Crayon Data

Simplify the world's choices

Crayon: [ˈkrey-on]

first drawing tool for most of humanity

easiest tool for anyone to use , no instruction manuals needed

colourful tool for vivid story-telling

non-toxic

CrayonData: [ˈkrey-on dey-tuh] *circa 2012*

Platform or tool that made data simple to understand and easy to use

Enabled people to utilise data to improve their performance

Company that democratized the world of big data and AI

8-year old leading Big Data & AI Start-up, recognized on global platforms

Founders & Leadership

Suresh

Srikant

IVK

Bhavani

Aarti

Ajoy

Sunil V

Funding

jungle ventures

SPRiNG singapore
Enabling Enterprise

RNT ASSOCIATES

MITSUI & CO.,LTD.

nsi ventures

Kris Gopalakrishnan-
Infosys Co-Founder

Offices

100+ Tech & business team

Singapore & Chennai

Local presence in Dubai, UK, Myanmar

Awards & Accolades

Top 5, IBM Watson Global Developer Challenge

Finalist at CODE_n 2014 @ CeBIT, Hannover

Winner at TiECON, Silicon Valley 2014

Top 3 in Orange Fab Asia

Top 40 Vendors globally in the Digital Personalization space

Among top 15 finalists at Emerging Enterprise Awards 2019, Singapore

Special Jury Award in Analytics Solutions, Express IT Awards 2019

Chosen to Demo at FinovateEurope 2020

Global Deployments

KBZ BANK

Emirates

intel

citi

Emirates NBD

glh.

mashreq

AMERICAN EXPRESS

ADIB

HDFC BANK

Google

HSBC

bank btpn

ING

blibli.com

ANZ

PayPal

DBS

Billions of Consumers want to be celebrated for their individuality

Life is, and must be, all personal

Choice is abundant, so is (conflicting) information, wants it made relevant

Journeys must begin and end on digital

Thousands of traditional enterprise (banks, retail, airlines) leaders continue to treat them alike

Multiple engagement channels – DM, SMS, Email, Push Notification, Social platforms

Multiple tools (digital, analytics, CRM...) but still in "Spray & Pray" mode

Consumer attention slipping away

Margins under pressure

Scale of problem:
Massive.
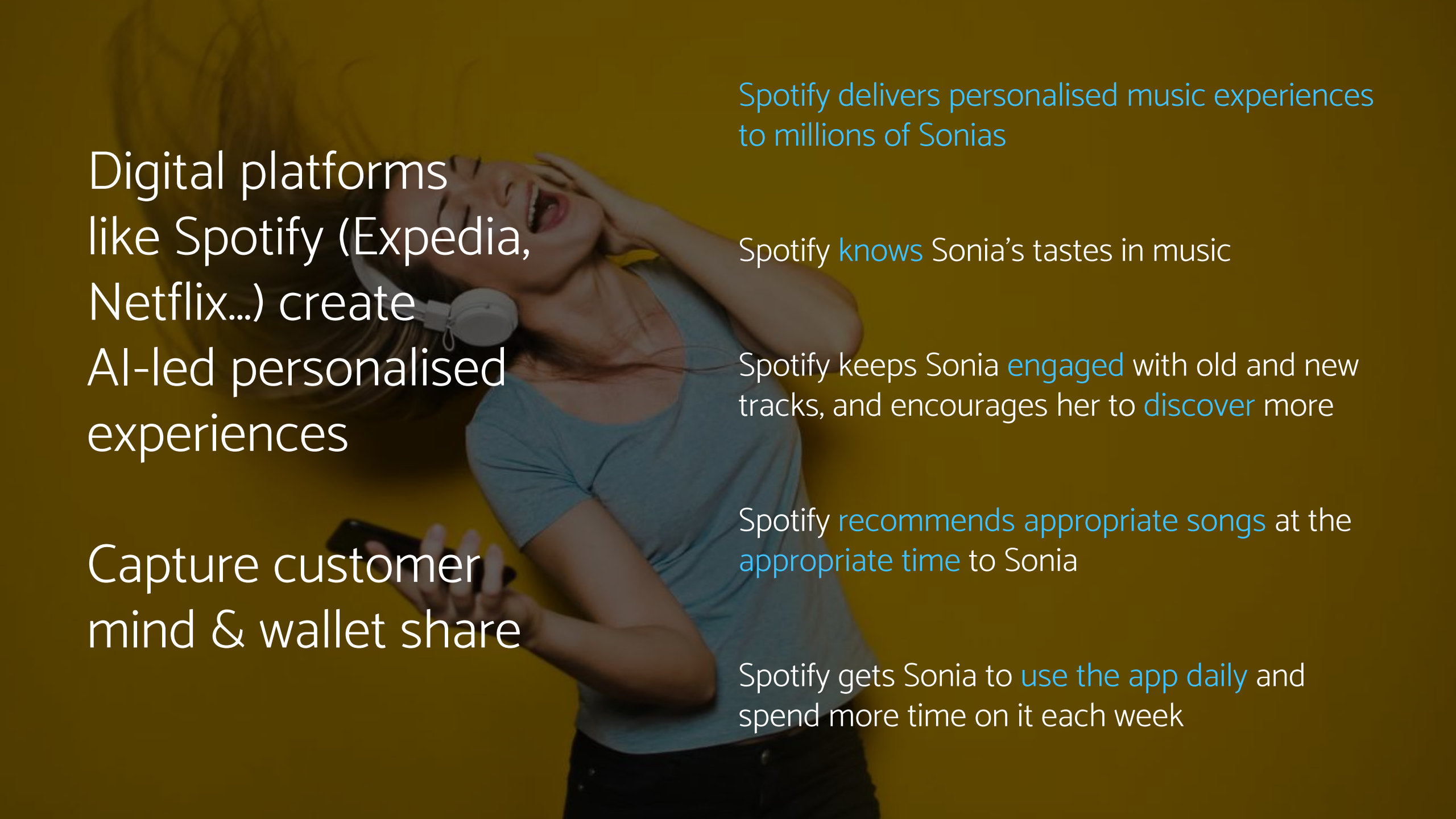
Billions of
irrelevant messages.
Every day.

