Evolution of Personalization in India's Banking System

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Abstract- **Banking system has gone through rigorous growth and has evolved continuously over centuries. Right from the beginning of setting up the first bank in India which dates back to the 1770s, to the banking system we have today, the system has faced and overcome, as well as adapted itself to the challenges in this journey. The word personalization has been surfacing in recent times with regard to banking. This paper will deal with the idea of personalization and its traces and presence in India's banking system that has existed all along, and how these have been developed and enhanced through the passage of time.**

Keywords: **Banking system; evolution process; reforms; personalization; hyper-personalization; phases of reforms**

INTRODUCTION

The word personalization in general, means "the action of creating or modifying an item using customer data to meet an individual's needs" [1]. The evolution of banking system involved a series of modifications that were made in terms of both the services provided as well as how the services were provided.

The changes in the system were driven by various affecting factors, but the loci of which are the customers or users. Banking in its base, is a service that aims at providing the best and apt services that are required and are highly sorted for, by its users. Banking directly deals with the user's money and this means that the industry is responsible for the safe keeping and opting the right practices to make the customers invest in right ways.

Modern day banking now is not just constrained to depositing money or enabling transactions like it used to be centuries ago. The system of banking was once created to enable funding for wars and then was used to make trades between countries. Today there is almost nothing related to financial needs of customers that cannot be met by banks. This change has not happened in a day. This has been solely driven by the needs, wants and evolving demands of the customers that the banks were obliged to meet. Personalizing the bank services to provide different bank users the kind of service they needed became a mandate for the banks to meet out.

The passage of time along with how the scope and form of services provided by banks got reformed with different types of user needs have been discussed in the following sections, the scope of discussions has been constrained to few limited factors so as to enable a wider view into each of them and to

give a clear and simplistic view of how the services got personalized and at what levels the personalization was required.

I. THROUGH THE HISTORY OF BANKING

The banking system in India have been studied in 3 phases usually, the (i) Pre-Independence period, (ii) Post Independence Period and (iii) Liberalization Period. The banking that existed before the independence was set up for the colonial government and traces of about 600 banks have been found in various parts of India. Of the banks that existed then, 3 major banks (Bank of Bengal, Bank of Bombay, and Bank of Madras) were merged to form the Imperial Bank. This Bank was later taken into the umbrella of State Bank of India (SBI) by 1955.

The post-independence phase was marked by the nationalization of the banks, the process of nationalization was done so as to bring all the banks that existed as either public sector or private ones under the control of state and central government. This process bagged some huge advantages like increase in functional efficiency, it bagged the confidence of customers to invest in the banks, purpose of banking was more directed to service rather than gaining bank profits and so on.

Banking in the Liberalization phase is the phase that continues to exist till today, its start was marked around the year 1991. The banks today are divided into 2 groups namely Scheduled and Non-Scheduled banks. The Liberalization phase saw the booming development of banking services, more and more advancement and everyday enhancements were being made. The banks available today according to their functioning can be divided as given in the below in Fig. 1:
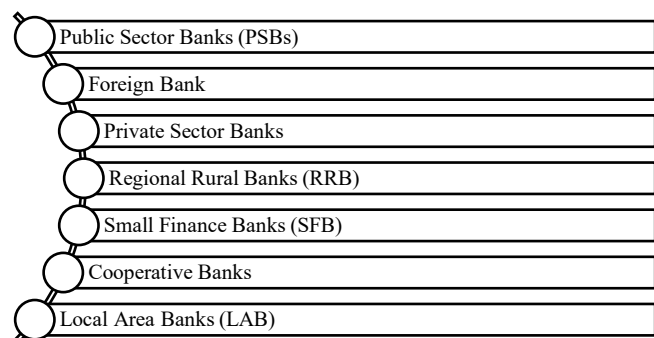

- Public Sector Banks (PSBs)
- Foreign Bank
- Private Sector Banks
- Regional Rural Banks (RRB)
- Small Finance Banks (SFB)
- Cooperative Banks
- Local Area Banks (LAB)

Fig. 1: Banks classified based on their functions

A. Instances of personalization in banking

In the above section, the development of banking in India was briefly discussed. The various services we have today and how these came into existence and what made them tailor-made will be illustrated in the following sections.

B. Reformation of card systems in banking

The two most commonly known and used cards to avail banking facilities are the credit and debit cards. Looking at these two, the cards provided by the banks does not divide into just two of these types. Each one of them have got their own different versions sub branching to form and provide the users with the best and apt services according to their demands.

Let's have a look at the following table that shows the use, limitations and the special features of the cards and their types.

