SYNERISE

AI disruption or...

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14.03.2018

**AI disruption
or...
the great unification**
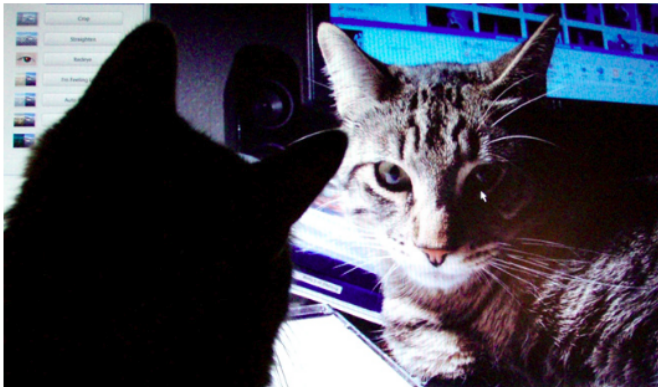
2012

WIRED STAFF SCIENCE 06.26.12 11:15 AM

GOOGLE'S ARTIFICIAL BRAIN LEARNS TO FIND CAT VIDEOS

By Liat Clark, Wired UK

2012

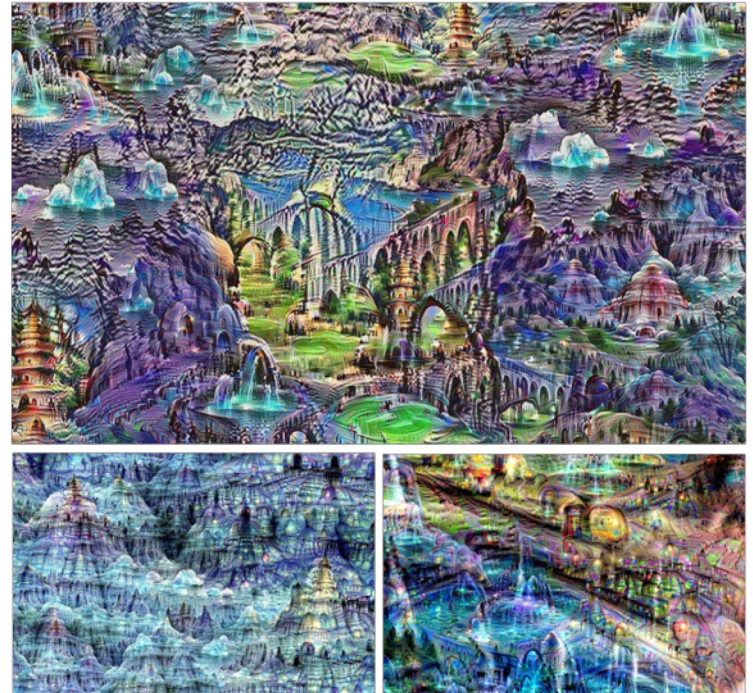2015

WIRED STAFF SCIENCE 06.26.12 11:15 AM

GOOGLE'S ARTIFICIAL BRAIN LEARNS TO FIND CAT VIDEOS
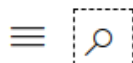
By Liat Clark, Wired UK

Microsoft

Research ∨

Achieving Human Parity on Automatic Chinese to English News Translation

Hany Hassan Awadalla, Anthony Aue, Chang Chen, Vishal Chowdhary, Jonathan Clark, Christian Federmann, Xuedong Huang, Marcin Junczys-Dowmunt, Will Lewis, Mu Li, Shujie Liu, Tie-Yan Liu, Renqian Luo, Arul Menezes, Tao Qin, Frank Seide, Xu Tan, Fei Tian, Lijun Wu, Shuangzhi Wu, Yingce Xia, Dongdong Zhang, Zhirui Zhang, Ming Zhou

View Publication

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SYNERISE

HOWTO? AI

AI which can understand people faster, better and
on a massive scale.

