Analytics-driven distinction : Future adaptive

ANALYST DAY 2023

November 23, 2023

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Analytics continue to contribute significantly to Bank's GPS agenda ...
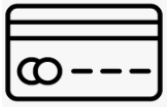
Personal loans via database programs

Disbursal value

x	1.3x	**1.8x**
FY22	FY23	FY24

64% *of the business via analytical database programs*

Cards portfolio exposure via database programs

Portfolio exposure

x	1.8x	**3.5x**
FY22	FY23	FY24

100% *of the business via analytical database programs*

Individual TDs via database programs

Term deposits booked

NA	x	**1.6x**
FY22	FY23	FY24

16% *of the TD booked via personalization framework*

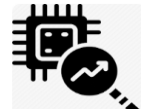**CBG business via data driven market mapping**

% business contribution

NA	x	**1.7x**
FY22	FY23	FY24

15% *of the business via analytical database programs*

Lending via in-house scorecards

applications scored

x	2.3x	**2.8x**
FY22	FY23	FY24

84% *applications scored via proprietary scorecards*

Fraud prevention via robust alerts framework

Fraud prevention

x	1.6x	**2x**
FY22	FY23	FY24

65% *fraud captured via analytical rules*

… keeping sharp focus on 3 key distinctive initiatives helping Bank get future ready
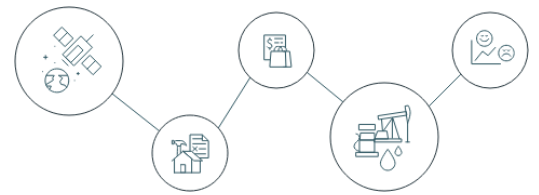
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Personalization

Combination of Data Science + Behavioral Science + Technology

Build best in-class personalization engine which caters to all customers with personalized offers at a segment of 1

Partnership and digital public infra led lending growth

Lending decisions backed by alternate data and curated database programs

Leverage alternate data and be spoke credit risk scorecards to assess one's creditworthiness

Modern data and tech infrastructure

Strong data and tech foundation for engineering excellence

Deliver and keep up with the growing data demands via modern tool stack and "data as a product" principles

What does it take to build a best-in-class personalization framework?

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6 foundational elements

Customer Data

Granular understanding of the customer

Utilizing customer data which ranges from demographic info, transaction history, browsing behavior to preferences

Nudge library

Enriched nudge library providing one-stop view for all base actions

Serves as a reservoir of communications which can range from cross-sell, engagement nudges to service/regulatory

Prioritization

Optimizing channels and products with AI precision

Advanced ML models act as the brain to understand the right channel & the right product for a customer

Mar-tech orchestration

Seamless multi-channel integration for batch and real-time connectivity

Invest in mar-tech capabilities as it allows an omni-channel experience for the customer with flexibility of real-time alerts

Control tower

Harnessing customer feedback for continuous improvement

Customer responses act as invaluable insights which can fuel or communication strategies & manage customer expectations
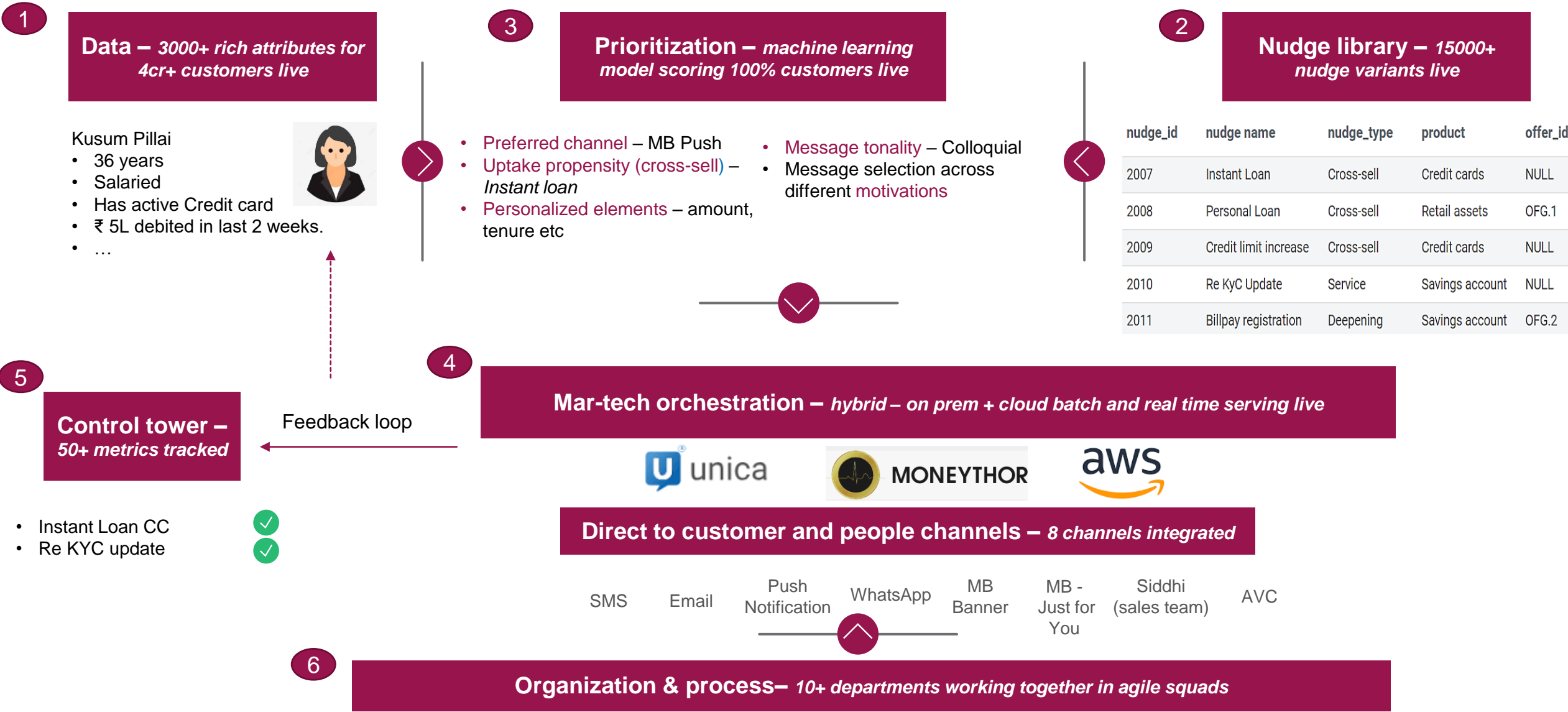
Agile squads

