



# HOW BANKS USE ANALYTICS TO IMPROVE DIGITAL CUSTOMER JOURNEYS AND PROFITABILITY

An eBook for bank marketers



# Learn how you can

- Increase sign-ups and engagement
- Boost activations
- Improve savings, loans and payment balances
- Optimize marketing budget and spend

# Contents

1. Introduction
2. Can Traditional Banks Capitalize In A World of Digital Banking
3. The Data Challenge
4. Setting Up And Running A Machine Learning Project
5. How Lynx Analytics Can Help
6. Your Next Step

# Introduction

The data generated by customers on digital channels can tell you a lot. The marketing department at a bank can act on these signals to increase customer activations, daily active users, conversion rates, lifetime value and more. But sorting the signal from the noise can be a challenge. For a bank, it's difficult to blend personal customer information with aggregated app activity data.

You can draw headline conclusions about the total number of transactions, but diving deeper into the nuances of banking activity is not straightforward.



# Consider the following scenarios:

- You launch a campaign to encourage app installs. You notice that customers are far more likely to complete the activations, if they on-board in the evening. Why?
- Your bank counts active customers as those whose balances are different at the start and end of the day. But what about customers who transact many times but always keep a zero balance? Can you design a system that includes these customers too?
- You have customers who have downloaded your app, but not yet registered their account. You send push notifications to encourage them. How can you tell whether customers respond to the alert – or if they would have acted anyway? And how long should you wait before sending another reminder?

**In this eBook  
we will dig  
deeper into the  
power of the  
technology, and  
show what it  
can do for you.**

Answering these kinds of questions can be time-consuming and complex using conventional data analytics. Happily, there is a solution that can help you answer the above questions and more.

**These techniques can help you find meaning in your data.**

They can generate recommendations and actions based on your requirements – and refine them over time.

All over the world, neobanks are emerging to take on the incumbents.

Google signs up six more partners for its digital banking platform coming to Google Pay

Much has been written about the rise of digital banking. This has led to the belief that these digital-only challengers hold all the advantages.

In some ways, this is true. Neobanks are entirely 'virtual'. They don't have to maintain an expensive branch network. Their on-boarding processes are virtual, and therefore super quick. A neobank customer can open an account simply by downloading an app, registering a verifiable ID, and having a quick video call with support staff.

From then on nearly all of the interaction with the bank is digital. In a sense, the bank is the app.

And now there's the added challenge of non-banks entering the space.

It doesn't host the checking accounts itself. Partner banks do that but it can explore the data to offer customers financial advice and budgeting tools.

So, is it game over for the traditional bank in a digital-first world? Far from it.

In fact, incumbent banks have many important advantages in their favor. They don't have to fight for new accounts. Some incumbent banks already have millions of customers.

Traditional banks are also far ahead in highly profitable activities such as lending and saving.

By contrast, most customers still use neobanks only as 'checking accounts'.

And traditional banks still retain high levels of consumer trust.

**In a world of digital banking, traditional banks still have many advantages but can they capitalize?**

**A study by PYMNTS.com found that consumers have a high degree of satisfaction with their current financial institutions.**

**88%** said they trust their bank and would be unwilling to switch to an alternative.

Clearly, the challenge for incumbent banks is to capitalize on their many advantages in the digital domain.

To do this, they need to unlock the behavioral insights hidden inside their data – and then use these insights to improve customer journeys and create more effective marketing activities.