Legacy and Neural channel attribution models

Churn Prediction and Customer Lifetime Value

Optimal send-time analysis

Client scoring

Causal effect interaction analysis

One-click dynamic content optimization

AI/CRM

AI-driven product segmentation and data enrichment

Ai-driven customer segmentation

Segment-specific recommendations

Prediction and anomaly detection

Conversion path exploration

Bayesian A/B testing

AI which can help businesses grow
by understanding their customers better.
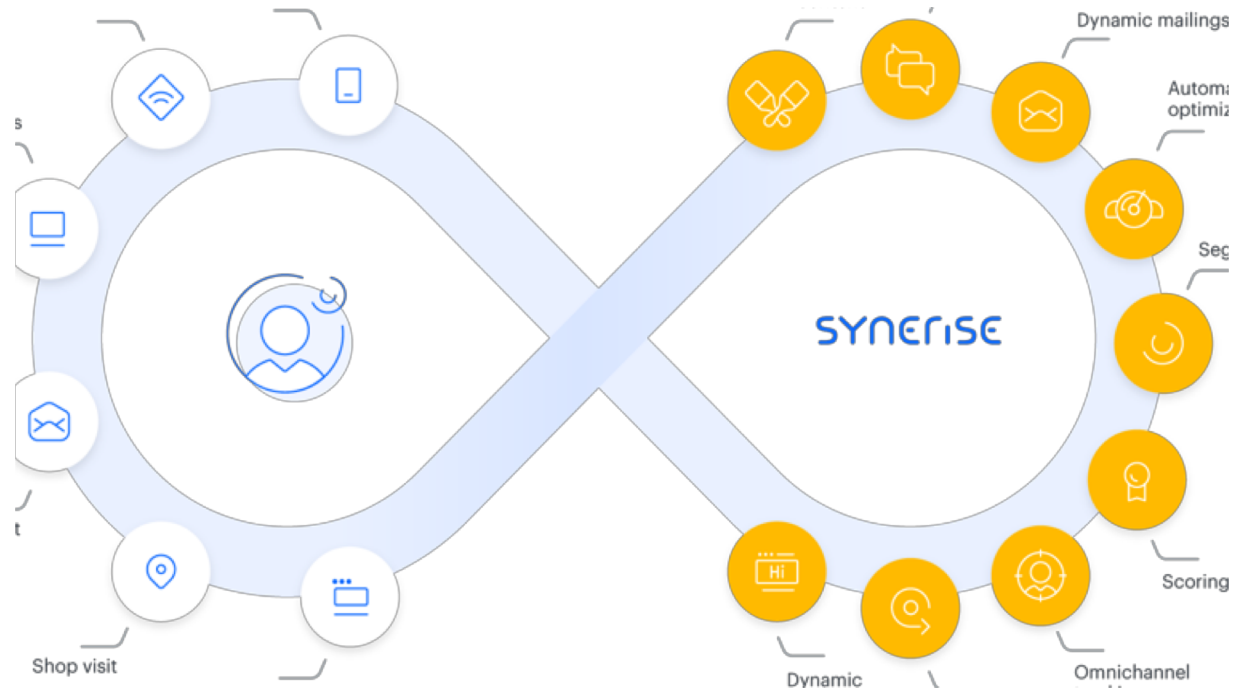
Basic recipe for utilizing behavioral AI:

