

SAS CLUB 2025

# Von der Produkt- zur Kundensicht

mit Predictive Analytics und  
Event Driven Marketing zur  
effizienteren Kundenkommunikation

Erste Bank der oesterreichischen Sparkassen AG

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ERSTE  SPARKASSE 



# Customer Intelligence & Analytics

- Team of **14** CRM analysts
- Established in **2002**
- Organisationally located in the **retail resort of Erste Bank Österreich**
- Supporting **Erste Bank** and all **Austrian savings banks** (46 institutes)
- Responsible for **analytical topics** about our **retail customers** and **products**
- Close cooperation with the departments for **CRM-Campaigning, Segment Management, Sales Strategy**



# We offer analytical solutions on three levels of complexity



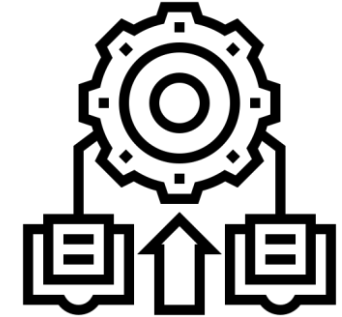
## Descriptive analytics

- Ad-hoc questions
- Measuring CRM campaign efficiency via statistical testing
- Support for Segment Management, Target Group Management, Product Management, etc



## Rule based models

- Customer segmentation
- Categorization of TRX
- Detection of LTE
- Detection of Hidden Affluents
- Channel affinity
- Target groups for CRM-campaigns



## Predictive Analytics

- Churn
  - Product churn
  - Volume churn
  - Customer churn
- Propensity to buy



# next best product for customer interaction since 2006

based on product focused propensity to buy models

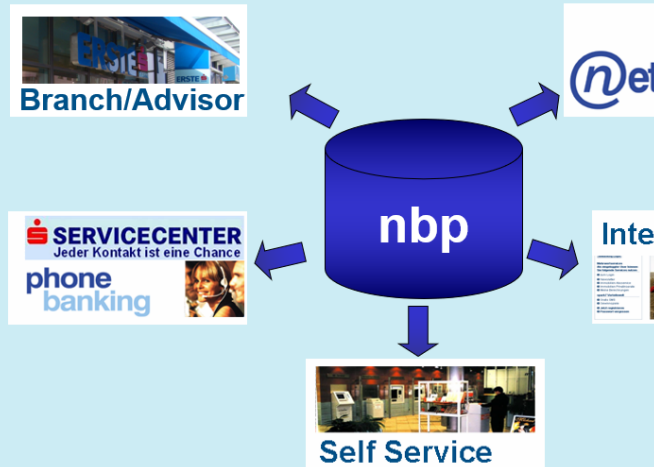
## next best product

CRM-Models for Increased Sales Efficiency through Customer Interaction

Thomas Schierer

SAS Forum, 23rd October 2007, Bratislava

next best product as a basis for personalized offers displayed in ...



## next best product

Example 1: Display for customer advisors

The screenshot shows a software interface for a customer advisor. At the top, a blue bar indicates the status 'DRAFT'. Below this, a table lists the 'Next Best Product' recommendations:

Next Best Product	Recommendation	Status	Effective Date
Kreditkarte		✓	18.03.2005
Pensionsvorsorge		✓	18.03.2005

Below the table, there is a section for 'Customer Interest' with a list of products and their status:

Customer Interest	Status	Effective Date
Geschäftsabwicklung		
Kontoverbindung/Zahlung	✓	18.03.2005
bargeldlos Zahlen	✓	18.03.2005
Vermögensaufbau		
mit Wertpapieren ansparen	✗	18.03.2005
steuerbegünstigt ansparen	✓	05.07.2006

# Why do we even need an upgrade?

Situation up to now: **20+ product-specific propensity to buy – models.**

- “Find customers that are interested in a particular product”
- Over 90% of selected customers overlap between car leasing and consumer loans; securities deposit and fixed capital saving accounts

Situation in the future: **models for 10+ customer needs** (e.g. Investment, Wealth creation)

Benefits for customers:

- Instead of choosing the solution on the customer's behalf, we **focus on identifying the need.**
- Afterwards, we try to present all possible solutions and **let the customer decide.**

Benefits for CRM:

- Create reliable predictive models also for **rare purchasing events** of niche products
- Provide a **generic approach for** CRM-campaigns (e.g. for new product launch, product migration)

# Modeling is an iterative process (CRISP-DM)



Data and tools on their own don't guarantee reliable models!

- 💡 Regular discussions with value streams
- 💡 Combine extensive domain knowledge and analytical know-how

# Identification of customer needs



## wealth creation & investments

- **Wealth creation** (e.g. investment plan, savings account, building society savings)
- **Retirement provision** (e.g. pension insurance)
- **Investments** (e.g. savings, securities, one-time investments in live insurances or building society savings)
- **Wealth transfer**



## Risk

- **Household protection**
- **Incident protection**
- **Health protection**



## Financing

- **Financing for consumption** (consumer loans & leasing)
- **Financing for livings** (e.g. mortgage, building society loans)



## Daily Banking

- **Current account**
- **Cashless payment** (credit cards)



