

Customer Inbound Contacts as Sales Opportunities

Selecting “Next best Action” proposals at ING-DiBa

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Generalbevollmächtigter

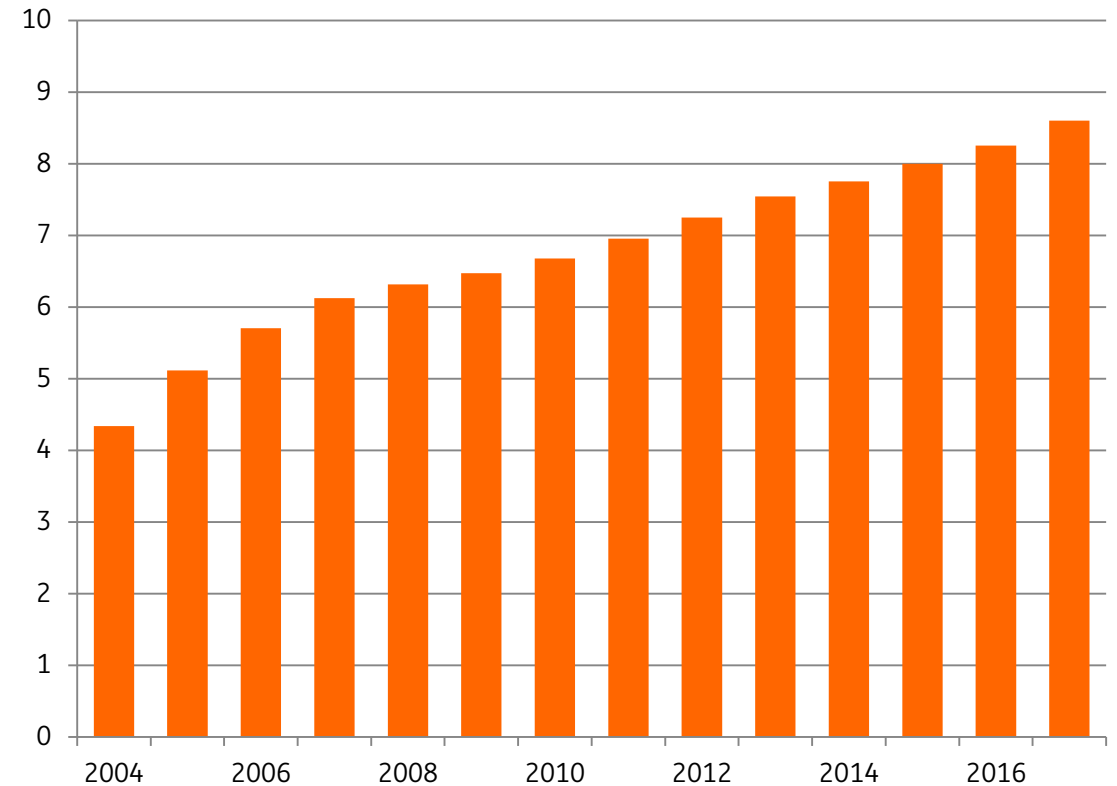
Frankfurt, 1st February 2018

ING-DiBa at a Glance: „Deutschlands beliebteste Bank“

- More than 8,5 mn retail clients in the product categories savings, payment, loans and Investments.
- No branches. Digital leader.
- Best Cost-Income-Ratio in the market.
Ca. 1,2 bn € profit before tax in 2016.
- 11x in a row elected as Germany's most popular Bank („Deutschlands beliebteste Bank“ der Zeitschrift Euro).
Continuously high Net Promoter Score (NPS of 70)
- A „Great Place to Work“: ING-DiBa belongs to the best 100 employers in Germany.