Collaboration for customer-centric excellence

At the heart of the framework is a cross-functional squad that works towards the common business goal

Personalization engine live since last 18 months and is being scaled up every day

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1 **Data –** *3000+ rich attributes for 4cr+ customers live*

Kusum Pillai
- 36 years
- Salaried
- Has active Credit card
- ₹ 5L debited in last 2 weeks.
- …

3 **Prioritization –** *machine learning model scoring 100% customers live*

- **Preferred channel** – MB Push
- **Uptake propensity (cross-sell)** – *Instant loan*
- **Personalized elements** – amount, tenure etc

- **Message tonality** – Colloquial
- Message selection across different **motivations**

2 **Nudge library –** *15000+ nudge variants live*

nudge_id	nudge name	nudge_type	product	offer_id
2007	Instant Loan	Cross-sell	Credit cards	NULL
2008	Personal Loan	Cross-sell	Retail assets	OFG.1
2009	Credit limit increase	Cross-sell	Credit cards	NULL
2010	Re KyC Update	Service	Savings account	NULL
2011	Billpay registration	Deepening	Savings account	OFG.2

5 **Control tower –** *50+ metrics tracked*

Feedback loop

- Instant Loan CC ✓
- Re KYC update ✓

4 **Mar-tech orchestration –** *hybrid – on prem + cloud batch and real time serving live*

unica   **MONEYTHOR**   **aws**

Direct to customer and people channels – *8 channels integrated*

| SMS | Email | Push Notification | WhatsApp | MB Banner | MB - Just for You | Siddhi (sales team) | AVC |

6 **Organization & process–** *10+ departments working together in agile squads*

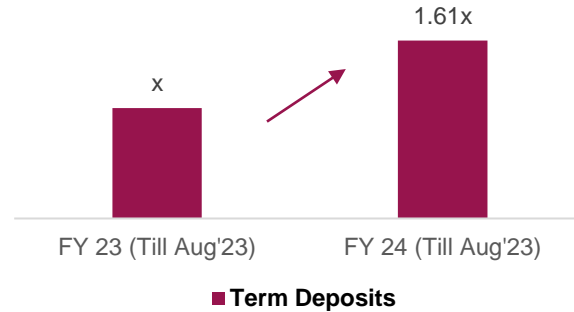# Personalization is helping get significant lifts across all businesses

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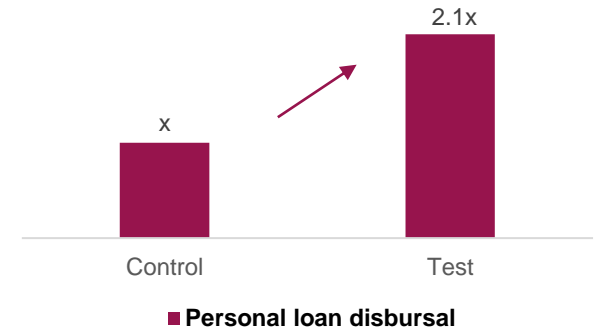**Scaled to all retail businesses with coverage to all product lifecycles …**

Cross sell

62% increase in Insta Loan booked via nudges

1.62x

x

FY 23 (H2)   FY 24 (H1)

■ **Credit card - Loans**
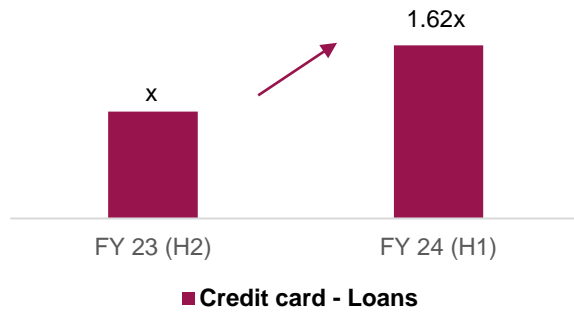
61% increase in Term Deposits business booked via nudges

1.61x

x

FY 23 (Till Aug'23)   FY 24 (Till Aug'23)

■ **Term Deposits**

2.1x lift in PL campaign efficacy

2.1x

x

Control   Test

■ **Personal loan disbursal**

Deepening   *Engagement*   *Service*

2.5x relative lift in campaign efficacy

2.5x

x

Pre   Post

■ **Billpay - Registrations**
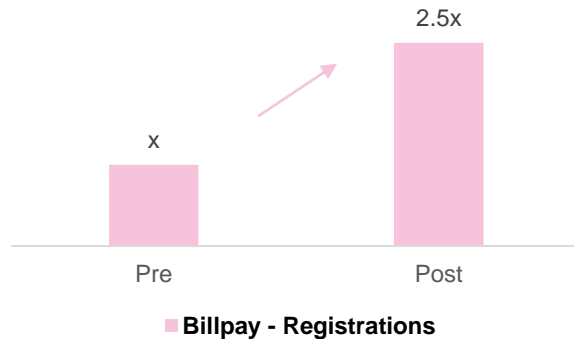
37% increase in average debit txn. per customer

1.37x

x

Control   Test

■ **SA NTB Onboarding**
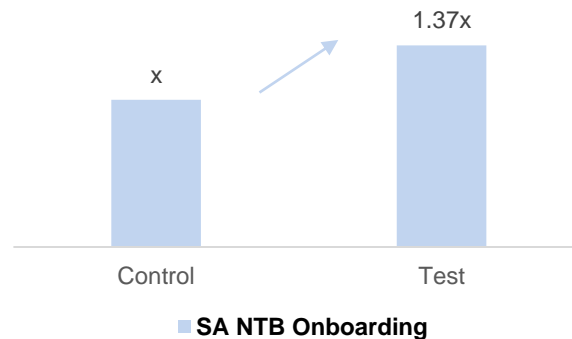
10% increase in digital adoption post E-statement nudge