Card holders: ~22bn

eCommerce visitors: ~58bn

Airline passengers : ~4.1bn

Hotel users : ~1bn

Digital platforms
like Spotify (Expedia,
Netflix...) create
AI-led personalised
experiences

Capture customer
mind & wallet share

Spotify delivers personalised music experiences
to millions of Sonias

Spotify knows Sonia's tastes in music

Spotify keeps Sonia engaged with old and new
tracks, and encourages her to discover more

Spotify recommends appropriate songs at the
appropriate time to Sonia

Spotify gets Sonia to use the app daily and
spend more time on it each week

200M customers, 140M songs, 28 quadrillion choices… providing 4-6 relevant choices is a non-trivial problem

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Profiling

Matching Recommendations

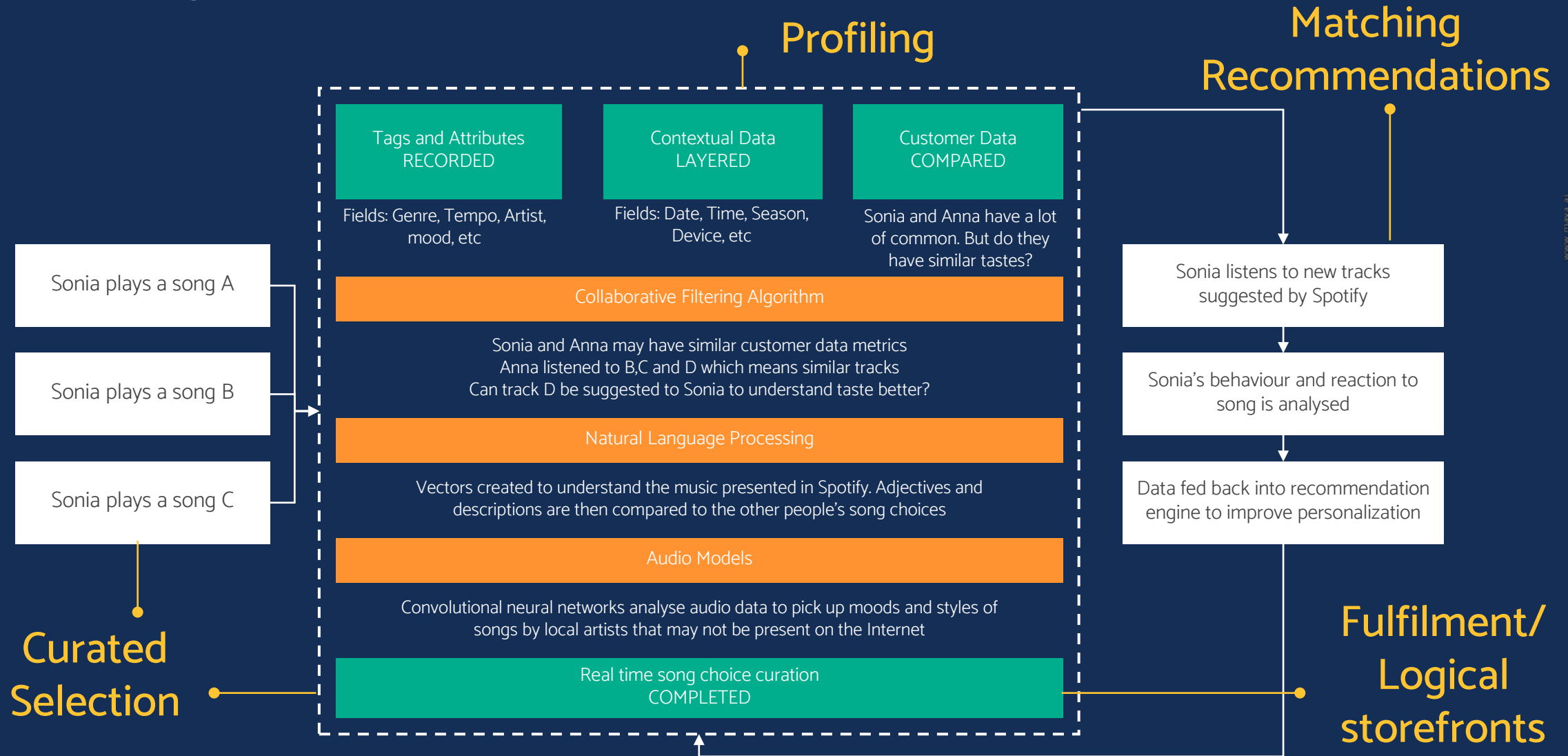| Tags and Attributes RECORDED	Contextual Data LAYERED	Customer Data COMPARED
Fields: Genre, Tempo, Artist, mood, etc	Fields: Date, Time, Season, Device, etc	Sonia and Anna have a lot of common. But do they have similar tastes?

Sonia plays a song A

Sonia plays a song B

Sonia plays a song C

Collaborative Filtering Algorithm

Sonia and Anna may have similar customer data metrics
Anna listened to B,C and D which means similar tracks
Can track D be suggested to Sonia to understand taste better?

Natural Language Processing

Vectors created to understand the music presented in Spotify. Adjectives and descriptions are then compared to the other people's song choices

Audio Models

Convolutional neural networks analyse audio data to pick up moods and styles of songs by local artists that may not be present on the Internet

Real time song choice curation COMPLETED

Sonia listens to new tracks suggested by Spotify

Sonia's behaviour and reaction to song is analysed

Data fed back into recommendation engine to improve personalization

Curated Selection

Fulfilment/ Logical storefronts

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Hard for enterprises to recreate this... challenges in use of big data, personalization & one-click fulfilment

Can be accessed on digital assets

Need for enriched merchant data

Ability to clean merchant and match across datasets including transactions, offers, external data, etc.