Customers ING-DiBa (mn) 2004-2017



From a Union's Bank to Germany's leading Digital Bank

1965

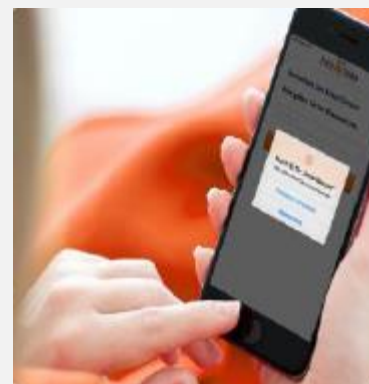
 **BSV:Bank**



- 1965 founded as BSV Bank by the trade unions to support savings and pensions for employees.
- Branchless since launch.
- Letter and telephone have been the most relevant customer channels in these early days.

2018

ING  **DiBa**



„Die Zukunft des Bankings findet auf dem Smartphone statt“

Absatzwirtschaft 6-2016

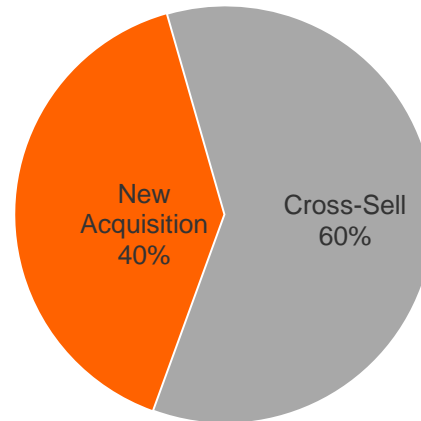
- More than 50 years servicing clients without branches.
- 99% of our customer contacts now digital, with massive growth in mobile contacts
- Smartphones as a „game changer“ in the retail banking industry to boost a purely digital business model.

Our two pillars of growth

Acquisition of new-to-bank clients

- >500,000 new customers p.a.
- Most relevant acquisition channels:
 - › Member-get-Member
 - › Search engines
 - › TV and “direct type”
 - › Comparison sites and affiliates

- More than 1,3 mn new account openings in 2017
 - › >550,000 new savings accounts
 - › >350,000 new payment accounts
 - › >200,000 new consumer loans
 - › >120,000 new Investment products
 - ›



- 40% of these new accounts were opened by new-to-bank clients,
- 60% by given clients.
- Cross-Selling in the given customer base therefore crucial for our success

My focus of today's presentation

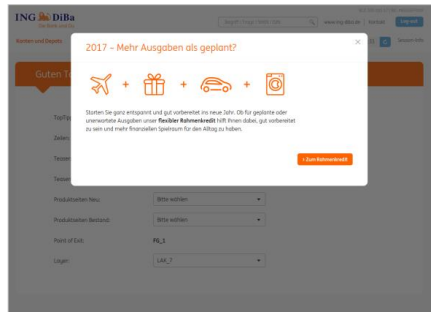
Cross-Sell in the Customer Base

- >700,000 account openings p.a. via cross-sell
- Most relevant channels for cross-sell:
 - › Inbound Digital Channels (Internet banking + mobile)
 - › E-Mail
 - › Inbound Calls
 - › Direct Mail (paper based)

Available Channels for Cross-Sell Activities in the Customer Base

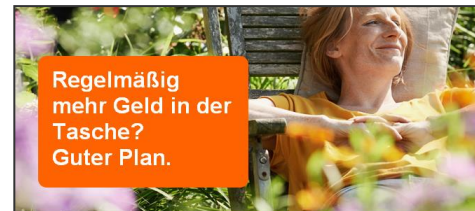
Digital/mobile inbound Channel

- >300 mn contacts p.a.



E-Mail

- >50 mn contacts p.a.



Guten Tag,

wie schön, wenn Sie auf Ihrem Extra-Konto ein Guthaben angespart haben. Alles richtig gemacht! Wie war's jetzt mit regelmäßigen Auszahlungen, um ein wenig entspannter zu leben, ein Hobby zu finanzieren oder ein Kind zu unterstützen?