1.1x

x

Control   Test

■ **E-statement**

Personalization now integrated with critical channels fostering an omni-channel experience – *direct to customer push*
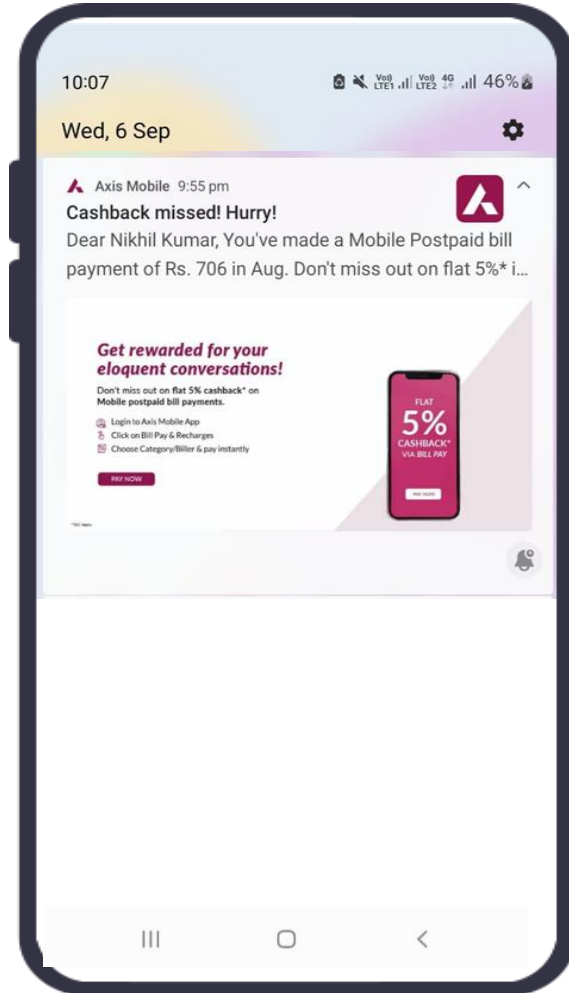
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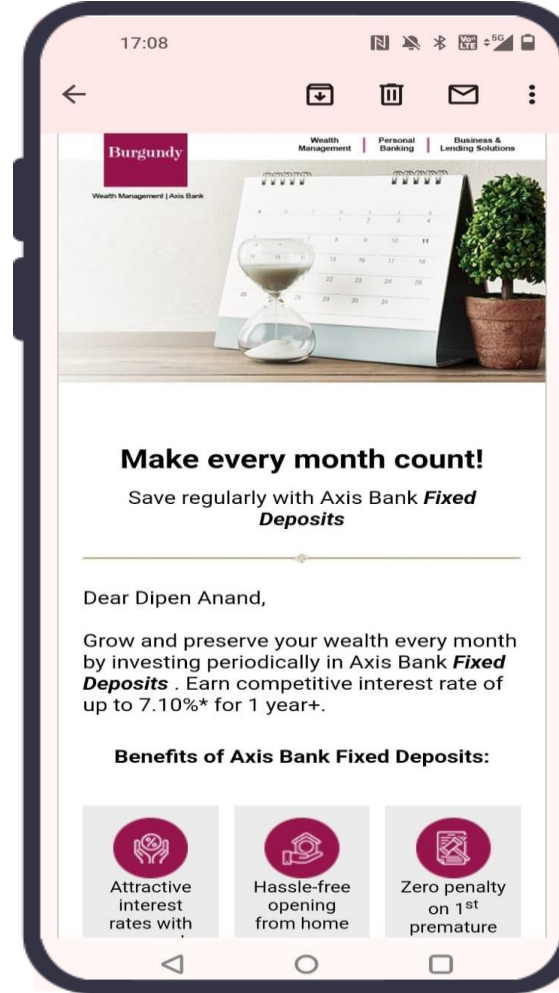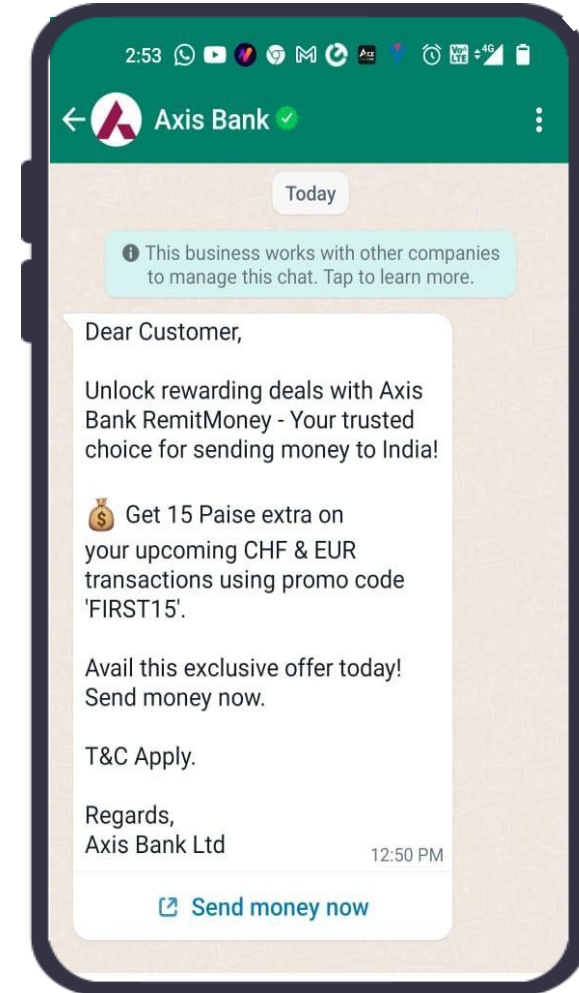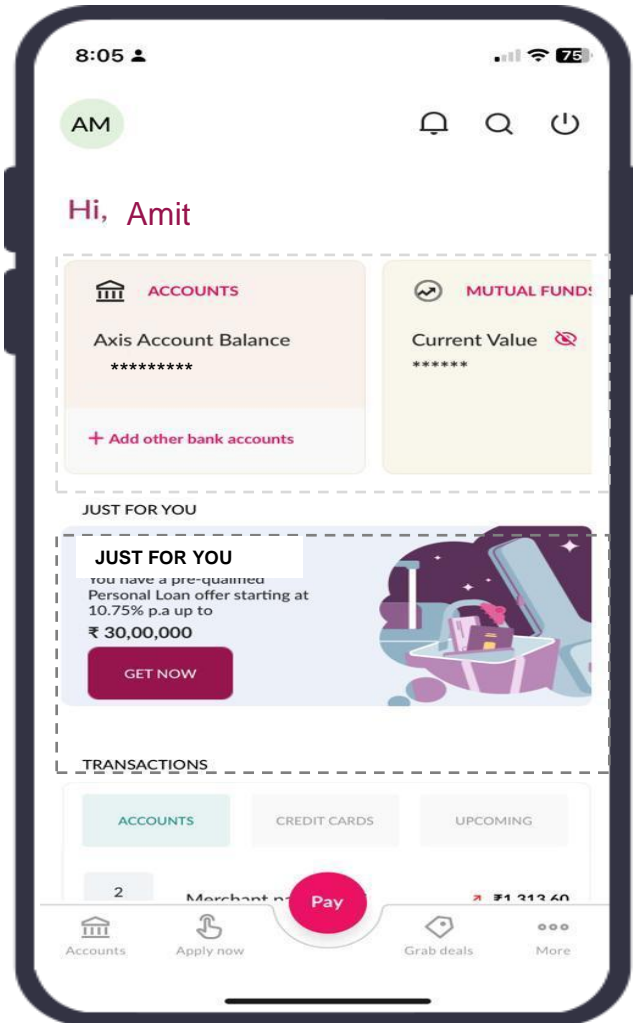| SMS	MB Push	Email	WhatsApp