1. **Collect** data from all channels in real-time

2. Apply AI to **understand** behaviors and their causes

3. **Personalize** every interaction beyond what's imaginable

4. **Create** a unique experience crafted 1-1 for the customer

5. Constantly **learn & improve** based on collected data
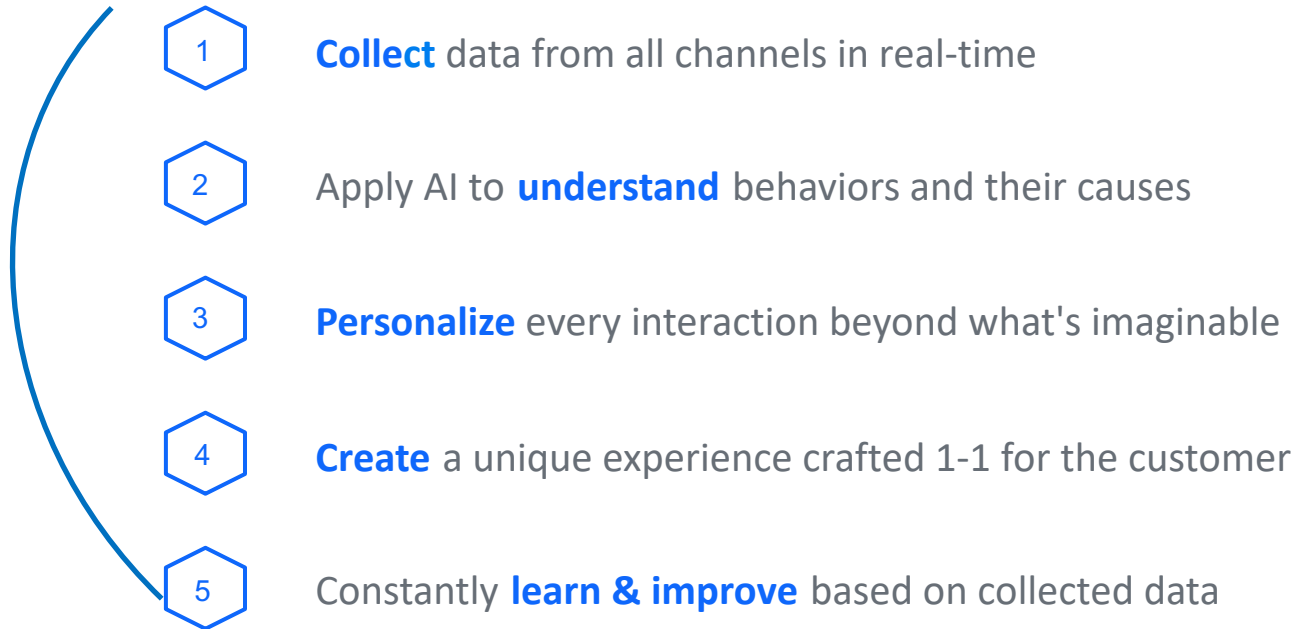
STEP 1: Set extremely ambitious goals.
(the business part)

1   Collect data from **all possible sources** in **real-time**

2   Support **heterogeneous, schemaless, evolving** data sources

3   Handle **all possible use-cases** across **all business sectors**

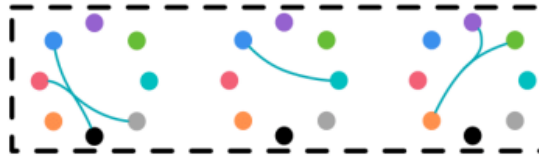**4**   Scale it out to **billions** of people, **trillions** of interactions

5   Make business execution possible in **milliseconds**

STEP 2: Generalize the problem well.
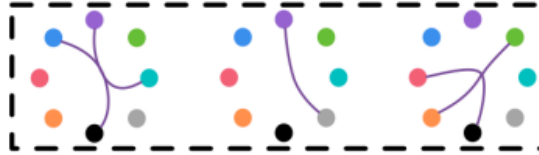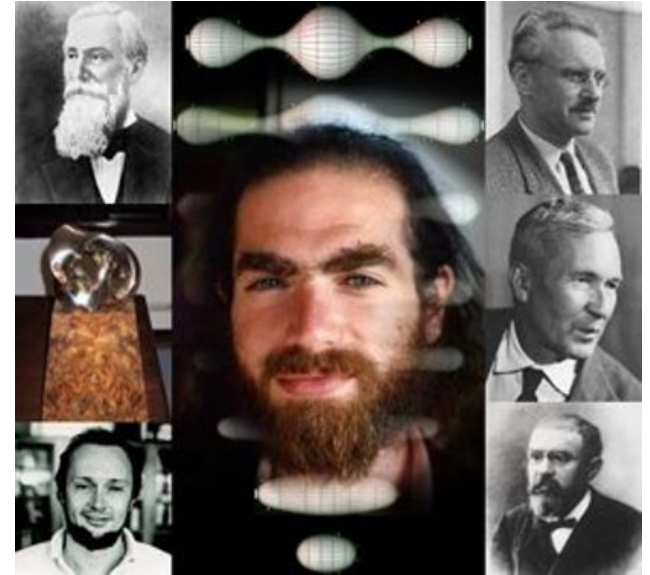*(the science part)*

STEP 2: Generalize the problem well.
(the science part)

Partial-Order Hypergraph

Network — **embed** → Low dimensional space — **applied to** →

$$
\begin{array}{ccccc}
0 & 0 & 1 & 1 & 1 \\
0 & 0 & 1 & 0 & 1 \\
1 & 1 & 0 & 1 & 0 \\
1 & 0 & 1 & 0 & 0 \\
1 & 1 & 0 & 0 & 0 \\
\end{array}
$$

