# Platform based Personalization using Data Science– A real re-inventor in Financial services industry

The last wave of innovation that transformed the Banking and Financial services industry was the implementation of various Information technology  (IT) applications which was primarily   digitization of paper based processes. Ever since, the Financial services industry as a whole has been generating large volume and variety of data through this all pervasive digitization process and the industry continued to grow around increasing the processes' robustness and improving operational efficiency on various fronts.

Most of the data, which has been generated by the financial enterprises through this massive digitization process, pertain to the Customer, in terms of Customer demographics, transactions, buying, spending, borrowing etc. Also most of these customers also generate large volume and variety of data in the social digital space, which we call as Alternate data. This mammoth amount of digital data of each customer generated both inside and outside the enterprise has the potential to reinvent the entire business functions of the banking and financial services industry should this data be used in the most scientific and meaningful way.

The advancement in data engineering and data science, which as witnessed during the last decade, is facilitating very in-depth statistical analysis of Customer data. Various advanced tools which have been developed recently in Data Engineering, Data science driven machine learning  ( ML)  and Advanced Statistical analysis have created  the real potential in using the customer data to provide very personalized services in variety of  the business functions of financial industry. This process of  Personalization of business functions using Data science driven machine learning  (ML) and  Advanced analytics not only addresses several challenges that the financial institutions have been facing with their traditional approach, but also opens up new doors of opportunity for the fast-movers.

Conventional methods of statistical model building using training data and then applying the same on actual data has been a cumbersome process and hence the universal adoption of statistical methods for decision science has been very slow. Performing advanced analytics using Data science driven machine learning  along with the technologies like Cloud and Big Data engineering is enabling the platform based automation of the advanced analytical process. This platform driven

automation process is industrializing adoption of Data science and one of the major applications of such platform based automation process is providing personalized services using Data science.

## Pervasive Personalization

At a very basic level, advanced statistical analysis enables institutions to perform customer profiling based on their behavioural economics, and facilitates scientific customer profiling which goes beyond demographic segmentation to provide personalized services. By this process, the financial institutions can provide personalized services to the individual customer in various operations including customer service, marketing, sales etc.

Also, using both the Enterprise and Alternate data of customers and automating the personalization process using ML, brings up increased opportunities for Financial institutions in Lending, collection, recovery , cross-selling & up-selling etc.

Personalized services for sure help financial institutions to provide enhanced customer services and hence reduce the customer churn and increase the rate of retention. This in turn helps to improve brand loyalty and much better customer engagement. Whereas the insights gained from running analytics on the internal customer service processes can help institutions to identify the areas of improvement, it also helps you leverage the customer lifetime patterns to boost the customers' lifetime value (LTV)

Automating the personalization process through Big data engineering and ML has created the development of various product platforms addressing various business functions in the Financial institutions .

## … And, the Institutions Are Embracing It – Here is How

Financial institutions around the world are realizing the need for providing personalized services through ML driven automated platforms. Here are few instances that shed some light on how they are doing it:

- An international bank deploys a ML Driven predictive analytics based Automated Personalization platform for optimizing their marketing effectiveness. The platform improved their targeting with personalized

campaigns and enabled faster processing of large customer data sets among their Current and savings account ( CASA) holders

Within 9 months of implementing this platform, the Bank could conduct on average 1.5 personalized campaigns every week instead of 1 campaign every month before the implementation of this Automated product platform . This has resulted in approximately 60% increase in their cross-selling of various products within their own CASA customers .

- A very large Asian bank which has more than 50 thousand customer servicing branches deploys ML Driven platform to improve customer engagement using Face recognition and understand the behavioural patterns to enable customer delight and cross-selling and up-selling of various products.

  The platform enables the bank to identify their high value customers at every customer touch points at the branch level using the platform and offer them personalized Services. This has resulted in enormous enhancement in customer delight and also increased cross-sell and Up-sell opportunities.

- A large Mortgage bank in India uses ML based platform for personalized collection and recovery process. By using the platform, the bank knows at any point of time the collection propensity of every defaulter and what kind of personalized follow up actions need to be applied on each customer to enhance the collection. The bank also knows which call centre agent to be deployed for every customer so that the collection process becomes very personalized.

  In a span of 10 months, the platform helped the bank in increasing the collection amount by more than 2% and reduces the collection costs by more than 9%

  A large middle-east based bank used ML driven platform to build personalized brand building among their customers. By analysing various digital data of the customers and analysing the various sentiments of the customers with respect to the banks operations and reputation, the

platform recommends the right personalized communication content and channel for each customer and the platform automatically execute the same. By using various alternate data and various statistical methods such as correspondence analysis, customer value tree analysis and perceptual maps to provide personalized branding messaging.

## Conclusion

Big Data Engineering and Data science driven machine learning applications have opened a plethora of opportunities for Data driven Automation of various business functions in the Financial industry. Personalization is one of the fastest growing data driven automation processes and has already started delivering encouraging results to the early adopters in the BFSI vertical. Despite the challenges, such as massive data volumes, multitude of data sources, data quality, and data-related regulations, ML driven automated personalization platforms are generating immense interests from the CXO's of financial industry and leading the industry into an age where data rules & decides the next best methods and process for providing personalized services to very customer.