Engagement via offers on credit-card spends	*Deepening via Bill pay service benefits*	*Cross-sell Fixed deposits to customers*	*Ask NRI customers to utilize Remit Money*
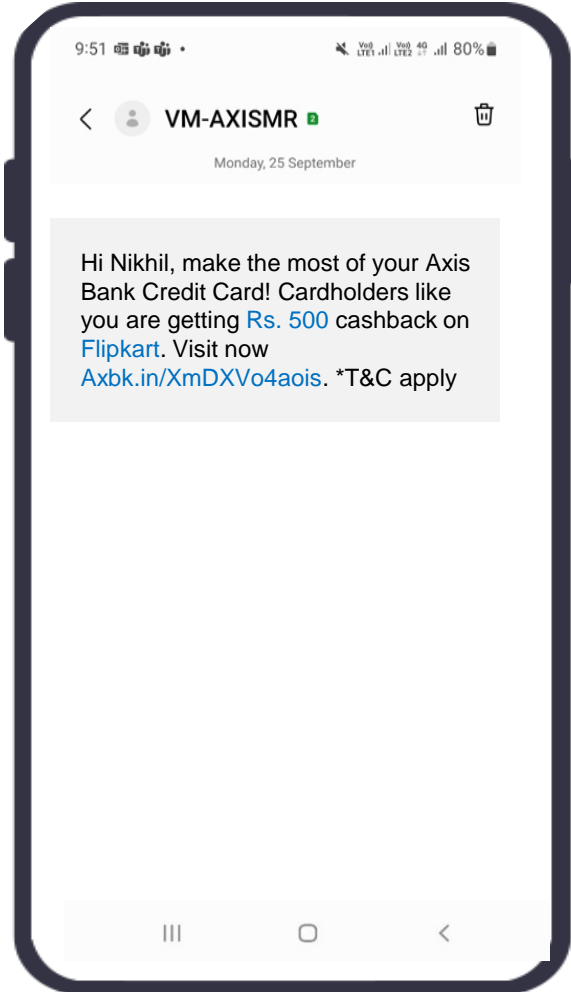
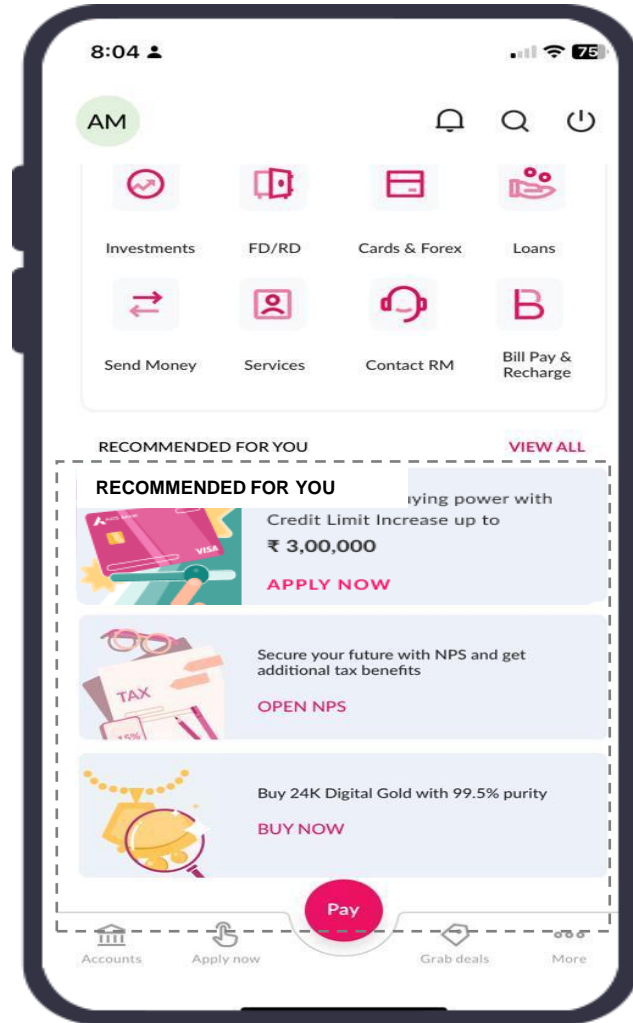# Personalization now integrated with critical channels fostering an omni-channel experience – *in App*