Der Extra-Konto Auszahlplan macht's möglich:

- Bequem Geld vom Extra-Konto aufs Girokonto auszahlen lassen
- Den Auszahlungsbetrag können Sie frei wählen
- Auszahlungen monatlich, vierteljährlich, halbjährlich oder jährlich
- Auszahlplan einfach selbst anlegen, ändern oder löschen

[Jetzt informieren](#)

Mit freundlichen Grüßen
Ihre ING-DiBa

Gabriele Neitzke
Gabriele Neitzke
Leiterin Kundendialog

Waltraud Niemann
Waltraud Niemann
Leiterin Marketing-Kommunikation

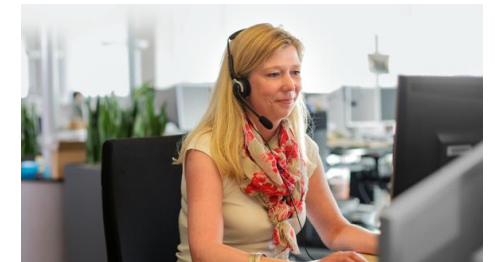
Direct Mail (paper based)

- >5 mn contacts p.a.



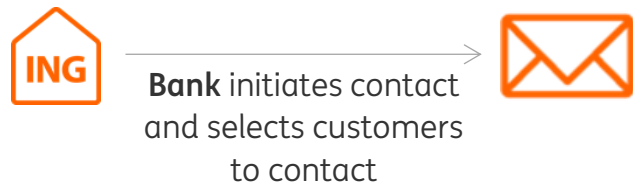
Inbound Telephone (when clients dial in)

- >3 mn contacts p.a.

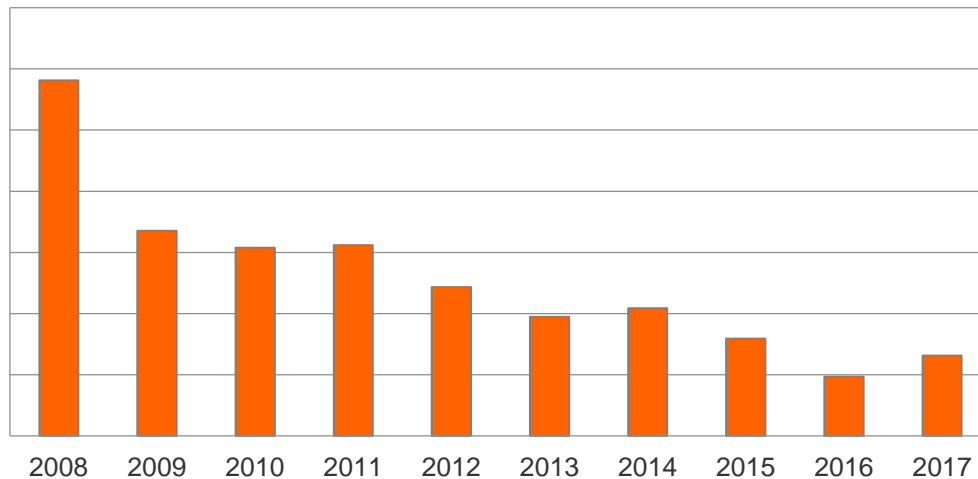


Shift from outbound to inbound sales...

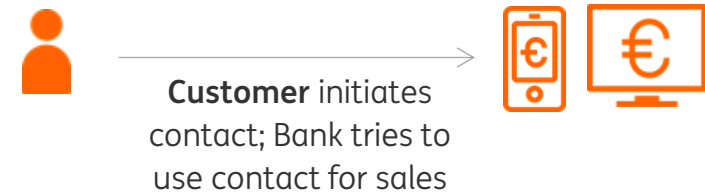
- The „traditional“ **offline** customer sales strategy: OUTBOUND sales contacts, initiated by the bank



