

interview

Q&A

with **Dhananjaya Arvind Tambe**, Deputy Managing Director & Chief Information Officer at **State Bank of India**



The DMD & CIO of India's largest bank discusses the centrality of analytics in driving customer satisfaction and digital readiness in India's fast-growing digital marketplace.

Let's start by describing the scale of State Bank of India.

SBI is the largest bank in India, with approximately 425 million customers, which is more than the population of North America. We serve every nook and corner of India, from islands in the Bay of Bengal and the Arabian Sea to villages in the Himalayas. We have a total branch network of about 23,000, a massive network of 58,000 ATMs, and about the same number of customer service points.

What's SBI's history with TCS BaNCS?

In 2002, the bank decided to deploy a centralized core banking solution. One of the guiding factors was that it should be able to scale up to handle our very large customer base and massive scale. We selected technology from a company that later

developed into TCS BaNCS.

Today, we handle on average 250 million transactions per day, and I can tell you with a fair degree of satisfaction that the bank's decision to go for the solution that became TCS BaNCS was a good decision.

Describe your overall approach to banking.

All your problems in life can be solved if you have only one objective, and in banking, that should be CUSTOMER SATISFACTION: How do I keep my customers more satisfied today than they were yesterday?

To do this, you have to create value by making relevant offers. Financial services are not emotion-based services. There is very little scope for anyone to appeal to emotions on

something based on rates and figures. If I'm going to pay you 3% rate of interest, and another bank is going to pay you 3.25% rate of interest, it's very easy to discern the difference. Therefore, to add value for your customers, you have to offer them relevant products and value-added services.

If you make the right offers, your customers will feel that the bank cares for them. Banking is a trust-based service; and caring about customers has a multiplier effect on loyalty.

How is it possible for banks to differentiate themselves with technology?

Technology has been a great leveler. Every bank today has core banking

and can provide the same basic services to all its customers. For one bank to differentiate itself from the other banks, the only thing it can do is provide superior service, and superior service is based on customer analytics. By using analytics, the loyalty of your customers will be far greater than by any other means that you might adopt.

For example, we analyzed our entire customer base and came up with a list of several hundred thousand pre-approved personal loan customers. We made them offers through our mobile app, and whenever these customers want to avail themselves of the pre-approved loan, in just two or three simple steps taking less than two minutes, the amount is credited into their account. This has been a super-hit product, and every day, thousands of customers make use of it.

The differentiator of tomorrow for any bank in the world is going to be analytics. The finer your analytical algorithms, the better your results and the better your service to the customer.

How does analytics change the interactions at the branch?

Our bank has 425 million customers, which means that every branch has tens of thousands of customers. In such a scenario, it is not possible for tellers or relationship managers to have personalized knowledge of all their customers. By making analytic insights available to them through a digital interface, their customer interactions become more specific and more fruitful. If I know the risk appetite of and the sale history to a customer, I can provide informed

advice about a suitable mutual fund offering or similar product.

Most customers are unable to manage their finances themselves. People are so busy from morning until evening that they have no time to look at the balance in their savings bank. They want somebody to tell them: “Hey, you’ve got 500,000 rupees in your account, so why don’t you set up a public provident fund account for you to keep 150,000 rupees every year?” This kind of valuable advice drives loyalty, and the banks that survive will be those that do it well.

How do you use analytics in risk management?

Risk is impact multiplied by probability. In the past, it was difficult to ascertain impacts or probabilities. Today it is possible for us to know impacts and probabilities with much greater certainty. We can now use analytics to reduce overall risks in the banking environment.

The biggest risk in banking is credit risk, or the risk of default. Previously, the process of due diligence often would take several days. Today, I can do analytics-based due diligence on the fly, which gives me great confidence on whether or not to issue a loan to someone. We can also know whether a customer remains creditworthy or not, and if creditworthiness has gone down, we can take corrective action as quickly as possible. That means our biggest risk, credit risk, can be brought down.



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We are also using analytics to detect fraud. Last year, we noticed a pattern of fraudulent transactions occurring with our ATMs. We drilled down and identified specific geographical clusters, and from there, a group of people who we discovered were related to one another. With analytics, we were able to stop this kind of fraud.

Similarly, we can predict at which branches fraud is likely to happen, so that we can alert the branch staff and keep a better vigil. As a result, we can bring down fraud losses in this area.

There are also external risks such as market risk or currency risk, but those risks you have to mitigate through other means.

Does the analytics-based strategy scale down to smaller banks?

Analytics is like oxygen. Everybody has to have it. Whether you are small or whether you are big, you have to breathe. I don't think a bank today can survive without customer analytics.

For very small banks to do analytics in-house would be a challenge, so they should get their analytics done by third-party service providers and then make use of the results.

How are you working to improve analytics in the future?

Artificial intelligence is the most important tool that any bank should be using today if it wants to fulfill expectations for customer service.