Adjacency matrix

Vector based representation
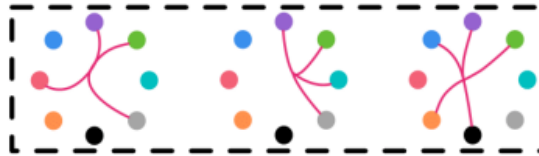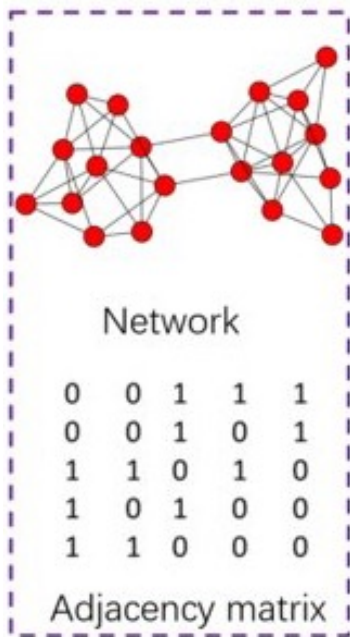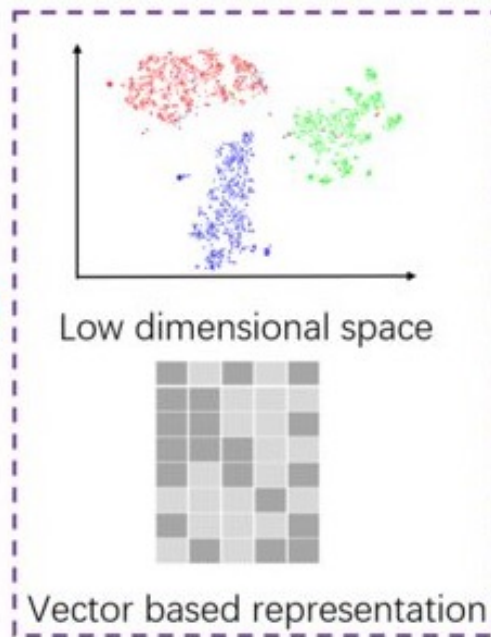
☐ Node importance
☐ Community detection
☐ Network distance
☐ Link prediction
☐ Node classification
☐ Network evolution
☐ ...
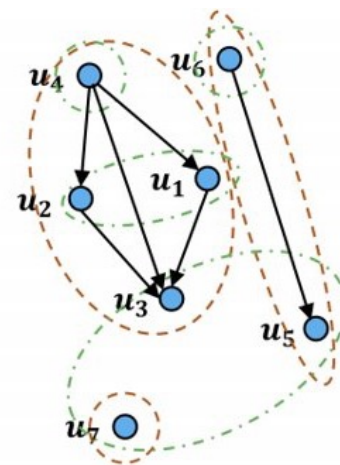
STEP 3: Solve the generalized problem.
(the engineering part)

Synerise DB Storage

4x faster than state of the art in-memory stores

Data

Synerise AI

Utilizing any & all data for every single use-case.

Models

Synerise APP Framework

Build any fintech/martech/big data app in 24h via APIs.

Execution

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An existing database / data lake?

Some classic ML methods like random forest?

A dedicated method for every problem?

A classic approach for every business sector?

Ready available, published algorithms?

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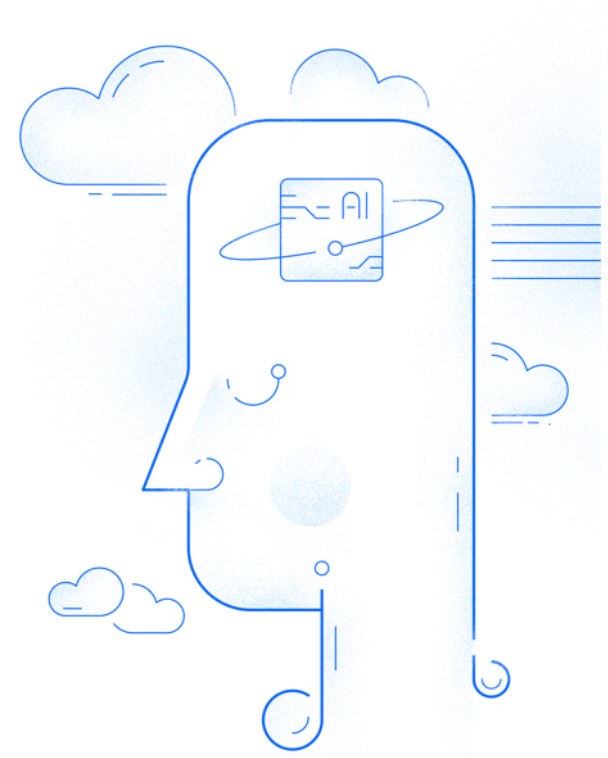
We must be ready today for what's coming tomorrow