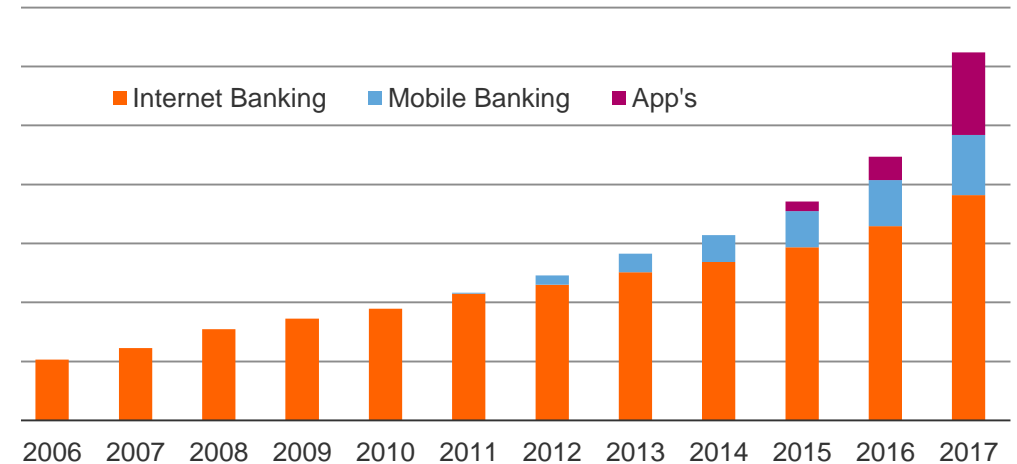
Outbound Sales Contacts (direct paper mails) (mn)



- The digital **online** customer sales strategy: Using INBOUND contacts, initiated by the customer, as sales opportunities



Customer inbound contacts (mn)







...implies a different analytical setting

Challenge OUTBOUND:





- Select the “best” customers (with highest propensity-to-buy) for a given product (mail) offer.
- “Which are “best” clients to offer product 1?”
- Calculation of propensity-to-buy using predictive modeling (regression etc.)

Challenge INBOUND:

- Select the “best” product offer for given client contacts
- “Which is best product to offer when customer 1 contacts us?”
- Calculation of “Next best Action” models

Outbound: Product View			
	Product 1	Product 2	Product 3
	1.5%	0.5%	2.9%
	2.6%	0.9%	0.0%
	0.0%	1.2%	2.3%
	2.0%	1.3%	0.3%