Type of Debit card	Geographical access	Varieties
Visa Debit Cards	Globally accepted	Visa Classic, Visa Gold, Visa Platinum, Visa Signature, Visa Infinite
MasterCard Debit Cards	Globally accepted	Standard Debit Card, Enhanced Debit Card
RuPay Debit Cards	Only for Domestic use	Rupay Premium, Classic, Platinum, Select etc…
Visa Electron Debit Cards	Globally accepted except a few countries (Australia, US, Cannada, America & Ireland)	VISA Gold, Platinum, Signature, Infinite etc…
Maestro Debit Cards	Globally accepted	Master Maestro Debit Card

Table 1: Few Types of Debit Cards and their details

(Note: Global acceptance here refers to use in countries other than Country of origin, for each variety of card there are some countries that do not accept it, exceptions are not mentioned here)

Type of Credit Card	Focus groups	Examples
Regular Credit Cards	Targeted on the first-time credit card users, provided with moderate credit limits	HDFC Bank Platinum Plus Credit Card
Premium Credit Cards	Targeted on higher income customers and provides higher credit limits and some benefits like airport lounge access	HDFC Bank Visa Signature Credit Card
Super Premium Cards	Provided with high credit limits, available through invitation alone.	Dinners Club Black Credit Card
Lifestyle Credit Cards	Designed for users who want to use the card for dining, shopping, travelling etc..	Dinner's Club Privilege Credit Cards
Travel Credit Cards	Benefits Travelers, provided with exclusive deals on traveling and hospitality	IndiGo HDFC Bank Credit Card

Table 2: Few Types of Credit Cards and their details

C. Debit Card

A Debit Card is basically a physical card that can be used by the customers for the purpose of withdrawing cash from the ATM machine instantly. They make the cash withdrawal process easier for the customers and also reduced the burden for the bank employees. They were eventually accepted as a payment mode for various merchant transactions through POS (Point of Sales) terminals. Debit card transaction deducts the money that is available in the customer's savings account. Though the basic purpose was to make the transactions easier and faster, banks introduced various types of Debit Cards that provided the benefit of debit transactions for all users alike, at the same time gave the customer's additional benefits which were provided to them by grouping them into select classes. Customers were grouped by various criterion such as transaction limits, type of account they held,

number of transactions they were likely to make, location and their spending habits.

This eventually gave raise to variations and advancements in the cards being made, which include, debit cards such as Visa card, Master Card, RuPay, Maestro and others. Each of these were brought into use along with their unique benefits for the users and offered special rewards and features that excited the customers to opt for the debit card. Some of these cards are globally accepted that cover almost all major countries, which enabled the users to withdraw or make transactions in different geographical locations. Some cards for example RuPay were introduced solely for the domestic users, these focused more on the middle-class customers and for those who opted to make small number of transactions or withdrawals on a daily basis.

Each of these Debit Cards that exists in use today has their own transaction limits, maintenance charges and policy of use. With advancement in technology the Debit cards evolved from magnetic tape to chips and now to virtual mode. Virtual debit cards enable the users to use and make transaction using the card details such as CVV and the card number without the need of a physical card, the only necessity for this is the internet facility. Contactless debit cards have now made the POS transactions even easier and faster with no need for entering the pin, this has made the customer's shopping or travelling experience quicker and smoother.

The journey of developing the product "Debit Card" with the same use but to meet various categories and types of transactions is a great example where banks have personalized a basic product for all of its users where in none of them feels unprivileged at the same time all customers are equally satisfied and benefitted.

D. Credit Card

A Credit Card is a card similar to debit card in appearance, but unlike debit cards, credit cards allow the users to make purchases on credit. It enables the users to purchase or make payments up to a certain set or allowed limit, at the end of a stipulated period the user has to pay the bills of the card. Credit cards work through charging interest on the money spent.

Credit cards based on the type of users as well as the type of purchases made with them have been highly personalized to meet the customers with the right set of facilities that they might wish to avail through credit. As can be seen in Table 2, there is a range of credit cards provided.

The basic credit card or the regular credit card was designed for the users who had opted to use credit card for the first time. It is provided with the minimum functionalities. Some of the noteworthy well personalized benefits of credit cards include fuel surcharge waiving, airport lounge free access, golf games etc. Some credit cards are specially designed targeted on specific users these include Co-branded Credit cards, Business Credit Cards, Travel Credit Cards and Fuel Credit Cards. Just like the name suggest the cards offer

benefits for the users in various forms, these are tailor made for frequent travelers, fuel consumers etc.