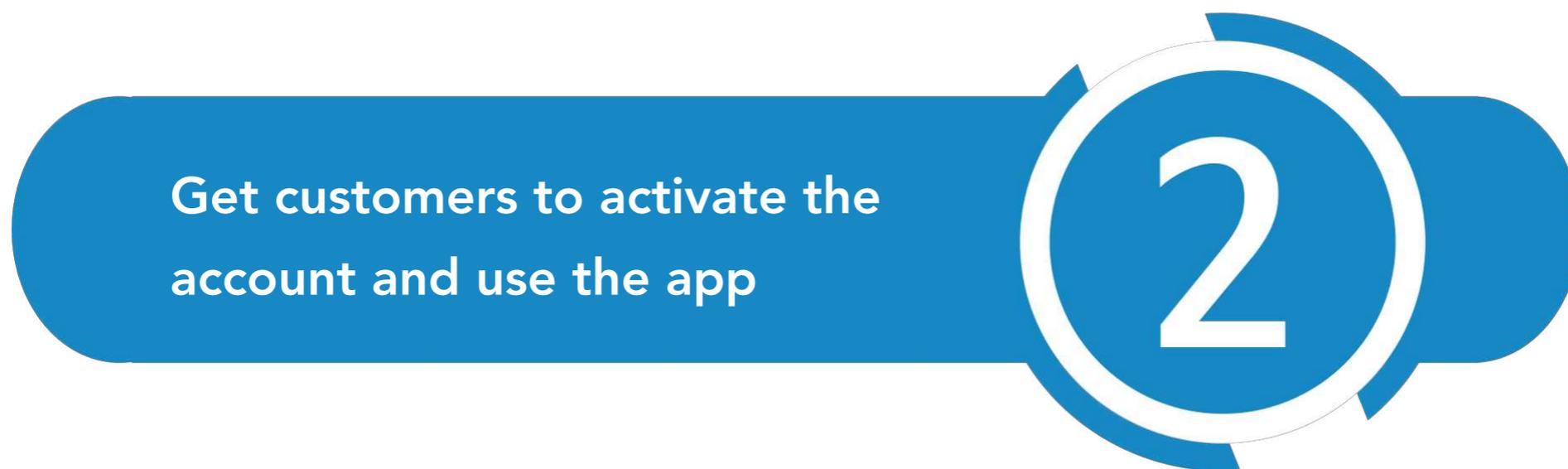
Image

# Insights from data can help answer the following questions:

- Which customer segments to target?
- How much to spend per account open?
- What is the maximum Cost Per Acquisition?
- Which customers will become frequent users?
- And can this be predicted from their first few days of app behavior?
- What kind of promotions get the best results?
- Which channels get the best results?
- What's the best way to activate a dormant customer?
- When is the best time in the customer journey to run a promotion or send a reminder?

# The data challenge

How to draw from multiple data sources to get a complete view of the customer journey?  
Let's summarize what you want to achieve with your mobile banking activity.



In a world where everything is measurable and optimizable, you can take actions to improve all of these scores.

The clues are in the data.

Let's define the stages in an app-based customer journey...

# Important Metrics

Total Ad Spend

Campaign Frequency

Channel Type

# Pre-download

At this point, you are working out where to place ads to drive downloads of your app.

Typically, this will be online, on the mobile web or even in other apps. A good proportion of your activity will likely be on Facebook and Google.

To maximize the results, your systems must be able to ingest the data from your advertising and marketing partners' platforms.

This data will show how your campaigns correlate with app installations.

# Download and post-download

Once your campaign is up and running, customers will begin downloading your app. Google Play and the Apple App Store each provide activity logs so you can track these download/install numbers on a daily basis.

However, you can also go deeper, and analyse what users are doing after they have installed your app.

You can do this by using the information available from app development platforms such as Google Firebase or AWS

Amplify. These platforms offer Software Development Kits (SDKs) that can track and report on user attributes and sessions.

## Access information such as

- **Timing of a specific action**
- **Conversion events**
- **Devices per person**
- **Button taps**
- **Abandoned sessions**
- **Chatbot sessions**
- **Platform/audience mix**
- **Retention and churn**

## **Timing of a specific action**

Your app metrics can tell you when – by time of day/week or month – when a user performed an action.

## **Conversion events**

You can see which actions led up to a successful 'event' (such as a product purchase).

## **Devices per person**

How many devices does your customer use? You can see this in your metrics.

## **Button taps**

Understand how often users click 'help' and other buttons.

## **Abandoned sessions**

See when and why users close a session without completing a task.

## **Chatbot sessions**

Observe chatbot interactions: how many, how long, which topics etc.

## **Platform/audience mix**

Know how many customers use iOS or Android – and which handset models.

## **Retention and churn**

Understand how many customers downloaded your app, and continue to use it regularly. Find out how many customers downloaded your app, and subsequently deleted it. You can modify the results by changing the inputs.

The above metrics apply to all app developers.

But your analytics should be specific to your unique business objectives and customer journeys.

## **For bank marketers, app analytics should tell you:**

- **How many users successfully installed your app and then registered their customer details?**
- **How long did this take?**
- **How many successfully on-boarded their accounts?**
- **How many accounts completed the KYC process?**
- **How many accounts became active?**
- **What was the response to reminder push notifications and emails?**

Now you are armed with detailed data relating to pre-install marketing and post-download session activity. The next task is to link it with registered customer information.

However, as we've set out, this is not easy.

The datasets are usually based on different technical standards. Some are in the cloud, some on-premise, others hybrid. There can be lots of noise and duplication when the data is generated.

Most important, there are varying levels of compliance required for the data sets. The rules are highly restrictive when it comes to personal customer information. But they are much more relaxed for aggregated app session data, for example (where the data is anonymized).

Skilled data engineers can re-architect these pipelines and help to ingest data from different sources such as:

- **Transaction activity**
- **Ad campaign activity**
- **App store download/install logs**
- **In-app SDKs – post download app session activity**

Once these pipelines are established, you can apply AI and machine learning techniques to create predictive models that target the right customers.