Algorithms that go beyond segmentation to look at customers individually
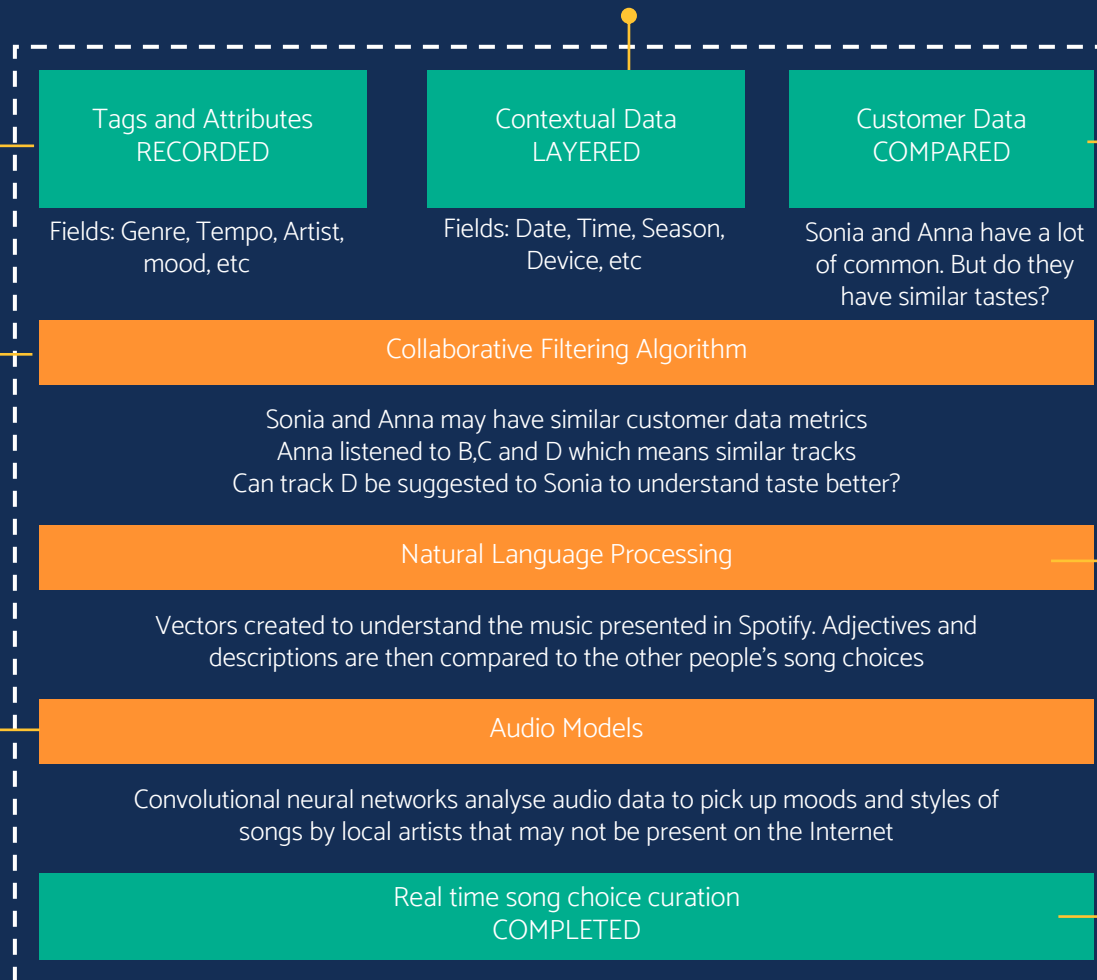
Strength of a bank

Purchases are the strongest evidence of intent and preference

Ability to analyse unstructured data, i.e. blogs, reviews, etc

Match customers to offers in real-time

Digital assets with unified experience and ability to take feedback

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Crayon designed

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to bring traditional enterprises the capability to create
Spotify like experiences at scale and speed

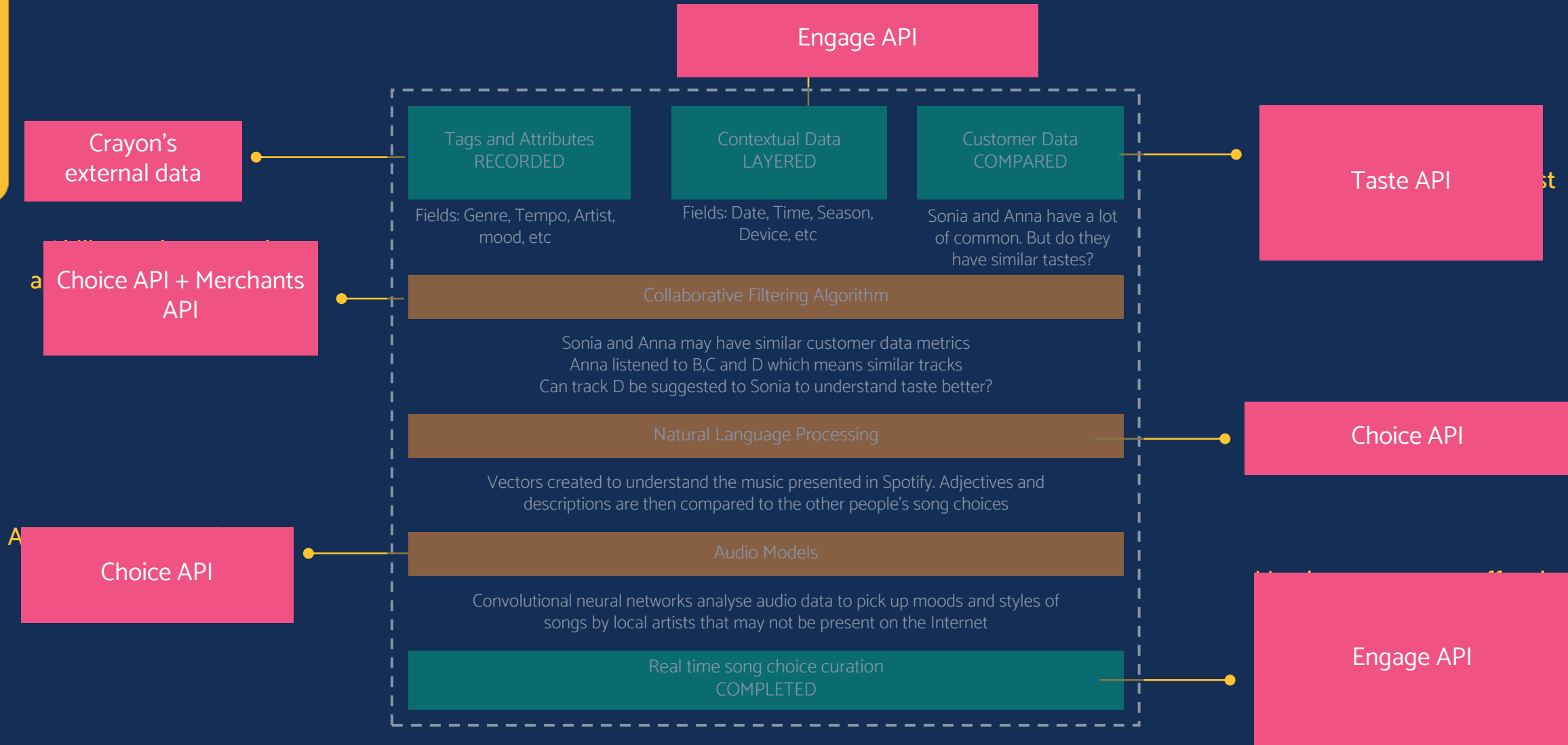## #UnlockWallets

Driven 3-7% increase in spends

#GetPersonal

Deliver personalised experiences across touchpoints to millions of customers

#AccelerateAI

From raw data to Personal Storefronts in 7 business days

maya.ai does this through one Choice API – delivering customer-merchant pair, rank ordered real-time & on-demand...