Just as it was in the case of debit cards, credit cards too have their contactless versions now, the cardholders can easily tap these at the POS and proceed with their purchases. One good example of this type of cards is SBI Signature Contactless Credit Card.

E. Co-benefiters

Credit cards provide the customers with benefits on spends in various ways that include fuel, travel and other purchase offers, this not only benefits the customers but also the brands that are ready to collaborate with the banks to provide their services. The rewards being provided for transactions made or the reward points secured by transacting with the particular bank using the specific card also works in the same manner of collaboration with the brands. All of these set an example of how the businesses together form a web for the sophistication of the customers best shopping or travel experience along with personalized schemes and gift offers and also provides the business the opportunity to introduce their products and aim to secure and target the right set of buyers (e.g.: Combining the travelers credit card holders with the hospitality industry or that of the airlines).
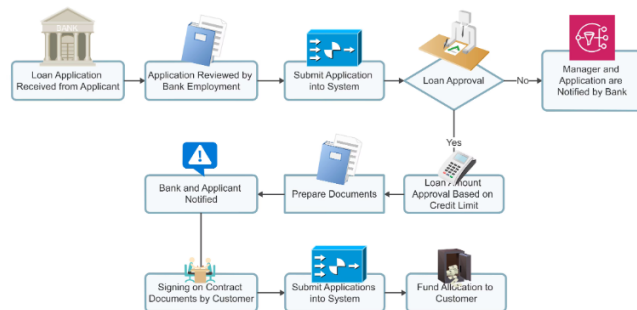
F. Structuring Loans

Fig. 2: Diagram depicting the Loan Processing [8]

Loans most basic division includes secured and unsecured loans, where secured loans are provided in exchange for a security pledged, this could be house, gold or other such properties of value. Unsecured loans are provided by assessing the borrower's earning potential and rating them by CIBIL score.

Both secured and unsecured loans have their own different types, each of which covered the needs of the users by enabling them to procure loans that fits their needs. According to the needs and purposes for which the bank's money was used, the loans were divided into various forms. The following figure represents the various types of loans that the banks render to the customers:
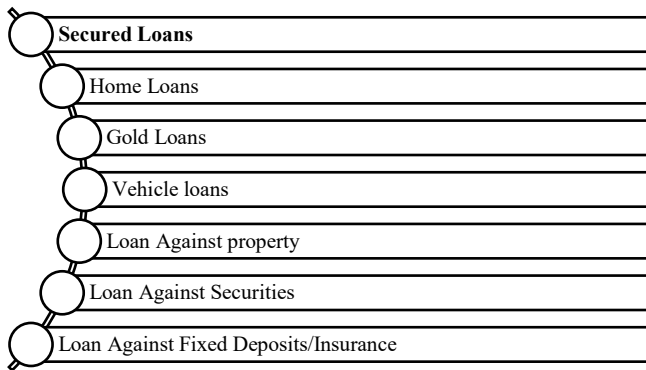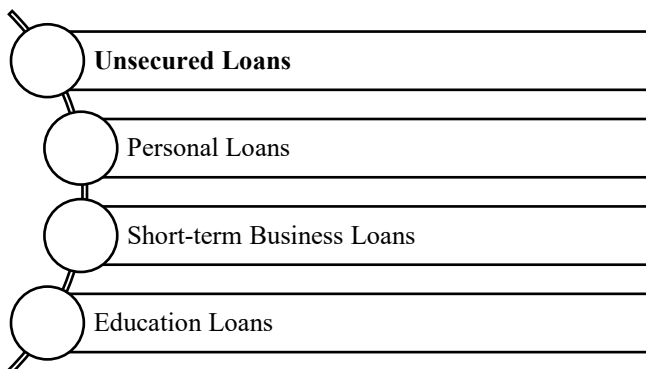
Fig. 3: Types of Secured Loans

Fig. 4: Types of Unsecured Loans

The above-mentioned loans and categories were introduced to carter the needs of each specific group of individuals, the focus of home buyers, car or bike procurement and students in need of money for education, farmers, women and many such categories. The basic motto is that everyone who is in need of money must be able to avail loans to his capacities of repayment. To achieve that, the banks found ways to cover the right customers with the right kind of loans, which were fitted for the particular group with the ideal interest rate, tenure of return and eligibility criterion. This not only benefitted the customers but also the banks equally.