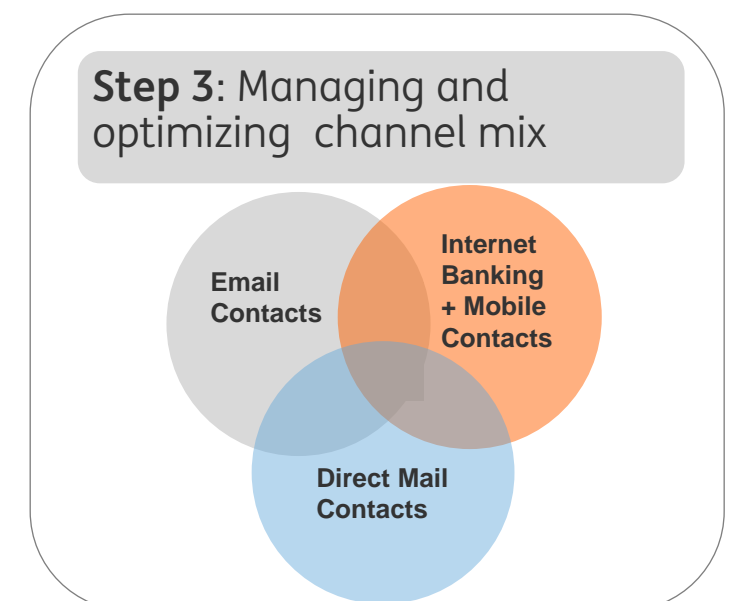
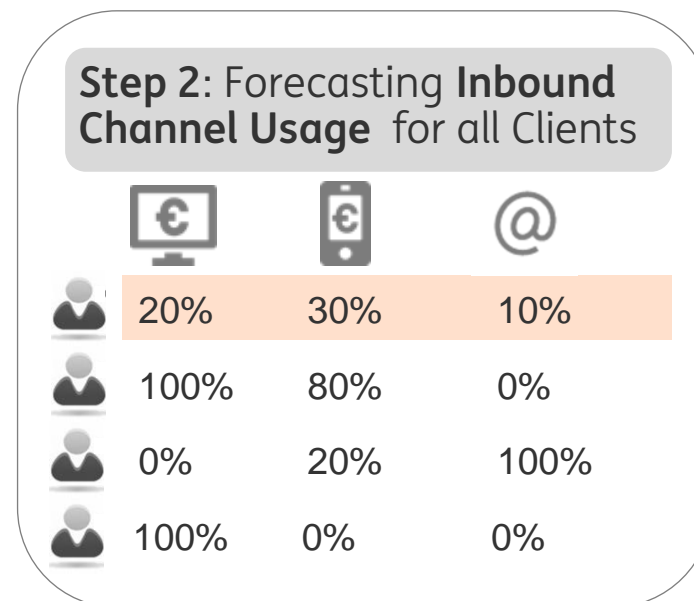
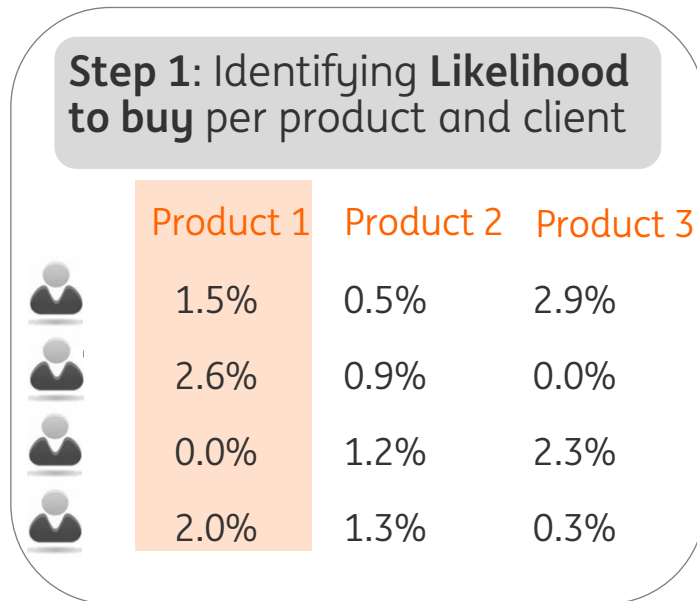


Inbound: Customer View			
	Product 1	Product 2	Product 3
	1.5%	0.5%	2.9%
	2.6%	0.9%	0.0%
	0.0%	1.2%	2.3%
	2.0%	1.3%	0.3%

Selecting „Next best Action“ for Inbound contacts: 3 steps

When contacting our clients with a certain sales related information, we run through a selection process of three steps:

- **Step 1:** Identify customers with high likelihood to buy (per product).
- **Step 2:** Forecast channel usage for every client. Which clients will visit us inbound (therefore no need for a direct mail)?
- **Step 3:** Bringing Product and Channel together; defining an “optimal” sales channel mix.



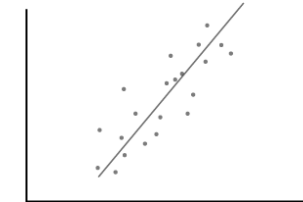
Step 1: Identify customers with high likelihood to buy

Variables used

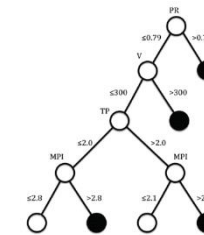
- › Dependent Variable: Product opening (binary target variable)
- › Independent Variables: all client data on accounts, channels, balances, tenure,...

Methods used

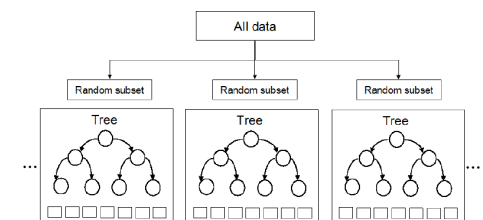
- › Logistic Regression technique still delivers stable and decent results...
- › ...but Machine Learning algorithms like Random Forests and Gradient Boosting continuously show higher model performance.