1. Collect data from **all possible sources** in **real-time**

2. Support **heterogeneous, schemaless, evolving** data sources

3. Handle **all possible use-cases** across **all business sectors**

4. Scale it out to **billions** of people, **trillions** of interactions

5. Make business execution possible in **milliseconds**
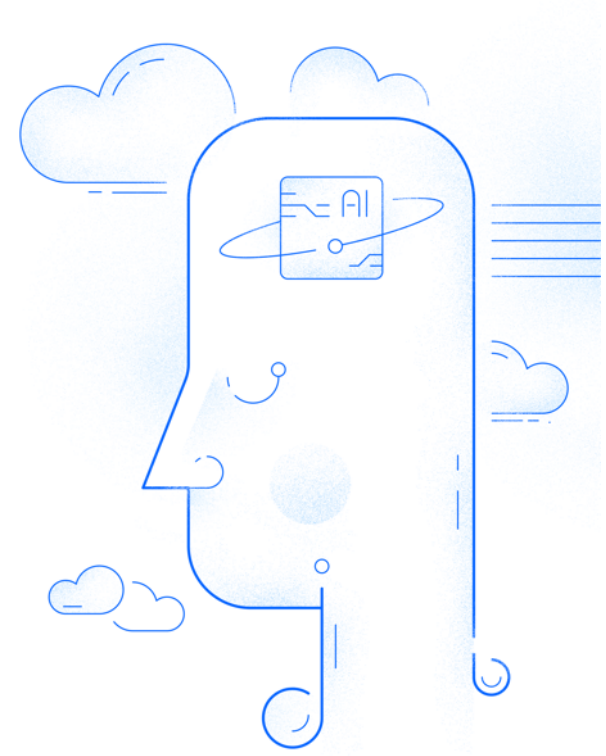
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Get ready for a(i) ride

Looking East

SYNERISE

Define banking of the **near future**

A convenient way to send money to your contacts.

QQ Coins are Tencent's digital currency. They're used in games and to pay for things in the Tencent universe.

A convenient way for a group of people to split the bill.

This area is for third party companies to develop apps that run on WeChat's platform.

Nearly 450 million people use Didi Chuxing, China's largest ride sharing company. This area provides in-app access.
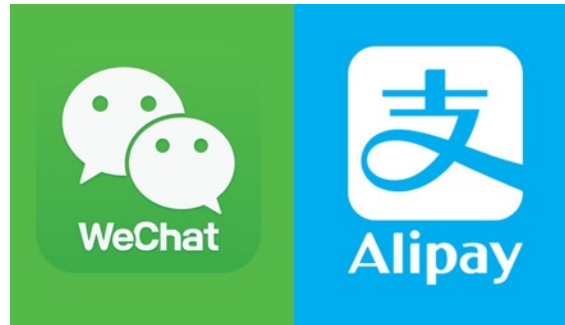
Dazhong Dianping is a group buying brand that is similar to Groupon.
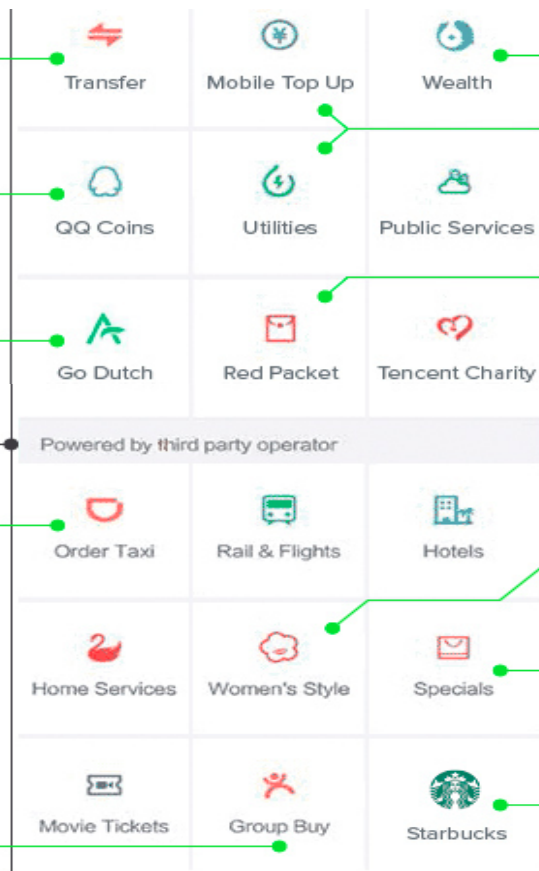
Access to WeChat's wealth management products.