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Just for you
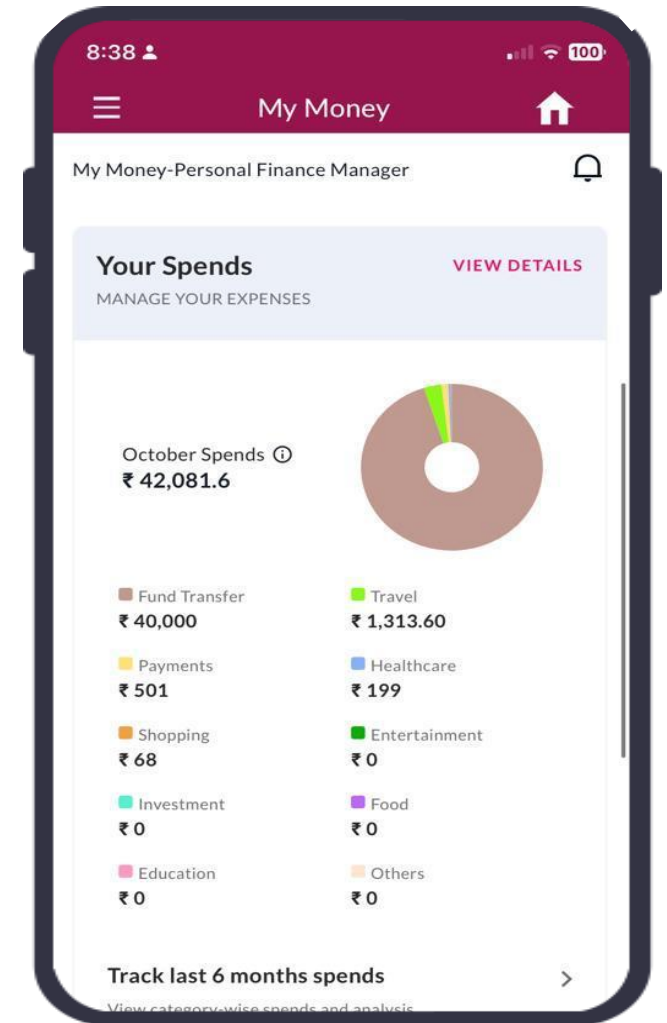*Cross-sell Personal loan based on priority*

Recommended for you
List of recommendations available with the customer

Personal finance manager
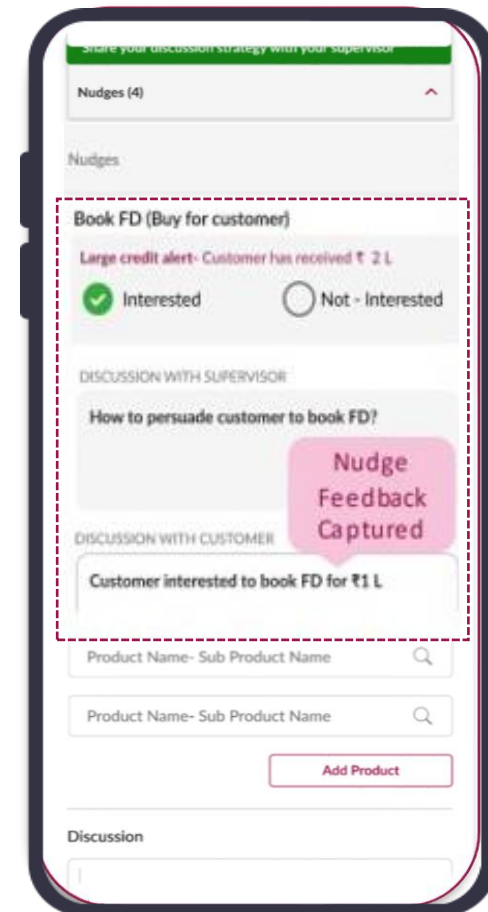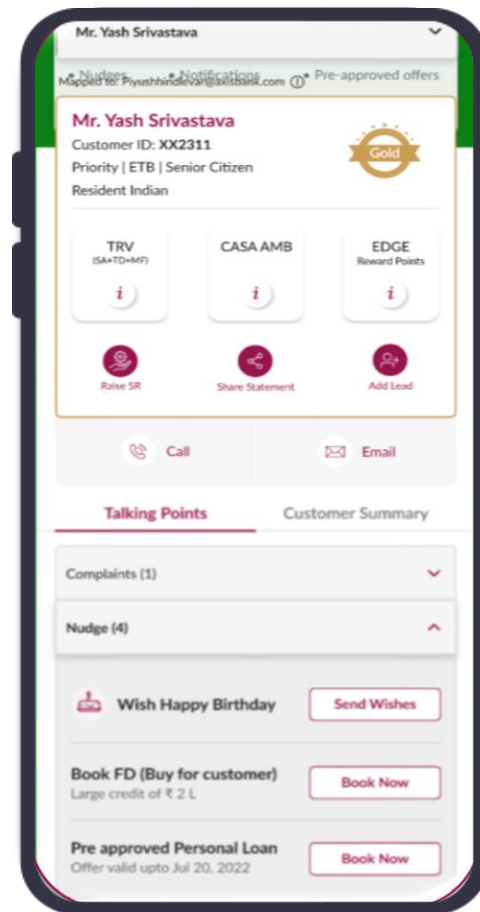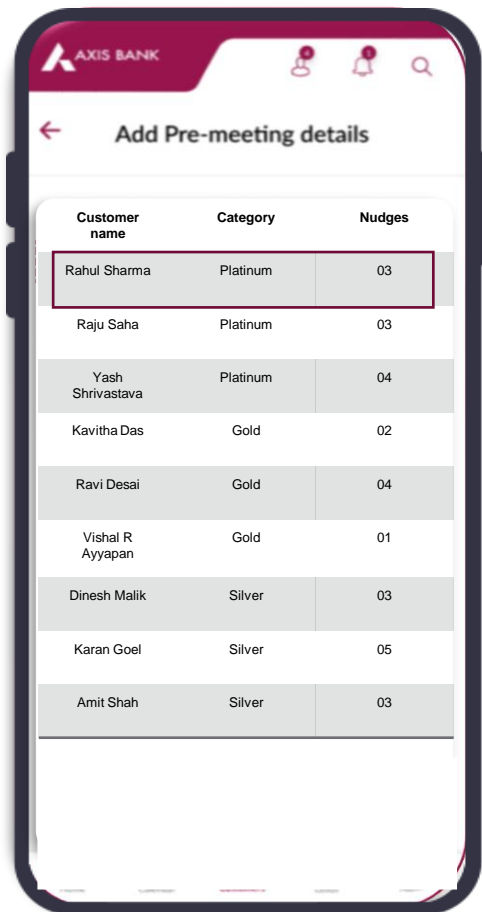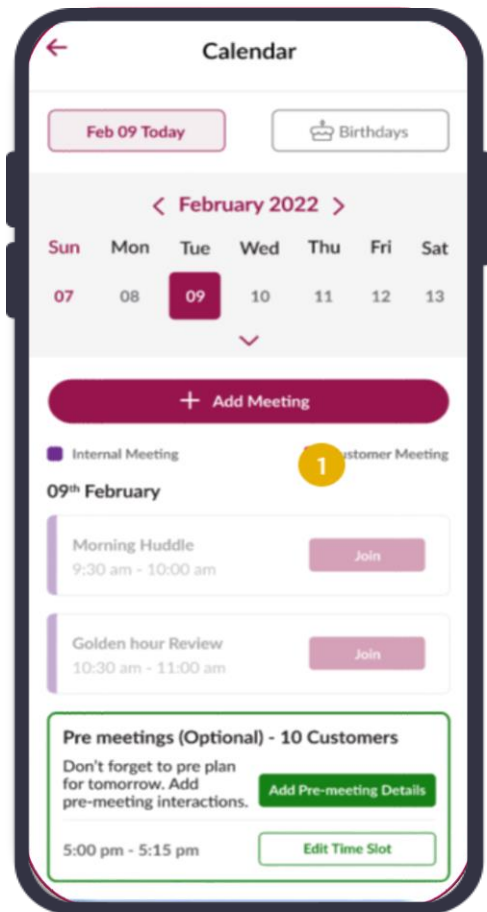*One-stop view exhibiting customer's personal finance*