II. STATISTICAL TRENDS DEPICTING THE EVOLUTION OF BANKING (DATA FROM RBI)
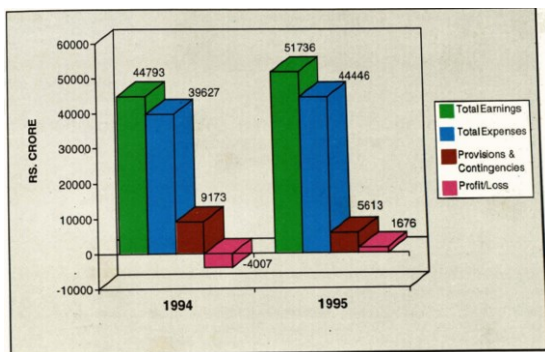

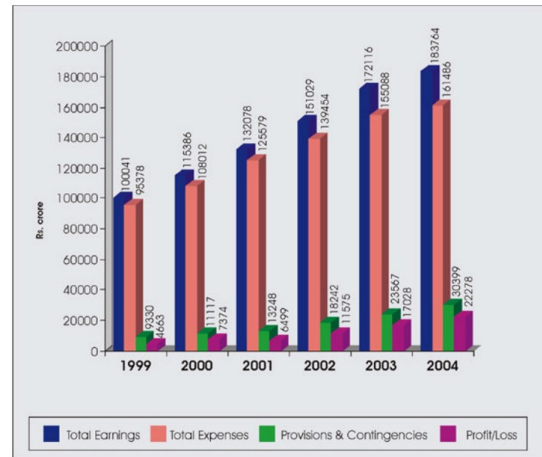Fig. 5: Earning, Expenses and Profits of Scheduled Commercial Banks -1994-95 [5]

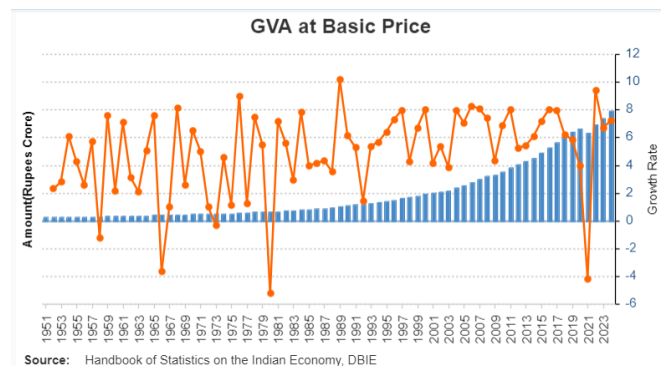Fig. 6: Earning, Expenses and Profits of Scheduled Commercial Banks -1998-99 to 2003-04 [5]

Fig. 7: National Income and growth rate graph [5]

The graphs show the trends in Scheduled commercial banks, through the years and the Fig. 7 depicts the growth rate (line graph) vs volume (the bar graph). All of these sample graphs from RBI's data have been provided here for comparative view, to understand the volume, of money the banks initially handed vs now. It also clearly shows how along with the years and the changes and improvements in the systems that were discussed earlier, the trends in the banking industry also changes. Though the growth has been fluctuating it clearly shows that the volume has been having a steady increase and has not reduced at all since 1950's till now. This clearly shows that the volume of account holders, or customers or citizens is never going to reduce and hence there is need for the system to adapt better and advanced methods to manage and provide the customers with right kinds of services.