Regression



Decision Tree



Random Forest

Step 1: Identifying Likelihood to buy per product and client

	Product 1	Product 2	Product 3
	1.5%	0.5%	2.9%
	2.6%	0.9%	0.0%
	0.0%	1.2%	2.3%
	2.0%	1.3%	0.3%

Method / Algorithm	Area under ROC curve (AUC)
Simple log. Regression w/o data transformation	0,65
Log. Regression incl. Modelling of non-linear effects; splines, bins etc.	0,71
KNN Nearest Neighbor	0,70
Decision Tree	0,69
Random Forest	0,73
Gradient Boosting	0,74

Example for a comparison of model performance

Step 2: Forecasting channel usage for every client and define preferred communication channel

■ (2a) Estimation of customers' channel usage

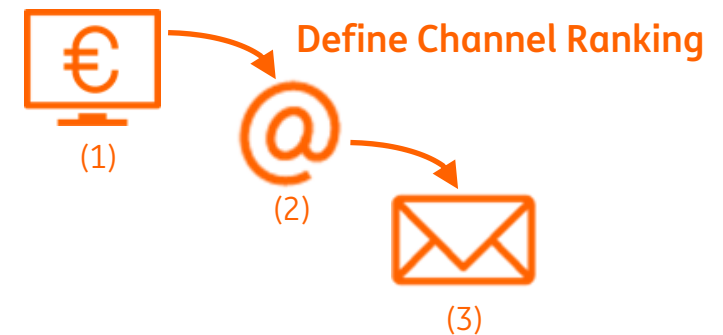
- › ...Forecast likelihood that clients...
- › ...enter the web page with the forthcoming 14 days,...
- › ...will use our app or use mobile banking...
- › ...will open an email when receiving
- › This forecast is mainly driven by customers' past channel behavior.