An easy way to pay your utility and phone bills.

During Lunar New Year in 2017, WeChat users sent over 14 billion digital red packets!

Access to MeiLiShuo, a Pinterest-like website that enables women to find personalized clothing and skin care products.

Access to deals via e-commerce company, JingDong. JD is the world's third-largest internet company by revenue.

A few Western brands can now be integrated into WeChat wallet.

Transfer · Mobile Top Up · Wealth
QQ Coins · Utilities · Public Services
Go Dutch · Red Packet · Tencent Charity
Powered by third party operator
Order Taxi · Rail & Flights · Hotels
Home Services · Women's Style · Specials
Movie Tickets · Group Buy · Starbucks

SYNERISE | Define banking of the **near future**

Convenient Life

Phone Top-up	Card Repay	Utilities	City Service
Lifestyle	Right Here	Help Center	My Packages
HealthCare	Activity	Gasoline	E-Invoice
Ant Sim	Oversea Data	My Car	Feeds
Ant service	ShareBike	Sports Servi...	

Wealth Management

Yu'E Bao	Credit Pay	Zhima Credit	Ant Fortune
Stock	Insurance	Currency	Fin-tools

SYNERISE | Define banking of the **near future**

Convenient Life

Phone Top-up	Card Repay	Utilities	City Service
Lifestyle	Right Here	Help Center	My Packages
HealthCare	Activity	Gasoline	E-Invoice
Ant Sim	Oversea Data	My Car	Feeds
Ant service	ShareBike	Sports Servi...	

Offer a quick 1-1 personalized loan based on all of the above information:

- pick the communication channel
- pick the wording & artwork
- pick the timing
- pick the price
- pick the repayment schedule
- prevent fraud
- maximize long term revenue ;-)

SYNERISE

AI solutons for Financial Institutions from your neighbourhood

SYNEΓISE

Digital Banking – business areas addressed by Synerise AI

Optimizing sales and marketing process in B2C & B2B

- o 'Next best offer' for a particular customer

- o Personalization of omnichannel communication – tips for financial advisors

- o Dynamic personalization of content on the website, mobile applications, ATMs etc.

Improving operational processes

- o Shortening the average resolution time of cases

- o Automation of repeatable business processes (customer onboarding)

- o Omnichannel customer experience - NPS

IMPROVE SALES

IMPROVE REVENUE

REDUCE COSTS

MITIGATE BUSINESS RISK

Drive revenue Growth

- o Increasing sales through the use of customer propensity modeling

- o Shortening sales cycles, using segmentation based on AI

- o Guided selling – optimizing the decision path of a specific customer segment

- o AI Data driven attribution – campaign cost optimisation

Credit risk management

- o Limiting risk through AI Antifraud

- o Real-time credit scoring – AI driven

- o Prediction of proneness to pay loan liabilities

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Synerise business evaluation matrix