III. TOWARDS HYPER-PERSONALIZATION

Personalization can be done aptly only after a rigorous analysis of customers and their needs. Personalization is not just about one to one need vs satisfaction. It goes through various stages, according to the number of targeted customers, their place, wants, demands and how they can be grouped. The concept of personalization based on various aspects have been grouped into the following types:
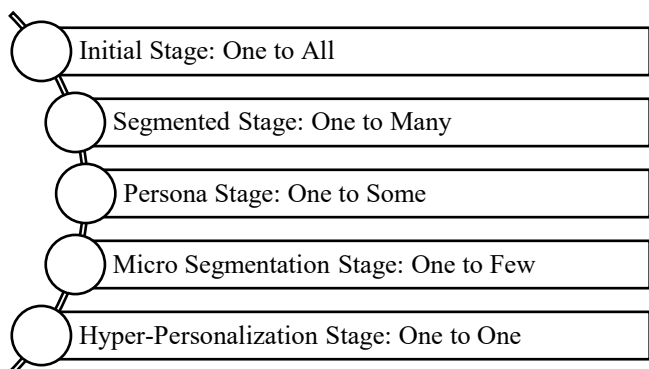
Fig. 8: Stages of Personalization [7]
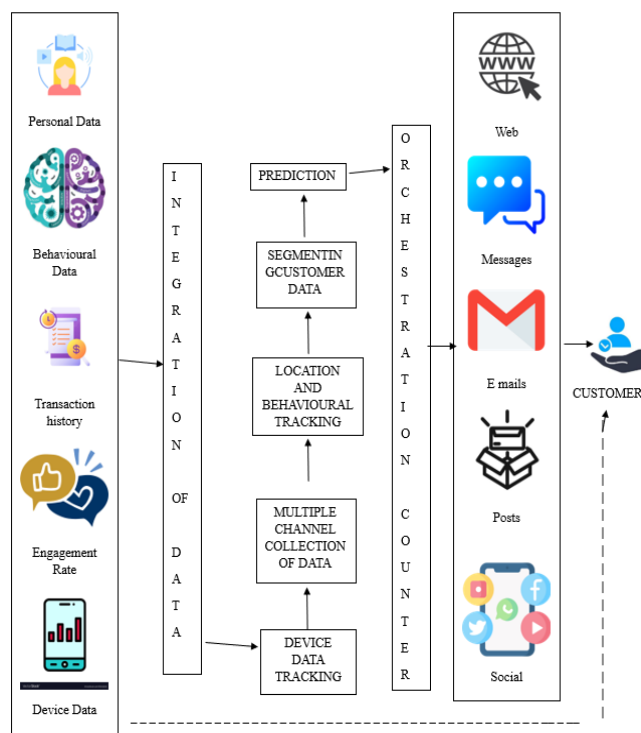
Many different industries ranging from food to entertainment to clothing are trying to explore these stages to attain a better and better position, to safely secure their present customers and also attract new ones. Banking like any other industry is aiming for the same.

The initial stage marks the starting stage of any service where the same service shall be available to all of its users, the second stage is the one to many where a set of services get modified to accommodate different groups of people under its umbrella. This is the Segmented stage. Third is the more enhanced version of this, which is the Persona Stage. The last two stages are the ones that are being aimed at or targeted for. Micro segmentation and Hyper Personalization stages, where in each and every user is provided with the exact set of services that they require, without disrupting the overall function of the system.

The trends in banking and how they have been reforming through decades was discussed. Today the competition is to provide the users with more and more sophistication such that, each and every individual particular needs are studied and efforts to meet them would be made. Banking like any other services is being studied rigorously to enhance it and to meet the demands of the present trends. As technological developments are being made faster in other fields than it is, in this particular field, there is a greater expectation from the users. This is growing multi folds every day. Many banks in various countries are trying to use and merge advanced technologies including Machine Learning, Deep Learning, Embedded banking, Generative AI and so on, in the process of enhancing and providing the best possible as well as feasible solutions.

Some of the most intensely researched area includes personalizing the banking services, with the invent of Unified Payment Systems and other payment interfaces Fastly changing the demographics of traditional banking, banking in itself is trying to reform, add and provide multiple financial services as a pack together to the end users. To provide the same, various ideas are being thought of, some implemented and others are still under study.

IV. ILLUSTRATIVE ARCHITECTURE OF HYPERPERSONALIZED BANKING SYSTEM

Fig. 9: General Architecture of a hyper personalized banking system

The above figure is an illustrative diagram of a hyper-personalized system. The predictive module can comprise of various modules within depending on what types of algorithms are being used by the system. The customer is thoroughly studied, about his personal, behavioral, transactional as well as engagement and device data to make a clear understanding of his or her.

After integrating all of these data, the data together is passed through a series of process like tracking of the device data collected, collection of the data from various channels through which the customer interacts, analyzing the location and behavioral characteristics of the user, segmenting them, and finally through the prediction module.

Orchestration is the automated process that takes the siloed data collected through various process from various sources and combines them all, organizes them and provides for analysis. Once the data is sorted as well as predicted the results are provided in the hands of end users or customers.

This very process can be incorporated for various banking functions as discussed earlier in the paper and the same can be made a lot more easier and customer friendly. Facilitated with a huge set of options and choices for the customers that are quite apt for them and are already selected and made ready for them by the personalization system.

V. CLOSING THOUGHTS

With the world marching in high speed towards AI dominated services and intelligent and self-learning as well adaptive services being provided for every human need, its high time for banks to cope up with the trend. Though there has been steady and stable growth in the industry, there is a need for it to adapt faster.

At the same time, it is also important to keep in mind the fact that banks are dealing public money and any change even a meagre one can affect the end users significantly, hence the evolution process of banks through personalization to more advanced hyper personalized service is not going to be easy, alas, it cannot be averted either.

Educating the customers, keeping the bank employees trained with the latest reforms as well as setting up a strong cyber security system that supports banking is going to be a necessity for banking in the upcoming future.

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