Engage API

Crayon's external data

Choice API + Merchants API

Taste API

Choice API

Choice API

Engage API

Tags and Attributes RECORDED	Contextual Data LAYERED	Customer Data COMPARED
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Real time song choice curation COMPLETED

Proven:
Across verticals, across geographies, at scale

✓ Onboarded 100mn+ customers

✓ ~130bn USD portfolio onboarded, analyzed 2bn+ transactions across banks

✓ 75mn customer taste-prints, analysed 135mn transactions, ~179bn USD spends

✓ Working with tier 1 global enterprises… delivering average 3-7% increase in spends

Case 1: International Card Issuer in ME

Challenges

- ✓ Inability to deliver personalized campaigns
- ✓ Couldn't activate dormant customers
- ✓ Difficulty in identifying external merchants to add to their portfolio and relevant merchants for offer acquisition
- ✓ High Campaign Execution TAT

maya.ai's Solution

- ✓ Suggested external merchants for acquisition into transaction portfolio
- ✓ Suggested merchants for offer acquisition
- ✓ Personalized campaigns based on objectives: Spends Stimulation & reduce dormancy
- ✓ Reduced campaign execution TAT by execution system (Salesforce) automation

Results

- ✓ Annualized Incremental Spends: 16.4 Mn USD
- ✓ Actual Incremental Spends : $4.1 Mn USD (over 3-month period)
- ✓ Customer Activation rate: 10% vs 7.5% (test vs. control customers)
- ✓ Campaign execution time improvement: Avg. 20 hours to 2 hours per campaign

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Case 2: Tier 1 Bank in Singapore

Challenges

- ✓ Inability to Identify relevant merchants for offer acquisition
- ✓ Couldn't drive incremental value
- ✓ Difficulty in delivering personalized campaigns
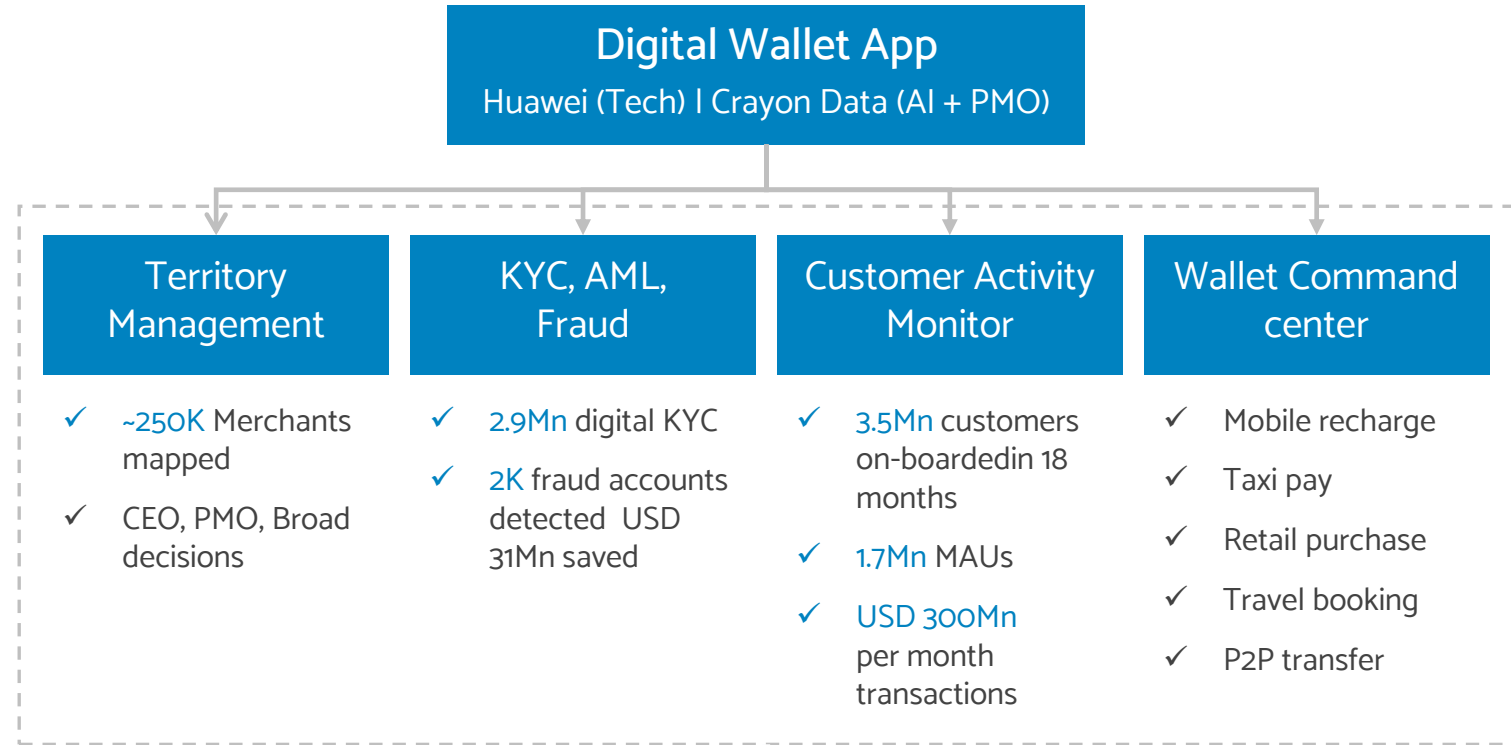- ✓ Challenge in controlling/reducing customer inactivity

maya.ai's Solution

- ✓ Delivered Weekly Email Campaigns
- ✓ Delivered special event-based campaigns
- ✓ Suggested merchants for offer acquisition
- ✓ Performance report measuring campaign performance, widget traffic etc.

Results

- ✓ Annualized Incremental Spends: 17.8 Mn USD
- ✓ Actual Incremental Spends: 20.8 Mn USD
- ✓ Campaign Response Rate: 2.2% vs 0.21% (Test vs Control)
- ✓ Campaigns executed: 76 Impressions Executed: 9.8 Mn
- ✓ Onboarded 456.5 K customers

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Case 3: Largest private bank in Myanmar

- ✓ 3 years as AI Partner for the Bank

- ✓ 3 Months to go from discovery to release of Data Lake

Digital Wallet App
Huawei (Tech) | Crayon Data (AI + PMO)

Territory Management	KYC, AML, Fraud	Customer Activity Monitor	Wallet Command center
✓ ~250K Merchants mapped ✓ CEO, PMO, Broad decisions	✓ 2.9Mn digital KYC ✓ 2K fraud accounts detected USD 31Mn saved	✓ 3.5Mn customers on-boardedin 18 months ✓ 1.7Mn MAUs ✓ USD 300Mn per month transactions	✓ Mobile recharge ✓ Taxi pay ✓ Retail purchase ✓ Travel booking ✓ P2P transfer

400+ Active Business users with 8-9.5 NPS

USD 40-60 Mn Inc Income generated	Winner: Best Domestic Bank (Asia Money 2019)	Winner: Best Digital Bank (Asia Money 2019)

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What sets us apart

maya.ai is different.
Not just another analytics tool

Patent driven AI
Privacy sensitive
End to end platform

maya.ai is patented

Integrates external & internal data.