We have a very large number of products in our core banking system, and to know about all of them would be a daunting task for any teller or front-line employee. With AI, we can easily fish out the information regarding a particular transaction, or how a particular transaction needs to be performed. This can save a considerable amount of time, while enabling our staff to render better services.

As an example: Given our large customer base, every day we receive applications from the heirs of deceased customers. But for any given teller, this is a relatively rare event. Unless the teller knows how to handle a case of this delicate nature, this customer may not be served correctly.

AI can also check the consistency of information in legacy accounts. State Bank of India was established in 1806, and we have been performing banking service continuously for 213 years since. Many of our customers' accounts have been open for 70 to 80 years, and in many of these cases, the information may be obsolete. With AI monitoring the consistency of information in our back-end systems, we can prompt the teller to ask customers to update their customer records as needed. This will improve communication across all channels, boost customer satisfaction, and help to ensure that we have the highest-quality data for analytics.

We've talked about how State Bank of India is approaching the marketplace. Now, let's talk about changes in the marketplace itself. In what ways has digital technology transformed banking in India?

The Indian marketplace is changing very rapidly due to the lower price of smartphones and the greater availability of 4G data connectivity. This has led to a massive increase in the demand for mobile apps.

Along with that is the revolution in mobile payments with the Unified Payment Interface, or UPI, which allows mobile apps to easily incorporate purchases and bill payments. UPI is one of the finest implementations of its kind that I have seen anywhere in the world. It enables you to make payments in real-time from your account into the account of anyone else in the country, at any time. And the best part is that you can make payments from your State Bank of India account using either a third-party bank's UPI app or State Bank of India's own UPI app, and it works just the same.

The UPI ecosystem has created a huge amount of innovation. For example, UPI is the most important method of payment for the Google Pay digital wallet in India. We are one of the four banks to partner with Google Pay in India. And if WhatsApp or any other payment service starts a UPI service in the future, we will be able to partner with them as well.

We are also partnering in stored value cards, including one designed by the National Payment Corporation

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of India for use in transit payments for train, subway, and buses. This will become a massive market as the transportation system in India modernizes.

The pace of digital transactions in India is growing very rapidly, and as digital payments increase, the number of transactions also increases. We expect the exponential increase to continue.

How has SBI prepared for this exponential increase in transaction volume?

We have benchmarked TCS BaNCS to handle 2 billion customer accounts and 23,000 transactions per second. Currently we are at about 700 million customer accounts and 7,500 transactions per second, which leaves a considerable amount of headroom in our core banking architecture. This gives us confidence that TCS BaNCS will hold us in good stead for the foreseeable future.

We recently saw our infrastructure put to the test with banknote demonetization in India. Within a span of three months thereafter, the number of digital transactions almost doubled, but we had plenty of headroom.

What other challenges did you face with demonetization?

Our core banking system had to be changed very rapidly to account for new restrictions and limits. The instructions would arrive in the evening, and by the next morning, our interfaces had to be ready for the change. The TCS teams responded admirably to the challenge. We were able to handle the massive changes during the period of demonetization

in a manner that was very satisfactory for all of our customers. We also received accolades from the government. We were able to quickly extract data on demonetization from the core banking system, and many of the decisions which the government took during that period were based on that data.

Running such a large organization as SBI, how do you ensure agility with your systems?

When we started, our core banking system was a monolithic application, which we thought was an ideal architecture. We soon realized that having a monolithic application sharply increased our time to market.

A core banking system needs to connect with multiple interfaces and channels, and the best way of doing so is through APIs. Otherwise, you end up with the spaghetti of one-to-one connectivity between every system that needs to exchange data.

For example, our SMS notification engine was originally built into the core banking system. When we wanted to add different kinds of notifications, we found that it was very difficult to change the code. This delayed our ability to provide notifications for new services. Working with TCS, we decoupled the notification engine from the core banking system, so that notifications work through an API that can connect with any component of core banking or any other system. We can now deploy new types of notifications much faster in response to consumer needs, and it's much more reliable.

Customer satisfaction would increase as a result.

We took the same decoupling approach for our Government Banking services. Initially, these services were built into the core banking solution. Then, we took those functions out into a separate application, making them more agile and nimble. We can make modifications in ways that we could not have done earlier, which has increased our agility in creating highly customized banking services for specific government agencies.

Any final thoughts on the relationship between SBI and TCS?

TCS has the advantage of its lineage as part of the Tata Group of companies, which are known to have a very good corporate governance culture and very high ethical standards. Because of this, we have a great deal of faith in TCS as an organization.

TCS has been running our core banking solution for almost 18 years. In addition, TCS is involved in running many other critical systems of the bank.

Whenever the need has arisen, TCS has been able to accommodate us — most of the time. No relationship in the world is perfect, and we will always have more demands on them than they can fulfill. But the relationship has been a very satisfying one.