keeping abreast of the customer's demographics. Another way is through market information, i.e. credit bureau, to know the customer's footprint on the industry to enable marketing the relevant products and services as well as to evaluate the risk perspective of the customer.

In this relation, there is a new dimension called "Temporal"; meaning adding different kinds of layers to a customer's behaviour which are not very apparent. For instance, a salaried employee working in Bangalore makes frequent trips to Delhi. This information is made available through the frequent swipes he/she does in the Delhi lounge or Bangalore lounge. Such intricate information, about the customer, lying in various systems, is to be

assimilated and harnessed so as to build a customer profile, thus converting the “Thin” file into a “Thick” file.

There are various tools and models that help build insight into this assimilated information. For instance, a customer is using an ATM in a non-home location despite the home location ATM being at a driving distance. The objective then is to push him/her to use an ATM in a home location since there are cost implications for the bank when ATM is used in a non-home location. This can be referred to as a tipping point which can be analysed through analytical models. The analysis drawn down, thus, brings about a two-fold effect – one to ensure that customer uses the home location ATM and the second is to curtail cost. It is to be noted that such tipping points are different for different customers.

Analytics can also be utilised from the credit perspective. In the case of a car loan disbursement, it was observed that the average processing of loan takes less than 30 minutes. This new process was through a Biometric solution wherein the customer, who is interested in buying a car and wants to avail of the loan facility, need not visit the bank branch. The finger print of the customer is captured by the car distributor which is validated with the Aadhaar database. This then connects to the bank system by auto filling the loan application at the back end. Simultaneously, the customer credentials are verified from the credit bureau. Fraud verification is also carried out. If everything is clear, the bank disburses the loan to the car distributor. Hence, with just a biometric and signature on the document, the entire process is complete. Such processes will help a bank to build a robust retail loan book.

Another area for banks is to internally ascertain the quality of assets. The income generated, from the assets, is after taking into account the cost of funds, operating costs, credit costs etc. This calls for management of good quality assets. Analytics has the ability to address each of these components that affect income and also ensure effective management of assets.

There are two aspects to managing asset quality through analytics. These are:

i. Preventive method - includes assessment of the loan repaying ability, what rate the loan has to be extended, what is the risk based pricing etc.

ii. Curative method - is the collection strategy to be adopted with minimal time, cost and effort.

So, the power of analytics is not only about the back end, but also being able to effectively have a delivery mechanism at the front end. Thus, from the above, it can be inferred that the process of analytics broadly involves three main steps:

1. Assimilation, integration and conversion of data
2. Robust architectures to be put in place to process this data
3. Presentation of this data to management for their useful decision making

For adoption of analytics, the fundamental requirement is economics and human behaviour. One may have the most powerful systems but they are of no use if the organisation actually does not adopt. Research has found that it is of utmost importance for the top management to ask questions and evaluate in complete entirety the recommendations made for utilising analytics in its business. Once these are answered, these have to be percolated down to the bottom level of the organisation. This enforcement, from a top down mandate, has proved successful in organisations since the top management has believed in its utility. Very few organisations have been successful in the bottom top approach for adoption of analytics.

The next important question that arises is what is the right organisational structure or operating model of analytics in an organisation and how does one allocate resources. Research has, again, proved that organisational structure has no bearing on success or adoption of analytics. The general path followed is a centralised approach because it is easy to manage and scale. This can also be decided basis an assessment of the potential of each geography and through market information, like the bureau, census, etc. These also facilitate to add a layer to the penetration and market share of business. Thus, analysis helps in both, operationally as well as from the business perspective.

The challenge, herein, is very few may be able to understand digital. So, if found suitable, it should be spread across all parts of the organisation. There is a need to have people who understand analytics and business. This will help in translating business problems into analytical problems and translating analytical insights into business insights. When this starts happening, these can then be percolated to the bottom level which ensures that analytics has been adopted in the organisation.

Execution of analytics is another aspect which needs to be cautiously done. To facilitate better decision making, the data should be made available first with insights into the analysis and then allow appropriate decisions to be taken by the management. This is necessary since there are possibilities

that the model has not been understood in its entirety, some hidden aspects might have been ignored which can then lead to resistance to advancement of analytics.

Analytics entails three important elements – understand, translate and trust. Trust is a very important element in analytics. The customer has to be convinced that data integrity is maintained. This is because customer's data is now readily available and is built upon regularly. Hence, the challenge is that of maintaining privacy of customer's data. Further, more and more regulations are being implemented which may pose difficulty in accessing customer's data from external sources.

Another big challenge is extracting data from social media for sharing personal information. Though customer segmentation, with the help of Big Data, will help us to recognise that each individual is unique and their requirements are to be tailored, the challenge for the bank is to not allow the customer feel that their weaknesses are being explored and exploited.

The other few challenges are that it may be easy to hire skills but very difficult to retain skills since a career path is required to these analytics people. They need to be motivated differently by giving them space in the organisation. Performance management processes for such people are to be calibrated and tailored accordingly for their growth in the organisation.

Last, though not the least, is the point of Disruptions. They have always been there and shall continue to be there. In today's requirement, a customer delight is when he/she envisages interest on the website for any requirement and this is immediately attended to by the call centre or relationship manager. Hence, with FinTech companies making its foray into the industry, banking is going to be facing complete disruption. Bankers should therefore recognise the challenges and view them as opportunities for further improving their operations.

Summary

The key learnings from the seminar are summarised below.

1. Data Analysis, presently being done, should graduate to Data Analytics, in order to enable organizations to make informed decisions and process changes. To achieve this, setting up of suitable infra-structure is of paramount importance.

2. Fraud Analytics and Risk Analytics are emerging areas and will be important activities going forward.

3. Customer is the heart of data analytics. Use of analytics will help organizations in knowing 'what' the customer wants, 'when' the customer wants and 'how' to satisfy the perceived needs of the customers.

4. Data Analytics will enable banks, in particular, and other organizations, in general, to move from 'React & Response' stage to 'Predict & Pre-empt' stage.

5. Data Analytics will help banks improve its Business Mix.

6. Social media, which has emerged as a strong communication channel, will be an important source for gathering data.

7. Use of business analytics will better enable harnessing of data/information in a more meaningful and productive manner.

8. Data Analytics helps in developing a robust Customer Relationship Management (CRM) and helps the front end staff in better delivery of products and services to their customers, thus increasing the customer satisfaction index and in turn improving the bottom line for the organization.

9. Data Analytics can help in developing the preventive and curative strategies for the organization concerned.

10. Data Analytics also helps in addressing issues at the policy level by laying down the caps and thresholds. It helps organizations to move from descriptive stage to predictive stage and then to prescriptive stage where they are in a position to prescribe policies for problem solving, fraud handling, CRM, bottom line enhancement etc. on a real time basis.

11. Data analytics should have Top-Down Mandate for successful implementation and use in the organization.

12. Data Analytics, to start with, should be centralized and then eventually decentralized.

13. Trust is very important in the use of Data Analytics. The customers should have the confidence that data pertaining to them will never be misused. Organizations should ensure maintenance of data integrity and customer confidentiality. The organization should

make sure that there is no pilferage of the data accumulated from customers and should only be used in an ethical manner to stop frauds, improving CRM, increasing bottom line of the organization; but not at the cost of customers.