Combines AI, big data and analytics.

Is privacy-sensitive

TasteGraph™: Power of external data
Unique map of global tastes, billions of data points

- 4.5mn restaurants | 1mn hotels | every attractions, merchant, shop…
- Graph methodology to calculate affinities even for sparse datasets

Choice AI: Latest ML algos, mirrors consumer choice
Patented cocktail of review, transaction, location, social and search data

Choice = f (Taste, Influence, Context, Behavior)

TasteMatch: Privacy sensitive
Uncovers tastes, by using entities, not people.

- Personally identifiable information (PII) neither needed nor shared with Crayon

Personal without PII

✓ Matching algorithms use data on each customer's behavior to infer their underlying tastes and find other entities for which they may have an affinity

✓ Entity based approach to mapping Tastes, uniquely personalize without using PII.

✓ Respect data privacy (Adapted to GDPR)
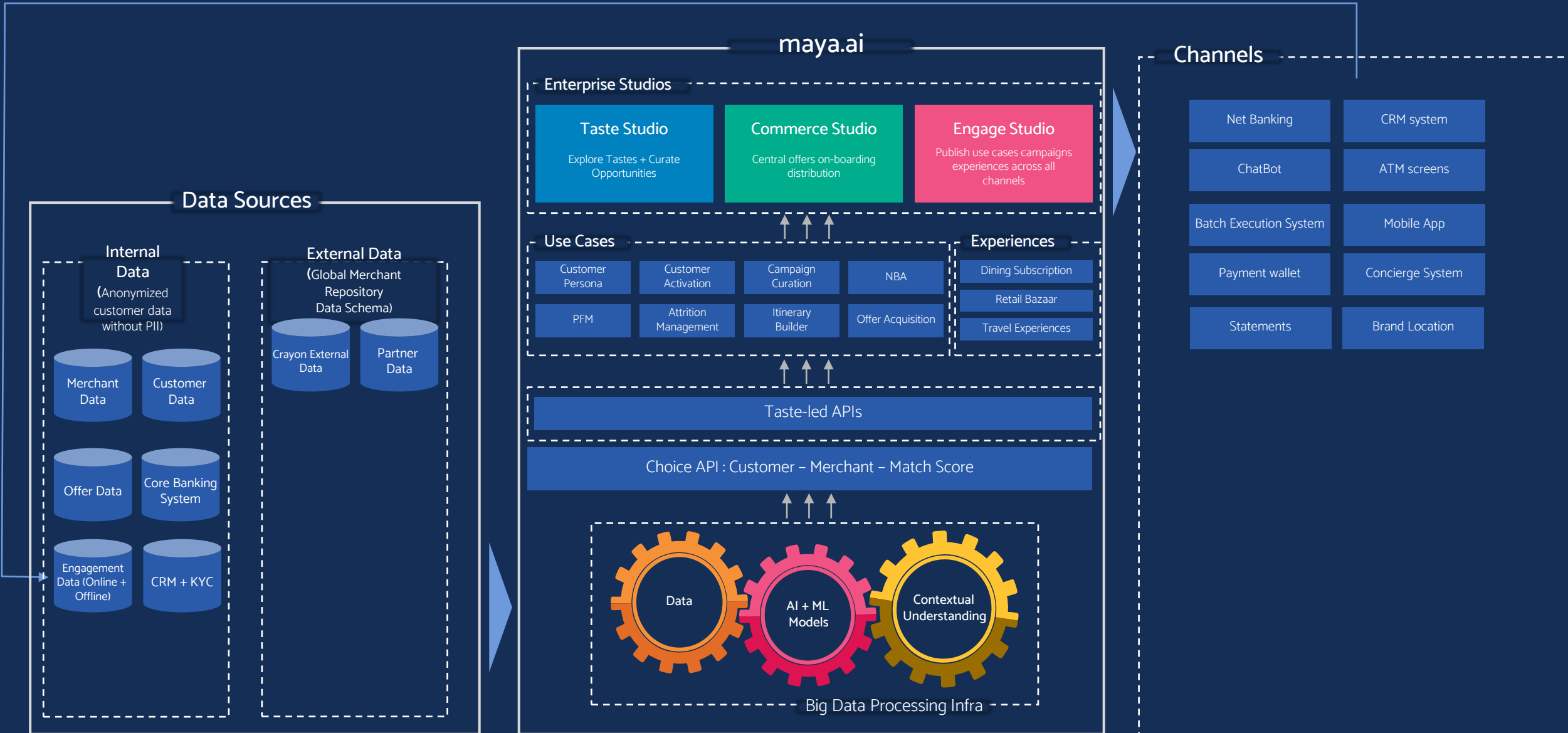
End to end platform with speed and scale