Personalization now integrated with critical channels fostering an omni-channel experience – *relationship manager via Siddhi app*

Empowering RMs to become smart customer advisor

Customers mapped to RMs before the interaction   *Nudges available to the customer*   *Feedback captured*

2.5X growth in ETB + KTB cross-sell offers, leveraging analytical toolkits like personalization, risk-based pricing & digital journeys

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Enablers towards cross-sell growth

- ✓ ML based risk scorecards coverage improved by 15% Δ
- ✓ Income estimation model coverage improved by 28% Δ
- ✓ Enhanced cross-sell framework based on risk, pricing and tenor
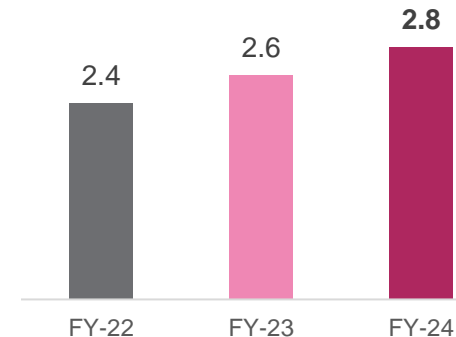- ✓ New products launched and journeys enablement
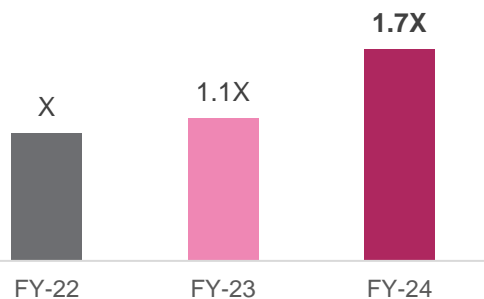
ETB customers qualified for cross-sell programs

FY-22	FY-23	FY-24
X	1.2X	1.5X
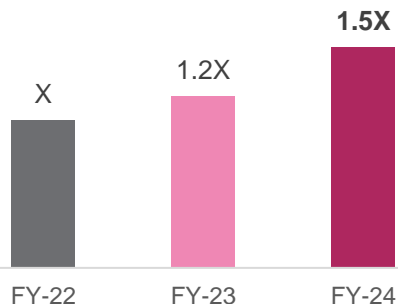
KTB customers qualified for cross-sell programs

FY-22	FY-23	FY-24
Y	2.2Y	2.9Y
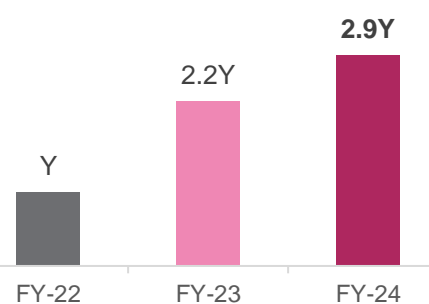
Average #Offers per customer **

FY-22	FY-23	FY-24
2.4	2.6	2.8

YoY growth in Retail Lending disbursals (Cr.)

FY-22	FY-23	FY-24
X	1.1X	1.7X

YoY growth in Credit Card acquisitions (Lac)

FY-22	FY-23	FY-24
X	1.3X	1.7X
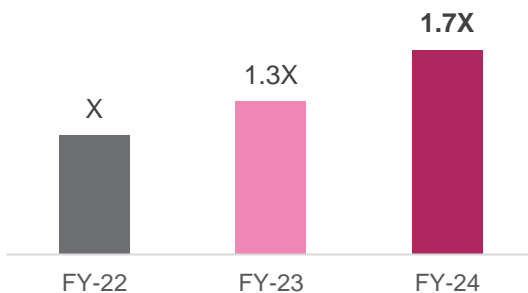
YoY growth in incremental Card Limits (Cr.)