1. 'Next best offer' for a particular customer
2. Personalization of omnichannel communication
3. Dynamic personalization of content on the website, mobile applications, ATMs etc.
4. Increasing sales trough propensity modelling
5. Shortening sale cycle via AI segmentation
6. AI data driven attribution modelling – cost campaign optimisation
7. Guided selling
8. Shortening average resolution time in CC
9. Automation of repeatable business processes
10. Omnichannel CX improvement - NPS
11. Limiting risk – AI antifraud
12. Real time credit scoring - AI driven
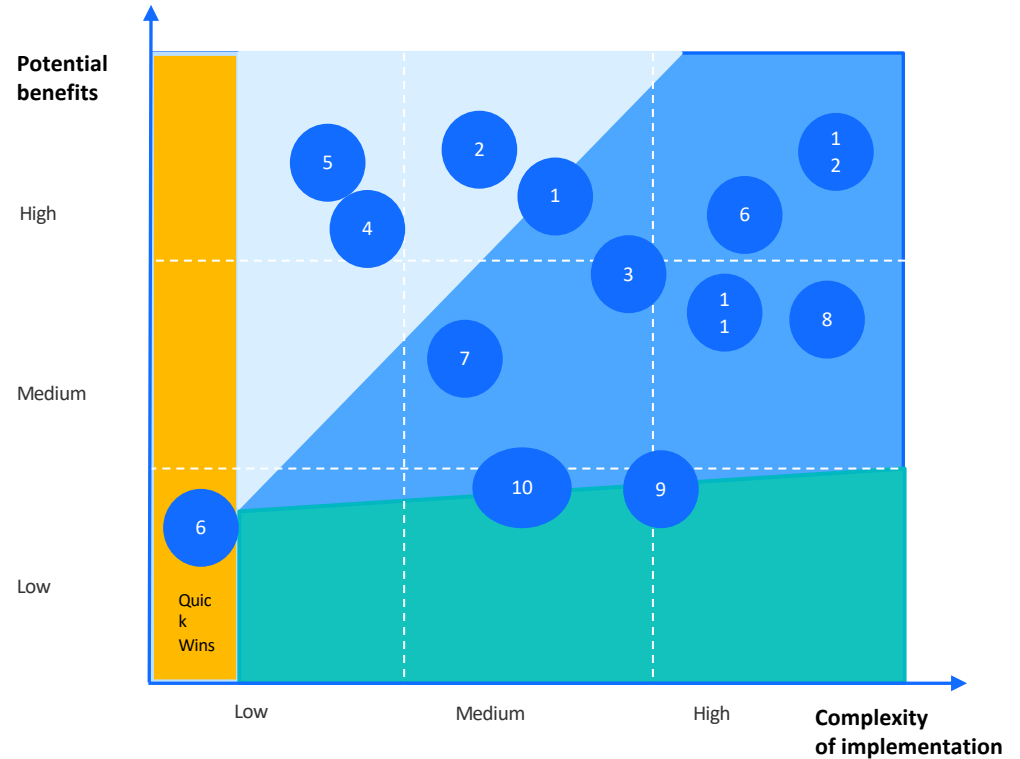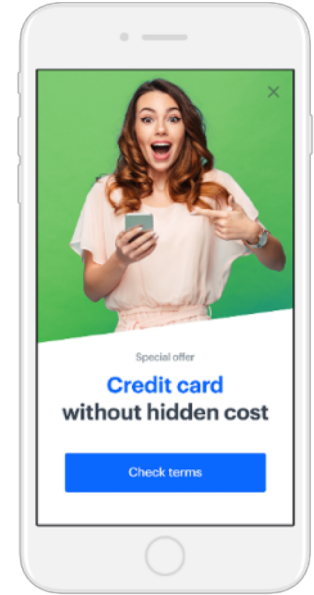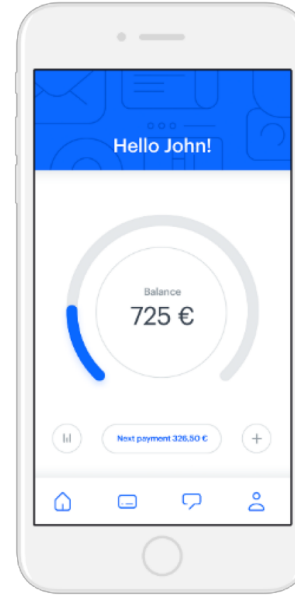
Solution: AI targeted in-app campaign

Goal:

Product up-sell using contextual message in the mobile application.

Assumption:

We can increase the number of credit card applications through appropriate customer identification and by delivering the right message to the right customer segment. We can also direct communications based on whether the customer uses iOS or Android.

Solution:
Personalized in-app messages and banners based on AI segmentation in the mobile application with the possibility of A/B tests, push notifications and deep linking to specific mobile form in banking app.