- ✓ From raw data to personal digital storefronts in 7 business days

- ✓ For millions of customers

- ✓ APIs that can be integrated to existing CRM systems like SFDC, SAS etc

- ✓ Studios that empower enterprise users across three axes – the enterprise, the consumer and the merchant
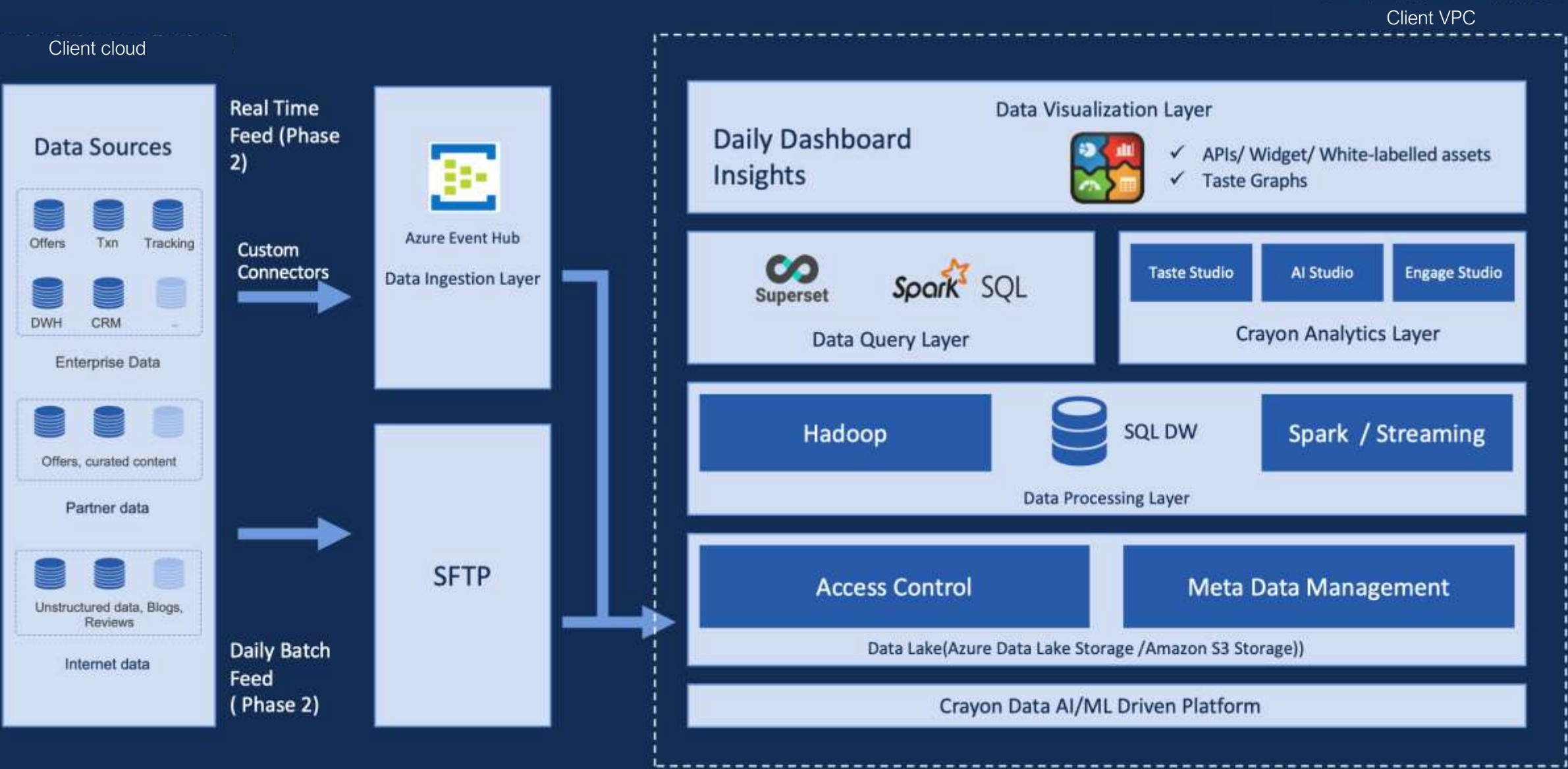
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Under the hood

The maya.ai platforms embraces complexity under the hood, to provide enterprises with high impact use cases that can drive relevance through all forms of customer engagement

Data Sources

Internal Data
(Anonymized customer data without PII)

- Merchant Data
- Customer Data
- Offer Data
- Core Banking System
- Engagement Data (Online + Offline)
- CRM + KYC

External Data
(Global Merchant Repository Data Schema)

- Crayon External Data
- Partner Data

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Enterprise Studios

Taste Studio	Commerce Studio	Engage Studio
Explore Tastes + Curate Opportunities	Central offers on-boarding distribution	Publish use cases campaigns experiences across all channels

Use Cases

Customer Persona	Customer Activation	Campaign Curation	NBA
PFM	Attrition Management	Itinerary Builder	Offer Acquisition

Experiences

- Dining Subscription
- Retail Bazaar
- Travel Experiences

Taste-led APIs

Choice API : Customer – Merchant – Match Score

Data | AI + ML Models | Contextual Understanding

Big Data Processing Infra

Channels

Net Banking	CRM system
ChatBot	ATM screens
Batch Execution System	Mobile App
Payment wallet	Concierge System
Statements	Brand Location

Technology stack that powers maya.ai's capabilities

Client VPC

Client cloud

Data Sources

Offers   Txn   Tracking

DWH   CRM

Enterprise Data

Offers, curated content

Partner data

Unstructured data, Blogs, Reviews

Internet data

Real Time Feed (Phase 2)

Custom Connectors

Daily Batch Feed (Phase 2)

Azure Event Hub

Data Ingestion Layer

SFTP

Daily Dashboard Insights

Data Visualization Layer

✓ APIs/ Widget/ White-labelled assets
✓ Taste Graphs

Superset   *Spark* SQL

Data Query Layer

Taste Studio   AI Studio   Engage Studio

Crayon Analytics Layer

Hadoop   SQL DW   Spark / Streaming

Data Processing Layer

Access Control   Meta Data Management

Data Lake(Azure Data Lake Storage /Amazon S3 Storage))

Crayon Data AI/ML Driven Platform

maya.ai simplifies life for enterprise users

✓ Taste Studio: Explore Tastes + Curate Opportunities

✓ Engage Studio: Publish ultra personal campaigns and experiences across all channels, basis use cases