FY-22	FY-23	FY-24
X	2.7X	4.4X
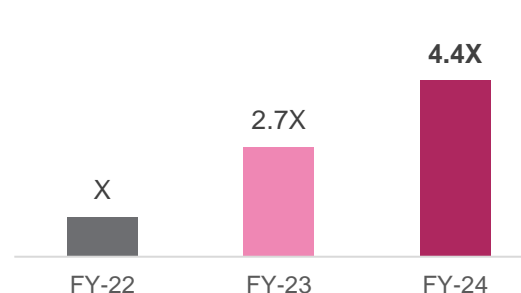
YoY growth in Gold Loan disbursals (Cr.)

FY-22	FY-23	FY-24
X	4.2X	6.6X
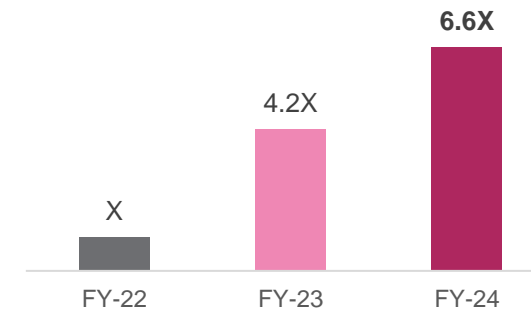
H1YTD
*** ETB offers per customer*

Leveraging alternate data via digital public infra, partnerships and enhanced internal capabilities to fuel lending growth

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Digital public infra	Partnership Data	Internal Capability
AA Bank Statement : ITR *Leveraging as orthogonal information in various lending processes*	**Partnerships** *Continued focus on newer partnership to increase KTB footprints every fiscal*	**Location intelligence** *Supporting best in class income estimation models using geo location data*
UPI / Bill Payment *Developed model leveraging UPI data to monetize 10cr + KTB customers*	**Satellite Farmland** *Used in rural credit-underwriting journeys*	**Company data asset** *Leveraging MCA data for risk categorization*
GST *Leveraging GST information in various lending decisions*	**Telecom** *Live in Free Charge BNPL Journey*	

Building proprietary capabilities using combination of alternate data and modern data stack to drive business outcome

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Example 1 - Recent partnership score to help source incremental cards & PL significantly
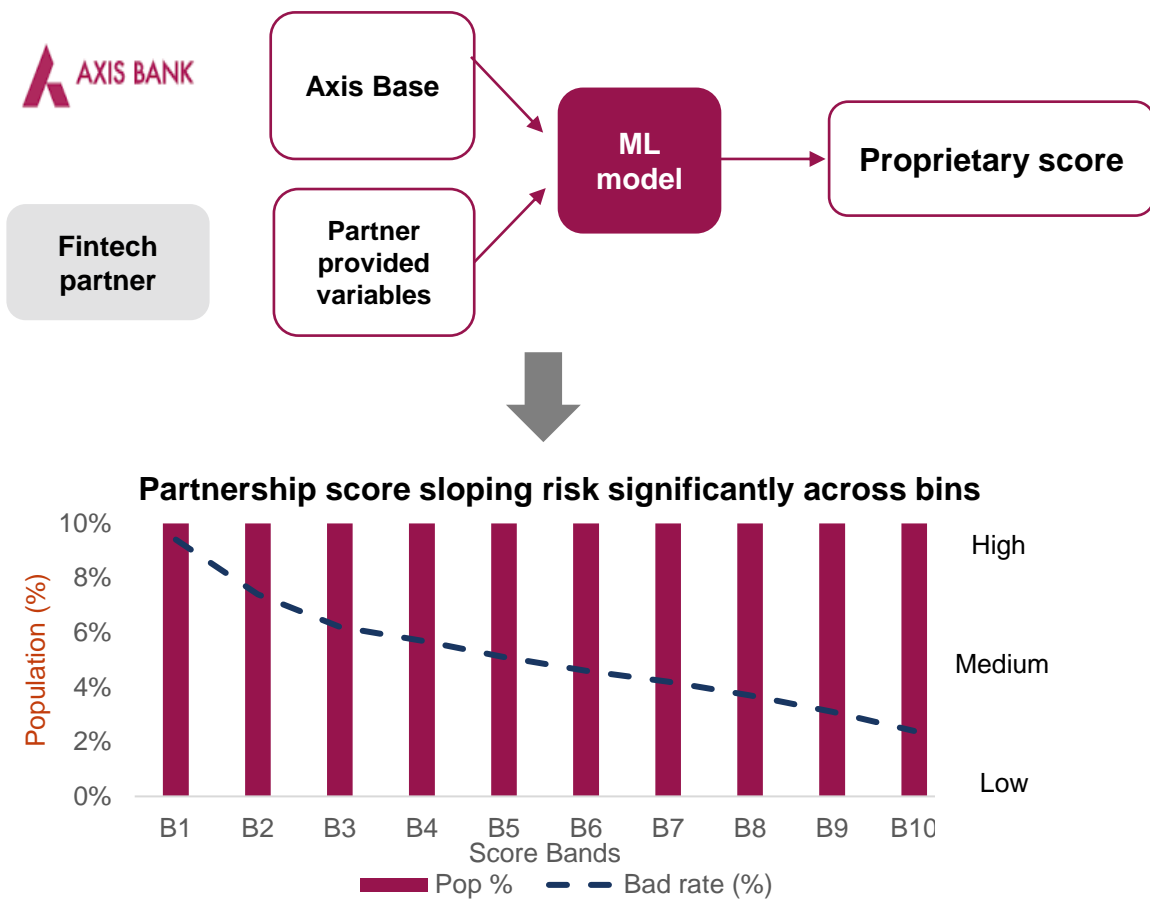
Model deployed in partner's ecosystem to run in a batch mode