Step 2: Forecasting Inbound Channel Usage for all Clients

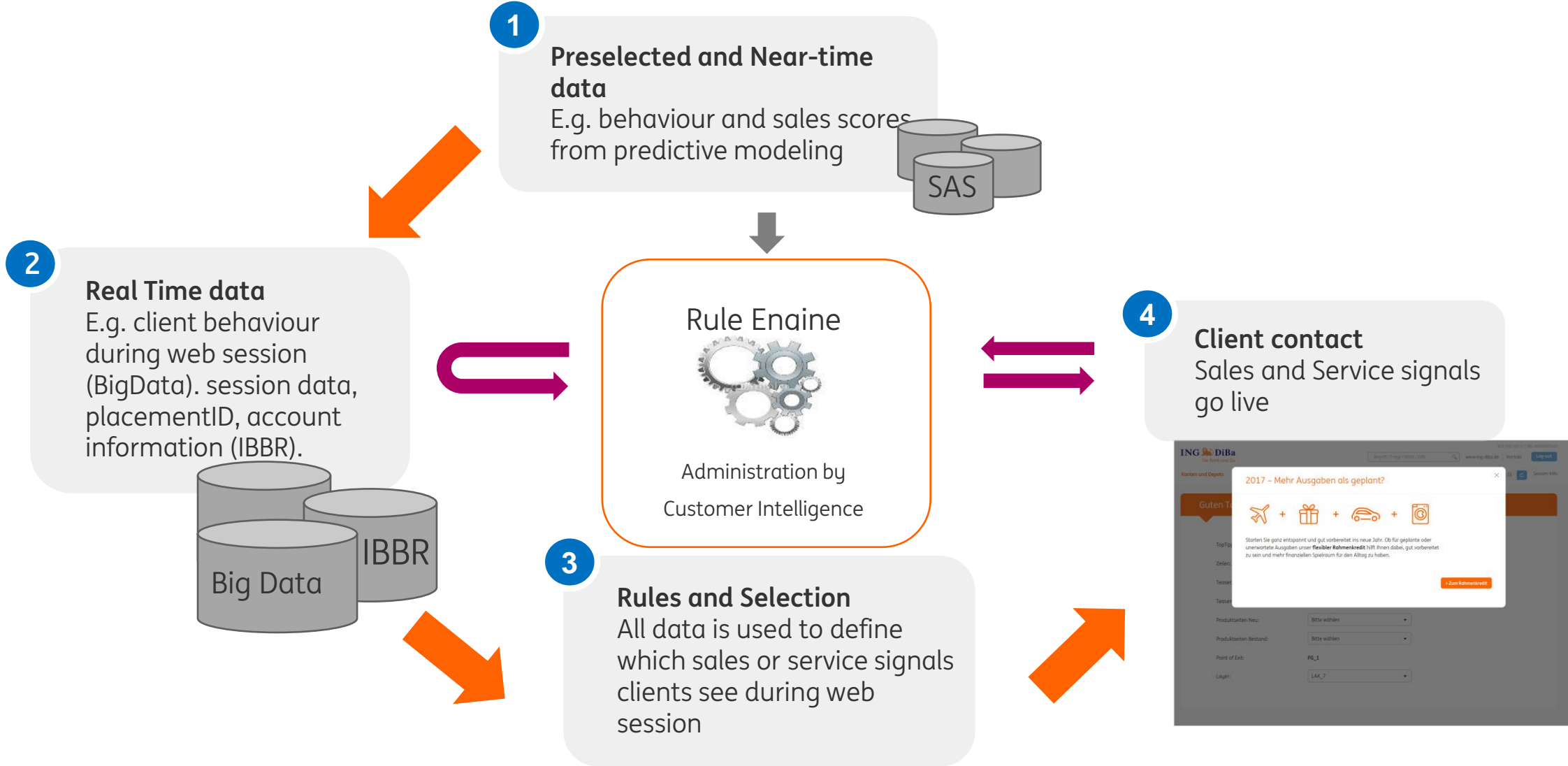
	€	€	@
👤	20%	30%	10%
👤	100%	80%	0%
👤	0%	20%	100%
👤	100%	0%	0%

■ (2b) Definition of banks' channel priorities

- › Most (cost) efficient channels has highest priority..
- › ...our first priority is the digital inbound channel...
- › ...followed by email and telephone.
- › If none of these channels is available, last option to contact a client is the direct mail



Campaign Management in the Age of “Big Data”: Embedding Sales in a Real-time Environment



Summary: Inbound Contacts as Sales Opportunities

1 Successful Cross-Selling is a crucial part of ING-DiBa's growth story.

A pie chart illustrating the composition of ING-DiBa's growth. The chart is divided into two segments: a grey segment representing 'Cross-Sell' at 60% and an orange segment representing 'New Acquisition' at 40%.

2 Digital Inbound contacts grow massively and generate an opportunity for cross-sell

Customer inbound contacts (mn)

A bar chart showing the growth of customer inbound contacts in millions from 2006 to 2017 FC. The y-axis ranges from 0 to 350. The x-axis shows years from 2006 to 2017 FC. The bars show a steady increase over time, with a significant jump in 2017 FC, reaching approximately 310 million contacts.

3 We use inbound contacts for sales offers when possible but still send direct mails when needed.

Step 2: Forecasting Inbound Channel Usage for all Clients

	€	€	@
👤	20%	30%	10%
👤	100%	80%	0%
👤	0%	20%	100%
👤	100%	0%	0%

4 We generate a channel mix that reflects both customers' product and channel preferences

Overall channel mix in H1-2017

A Venn diagram showing the overall channel mix in H1-2017. The diagram consists of three overlapping circles: 'Email' (grey), 'Digital and mobile' (orange), and 'Direct Mail' (blue). The percentages for each region are: Email only (18%), Digital and mobile only (13%), Direct Mail only (18%), Email and Digital and mobile (19%), Email and Direct Mail (14%), Digital and mobile and Direct Mail (6%), and all three (12%).

Thank You!


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