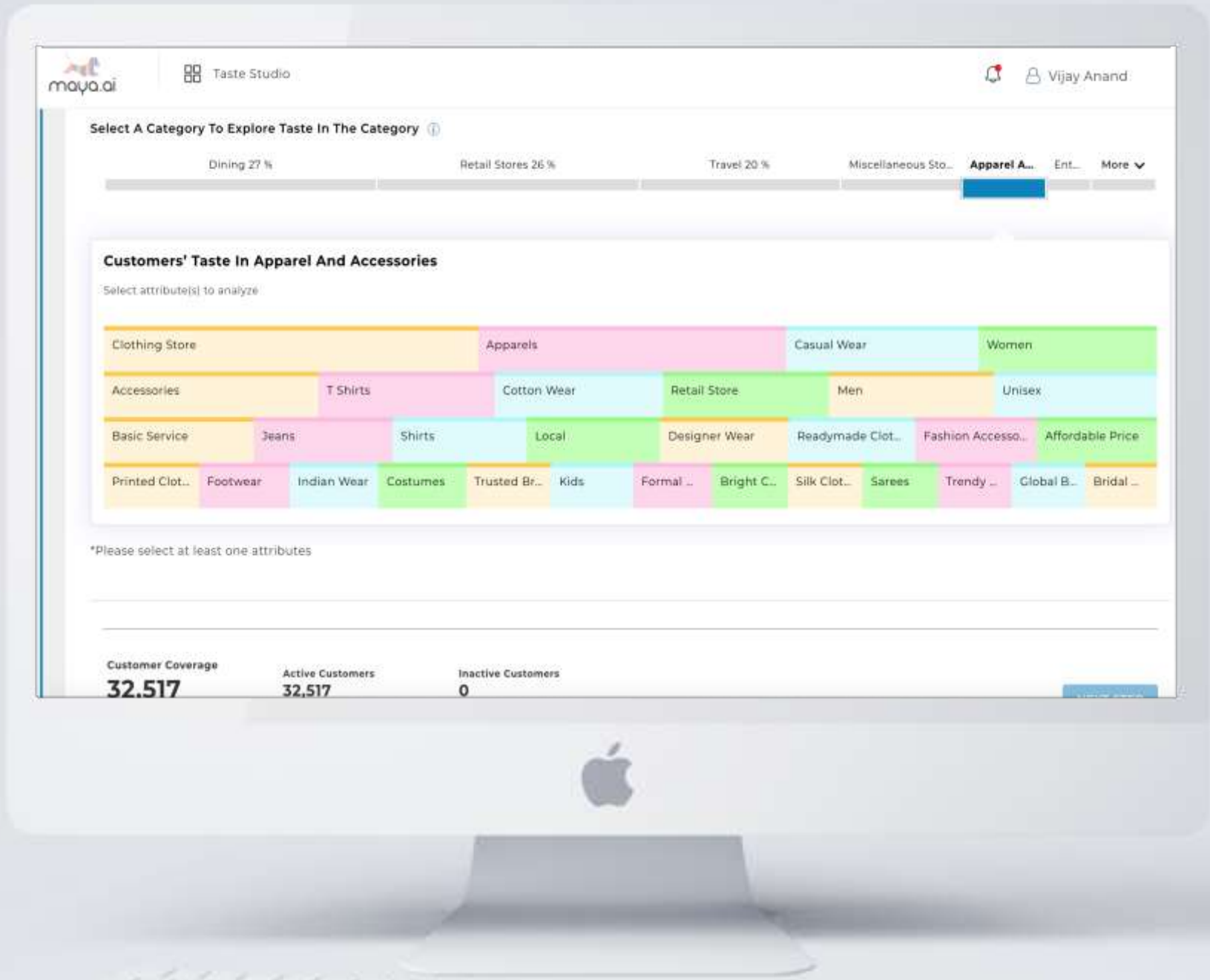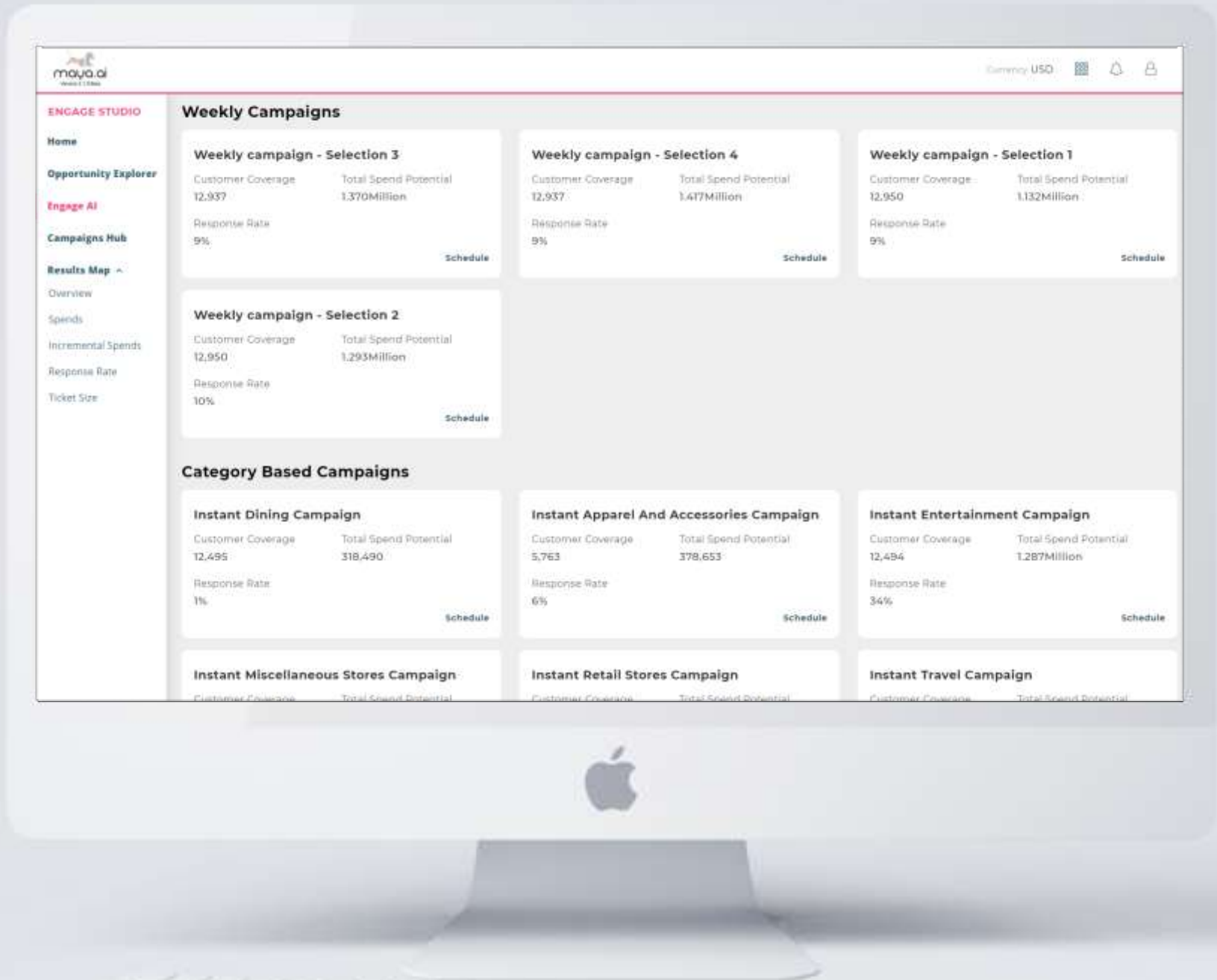✓ Commerce Studio: Central offers on-boarding & distribution