Example 2 - Incremental sourcing in PL expected via account aggregator info

Developed & deploy in-house risk scorecard using account aggregator data, which includes features like –

Transaction history	Salary statement	Account details

Multiple transaction features splitting risk

Proprietary score
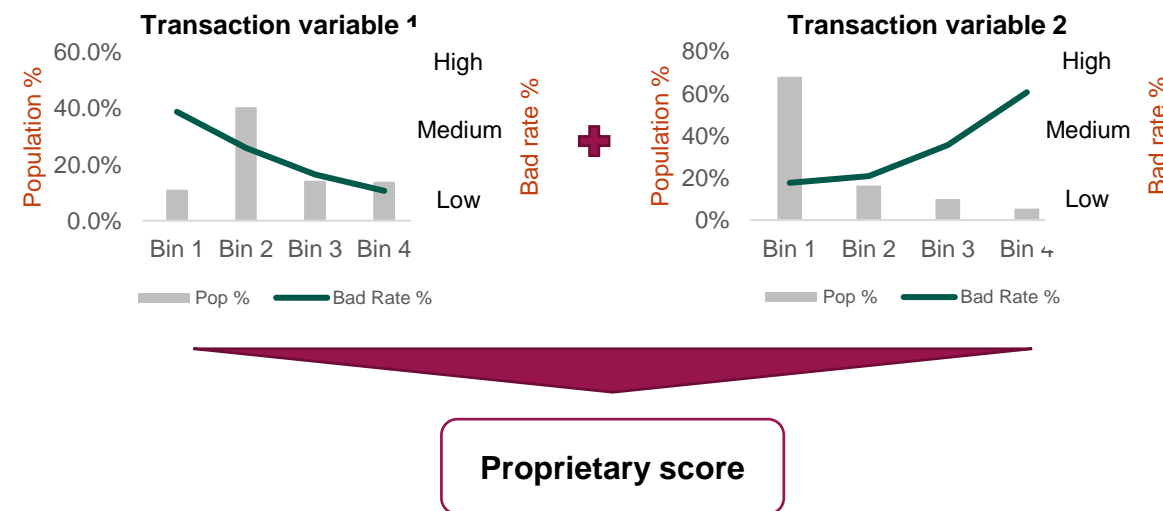
Seam-less digital journey build to leverage account-aggregator in real-time for credit decisioning

What defines the modern data stack – *key components and capabilities*

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1

Data ingestion batch & real-time

Extraction and loading of raw data from core systems / applications to a central data lake

2

Data quality and discovery

Framework to clean the data, profile and organize the data for better discovery

3

Data engineering workloads

Ability to transform and model the data for target processes / applications to consume

4

Data as a service
Self-service BI

Serving insights and business metrics via BI tools and APIs

5

Models and decision as a service

Business, policy logics and model decisions served for scalable decision management

We have built modern data stack enabling 1000+ use cases go-live and continue to invest in enhancing the same

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1	Data ingestion- batch & real-time	**30 Cr +** records ingested daily	**200+** real-time events	Informatica IICS · kafka · KSQL
2	Data quality and discovery	**40+** products covered	**5000 +** DQ rules configured	Informatica MDM · Informatica Enterprise Data Catalog
3	Data engineering workloads	**6000 +** ETL & data science jobs	**100 TB+** curated data marts	CLOUDERA · ORACLE Exadata
4	Data as a service	**3800 +** self service BI	**15000 +** nudge variants served	SAS Viya · Power BI · amazon DynamoDB
5	Models and decision as a service	**6 L +** API hits per day	**5000 +** business rules live	FICO® Blaze Advisor · FICO · TRIAD Falcon Strategy Manager

We continue to benchmark ourselves with a view to become best in class globally; good progress for personalization and alternate data initiatives
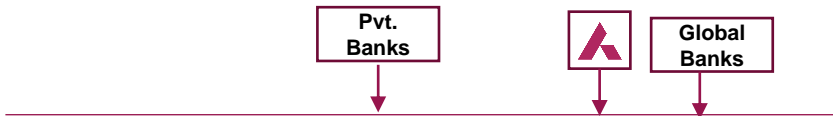
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How are we doing as compared to our peers?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Personalization

Pvt. Banks — Global Banks

Alternate data and database programs

Pvt. Banks — Global Banks

Modern data stack

Pvt. Banks — Global Banks

Agile operating model

Pvt. Banks — Global Banks

How have we done wrt last year?
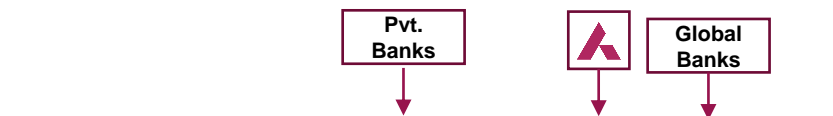
Metrics	FY23	FY24 (YTD)
# nudge variants	10,000	15,000+
# customer rich attributes	2,500	3,000+
# channels integrated	6	8
# Scorecards live	30+	35+
Offers per customer*	2.6	2.8
Disbursals via DB programs*	X	1.5 X
# self-service dashboards	2500+	3,800+
# engineering workloads	3,000+	6,000+
# business strategies	3,000+	5,000+
# Active pods	25+	30+

*ETB Metrics

Benchmarking done by internal and independent industry consultants

Basis internal and external factors, we have added 2 new initiatives in our distinctive journey

**Monetizing
Generative AI & LLM**
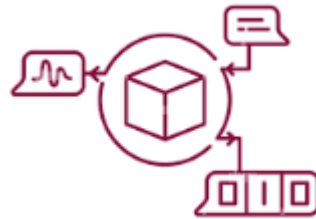
- Monetize GenAI for employee knowledge management and customer services

- PoCs in various business domains and experiment on varying datasets – *monitoring and guardrails for continuous learning*

**Revenue uplift via
balance sheet optimisation**

- Pricing optimisation
  - Risk-based granular pricing for assets and LTV based for fee products
  - Tenure based LCR optimised pricing for term deposits
  - Pricing as an API

- LCR optimisation

- Asset liability repricing tenure optimisation

Thank you

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