You can track journeys throughout the lifecycle – and build an end-to-end view of customers that is not dependent on a single perspective.

# These projects typically have two phases:

1

Creating the data pipelines and training the data science models. This is where Lynx's expertise can reduce time to "go live".

Production phase (post go-live) where data and analysis is regularly refreshed to support marketing activity.

2

**So, you want to create pipelines that combine data from different sources?**

**And use AI tools to build predictive models to reach the right customer segments?**

## **Setting up and running a machine learning project**

Lynx Analytics has experience building AI-based analytics solutions for both traditional and digital-first banks.

On a typical project specialists from Lynx can create data pipelines, ensure integration with external data providers (such as ad agencies), build predictive models and customize analysis and visualization tools.

Lynx Analytics can also provide clients with data visualisation tools such as LynxKite and CHI.

**We have worked with internal data science teams with several banks across to:**

- Identify the best people to target on digital channels by using “lookalike” audiences (that do not reveal any personal information about existing customers)
- Decide what engagement actions or promotions to target them with once they have downloaded the app
- Determine when to target them
- Choose the best targeting channel
- Repeat such actions in a closed loop process factoring in return on investment (ROI) and customer satisfaction

## **How Lynx Analytics can help?**

In one example, we built a Customer Value Model (CVM) that quantified the monthly gross profit generated by each user. This helped the bank to quickly identify its highest-value customers. Armed with this information, it could allocate its acquisition dollars to target similar customers.

Another custom solution was the Audience Performance Booster (APB). This engine built segments based on customer demographic characteristics, credit scores, use of banking services and engagement with campaigns. Banks now use it to personalize promotions for micro segments, which improves response rates and marketing ROI.

Some examples of how machine learning can unearth hidden meaning in the data.

## **Discovering the best time of day to encourage downloads**

Our analysis revealed that the bank's customers were more likely to complete the on-boarding if they downloaded the app in the evening. The explanation? Customers needed a passport to complete the registration. They were more likely to have one to hand in the evening (when at home, not at work). Armed with this insight, the bank was able to target/remind customers more effectively.

## **Spotting 'hidden' inactive customers**

A bank's systems were set up to consider any customers with funds below a minimum threshold to be inactive. But Lynx's solution tracked customers on activity, not balance. It was able to identify the many customers who regularly transacted but kept their balances at or near zero.

## **Finding out the best time to send a reminder**

What's the best time to nudge customers who download your app but don't open and activate their accounts? We discovered that 80 percent of those who on-boarded did so by day 4. These customers do not need a reminder; they would register anyway. The data also indicated that if the customer failed to activate after 10 days, they were unlikely to do so at all. So we concluded that the period from day 5 to 10 after the download was the best time to send a reminder notification.

## **Knowing the best window for a KYC check**

A bank launched an app download campaign and decided internally that it should authorize and on-board new customers inside seven days. We applied queuing theory to analyze the data. We could see that, in fact, customer activations would drop off if the KYC was completed any later than three days. With this insight, the bank changed its internal guidelines.

## **Segmenting and scoring customers to improve NPS scores**

We looked at all the data feeds to score every bank customer as a promoter, neutral or detractor regardless of their answering a survey or not. With this segmentation in place, the bank was able to target incentive/reward campaigns at neutrals and detractors in order to improve their service experience.

## Your next step

In an era of digital banking, traditional banks still hold many important advantages over new digital challengers. They have millions of customers, trusted brands and a legacy of profitable financial products.

The key to flourishing in the new economy is to combine data from traditional sources with data from digital channels – and use AI-based analytics to target the most appropriate segments. Learn more about our [banking solutions](#).

# Glossary of Terms

## **Active account**

A customer considered to be a regular user of bank services – according to the criteria established by the bank

## **Activation**

The act of registering and launching an app after download

## **Artificial Intelligence/AI**

The simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. AI-based machines exhibit traits such as learning and problem-solving.

## **Churn rate**

The percentage of customers who leave a service or de-activate an app

## **Conversion**

The percentage of customers who activate a product or service in response to a promotion

## **Inactive account**

A customer considered to no longer be a user of bank services – according to the criteria established by the bank

## **KYC**

Know-your-customer. A bank process for ensuring the customer is properly authenticated.

## **Machine learning**

Machine learning is a subset of AI. It describes how computer algorithms can self-improve automatically through experience and by the use of data.

## **On-boarding**

The steps that lead up to a customer successfully registering for a service

## **Queuing theory**

The mathematical study of waiting lines, or queues. A queueing model is constructed so that queue lengths and waiting time can be predicted.

## **Retention rate**

The percentage of customers who continue to use a service after a specified period

## **Software developer kit/SDK**

Code that can be loaded inside an app to track the user's activity

## **Verification**

The process of authenticating and approving a customer