Hello John!
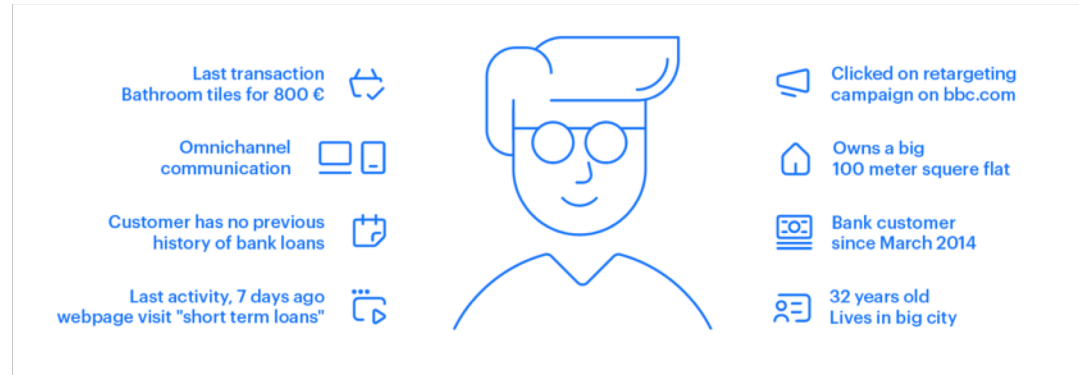
Balance
725 €

Next payment 326,50 €

Special offer

**Credit card
without hidden cost**

Check terms

Outcome:

+320%   Increase in conversion rate

+51%   Increase of new credit cards inquries

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AI segmentation – Enriching and improving existing segmentation and personalisation engines

o Enriching risk/credit scoring models

o Enriching existing segmentation mechanisms – we can add lacking and unstructured data to current prediction models

o Improving existing personalization mechanisms – we can implement our AI guided selling in all digital channels (web, mobile, call center, ATM's etc.)

Last transaction
Bathroom tiles for 800 €

Omnichannel
communication

Customer has no previous
history of bank loans

Last activity, 7 days ago
webpage visit "short term loans"

Clicked on retargeting
campaign on bbc.com

Owns a big
100 meter squere flat

Bank customer
since March 2014

32 years old
Lives in big city

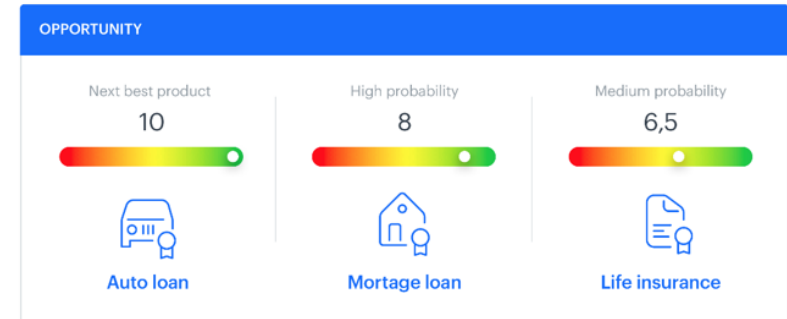**+2.5x – 20x**   Increase in cross-sell and up-sell accuracy and efficiency in B2C and B2B (depending on the financial product)

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AI segmentation – product and campaign propensity

- Product propensity modeling for current and prospective customers – you can recommend the next best product for a particular customer and shorten the sales cycle

- Customer-Campaign propensity scoring – you can choose the next best offer for a particular customer

- Microservice (fintech-like) – product engine enrichment for selecting customers who are willing to take loan on higher APR rate and short term

RISK

| DDA attrition | LOW |
| Credit risk | MEDIUM |

OPPORTUNITY

Next best product	High probability	Medium probability
10	8	6,5
Auto loan	Mortage loan	Life insurance

+1.5x − 12x   Improvement in prospect lead scoring and product matching (depending on financial product)

SYNERISE | Simplicity of AI solutions in Financial Industry

Acquiring new customers

- Creating AI Segmentation
- Building behavioral profiles
- Applying extreme personalization
- Identifying best sources for acquisition of new customers

Keeping acquired Customers

- Sending the right message to the right customer at the right time
- Detecting anomalies earlier
- Providing an integrated 360° customer view in real time

Increasing customer engagement

- Innovative use of our mobile SDK
- Personalized webpage, search engine NLP, Heat Maps
- Campaign propensity
- Clients affinity mapping

Bringing cost savings instantly

- Integration CRM data with call center
- Marketing campaign savings thanks to data driven attribution modeling
- Customer journey flow analysis

SYNERISE

Jacek Dąbrowski

Chief AI Officer

Janusz Naklicki

Chief AI Officer