TASTE STUDIO
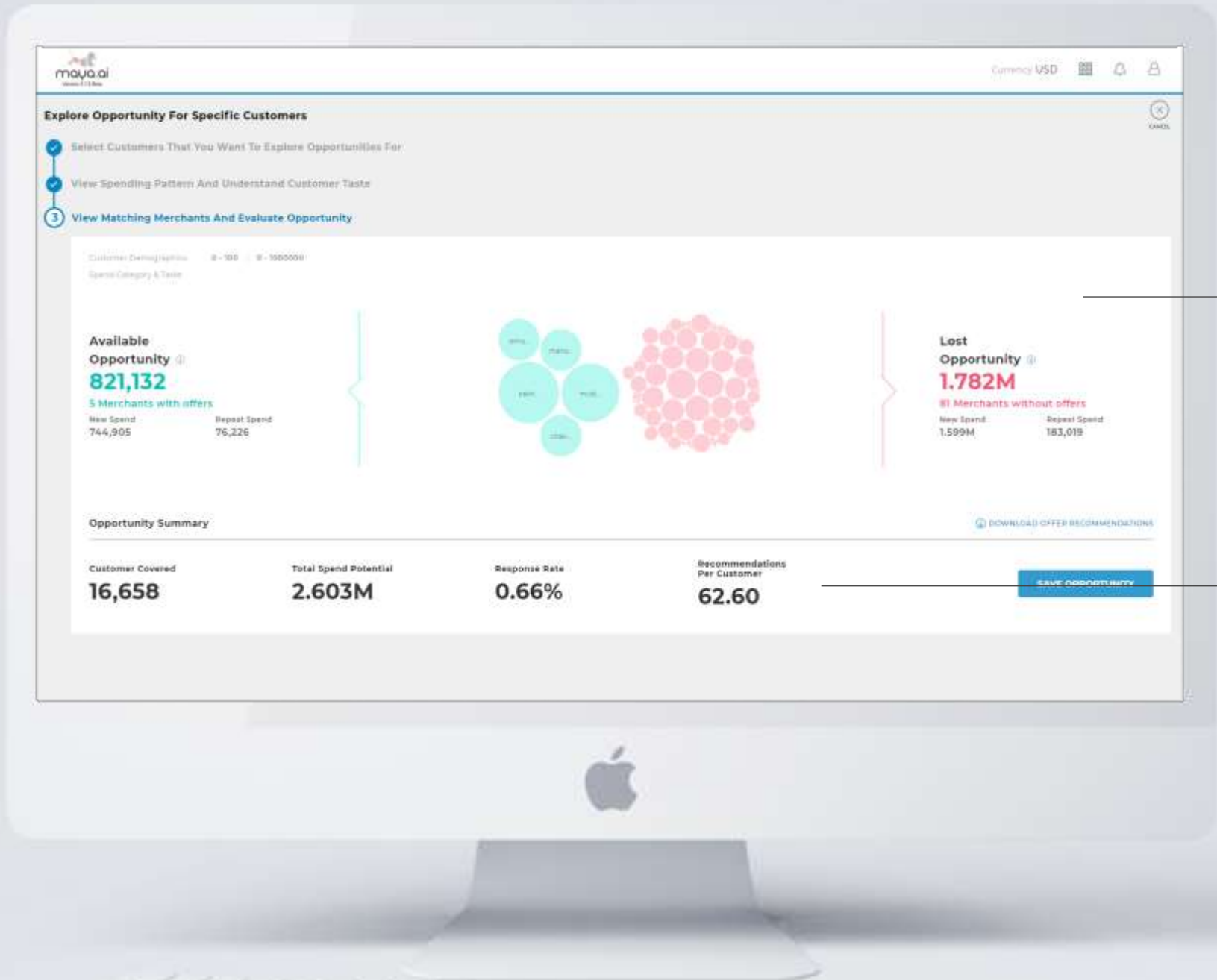
Analyze millions of customers' preferences in seconds

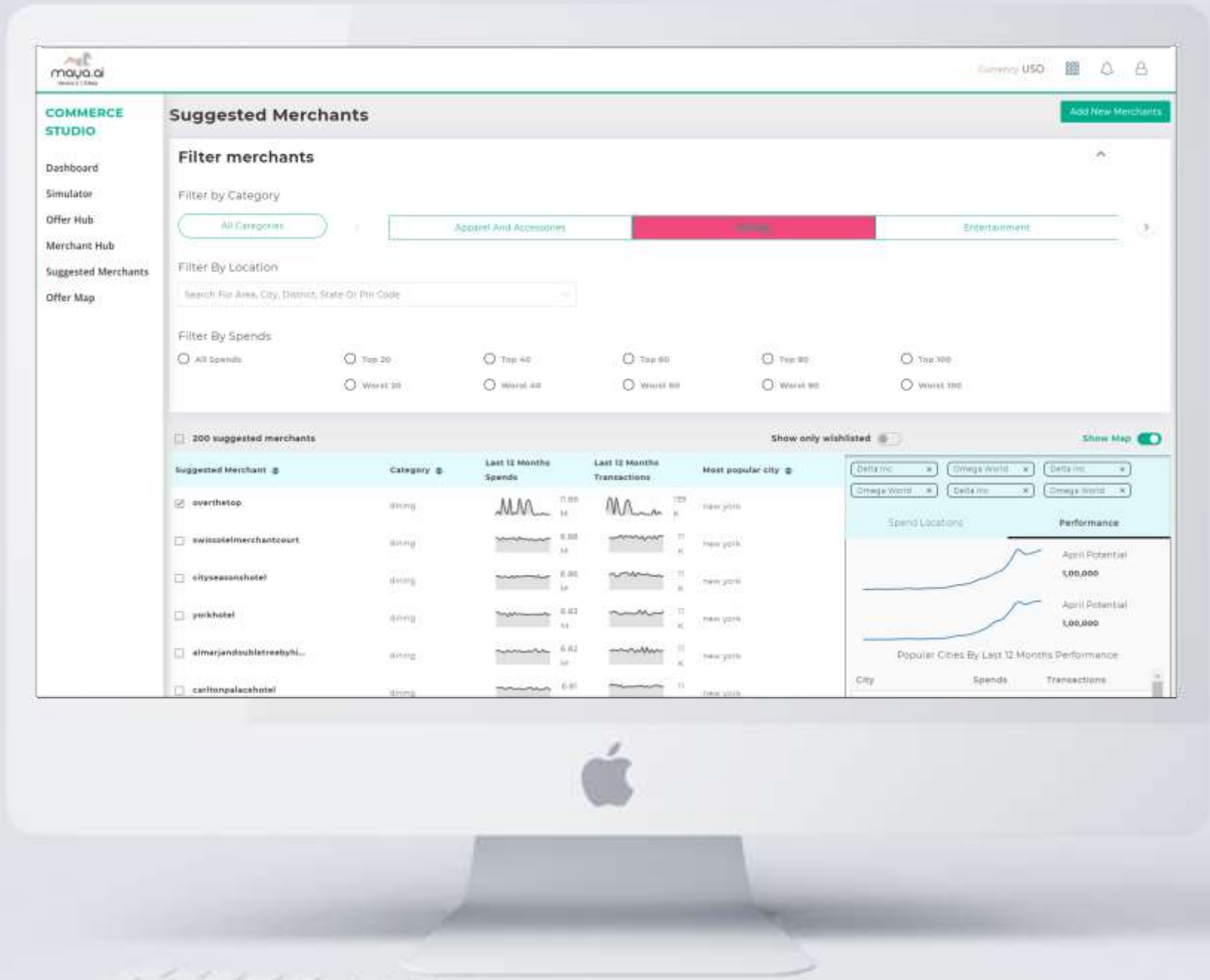Predict business impact accurately in a few clicks. Not in weeks.

ENGAGE STUDIO

Pre-curated campaigns optimized for various business objectives, ready to execute

Automatic tracking of all your campaigns across all channels.

COMMERCE STUDIO
Offer Management System

Recommends relevant and valuable offer merchants outside existing portfolio

Ability for enterprises to size impact of new merchant offer on bank portfolio

Thank You !

Visit us at: https://maya.ai/