# Available Data for natural persons

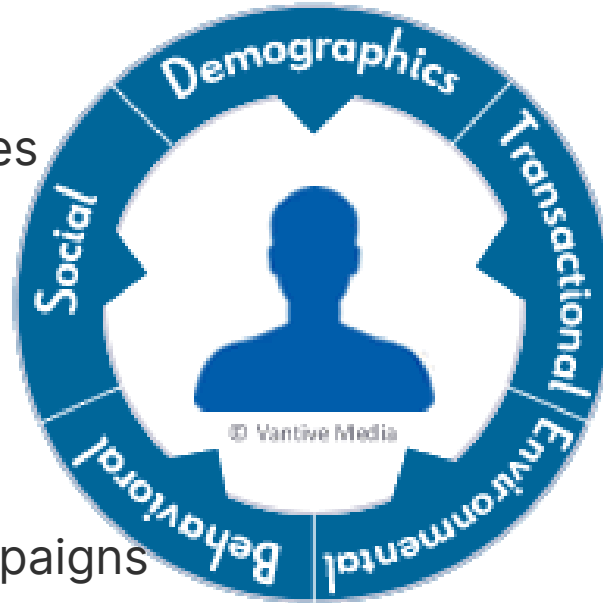


## Customer features

- Age
- Income
- Life stage
- Lifetime events

## Relations

- Customer relationships
- Wealth + Income of relatives



## Transactions

- Usage of current account
- Usage of overdraft on current account
- Transactions in detail

## Behaviour

- Usage of George
- Usage of channels
- Reactions to CRM campaigns

## Product ownerships

- Product openings/closings
- Usage of products

## Historical Data

Data on current and previous generations  
(products, customer data, etc.)

## Data Ethics – internal regulations

- Respect for the customer
- Respect for privacy & confidentiality
- Responsible use of data
- Responsible use of Analytics & AI



# Data preparation is the most important and most time consuming step



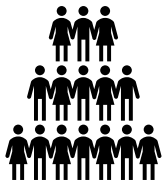
All product purchases in calendar year



Remove purchases during **customer onboarding**



Map product to customer need = Events, use their data at beginning of „purchase quarter“



Find customers who didn't buy any product belonging to need in same period



Use their data at beginning of final quarter as non-events

Events are rare -> **Undersampling**, use at least 10% Events per Model



Join Events and Non-Events with customer data (from multiple sources) as predictors



# Before training the model: get to know the data!

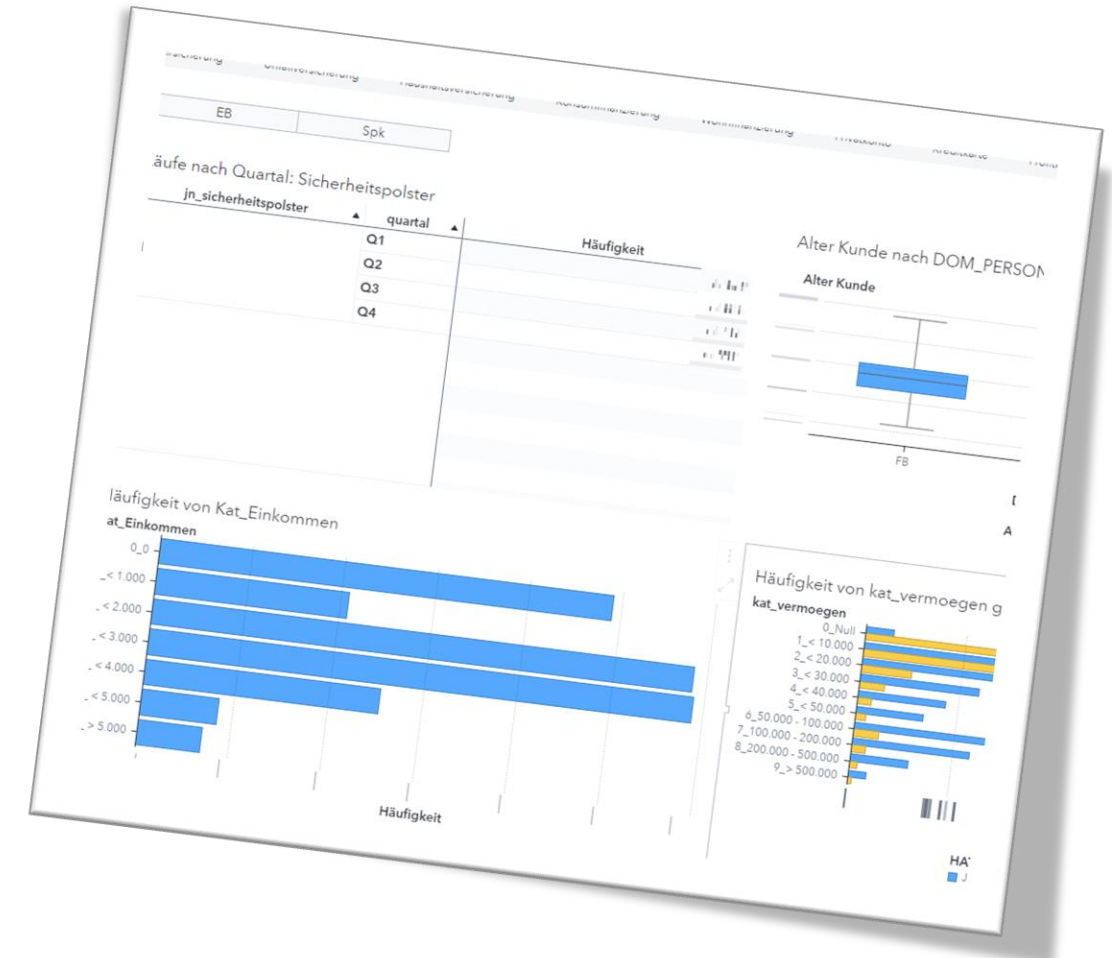


After defining customer needs: **interactive data analysis**

**Different perspectives** (product ownership past & present, demographics, development of assets, TRX, etc.)

**Iterative process** – new insights generate new requirements for data preparation

Further goal: **detect connected purchases** (current account + credit card, housing loan + home insurance, etc.)

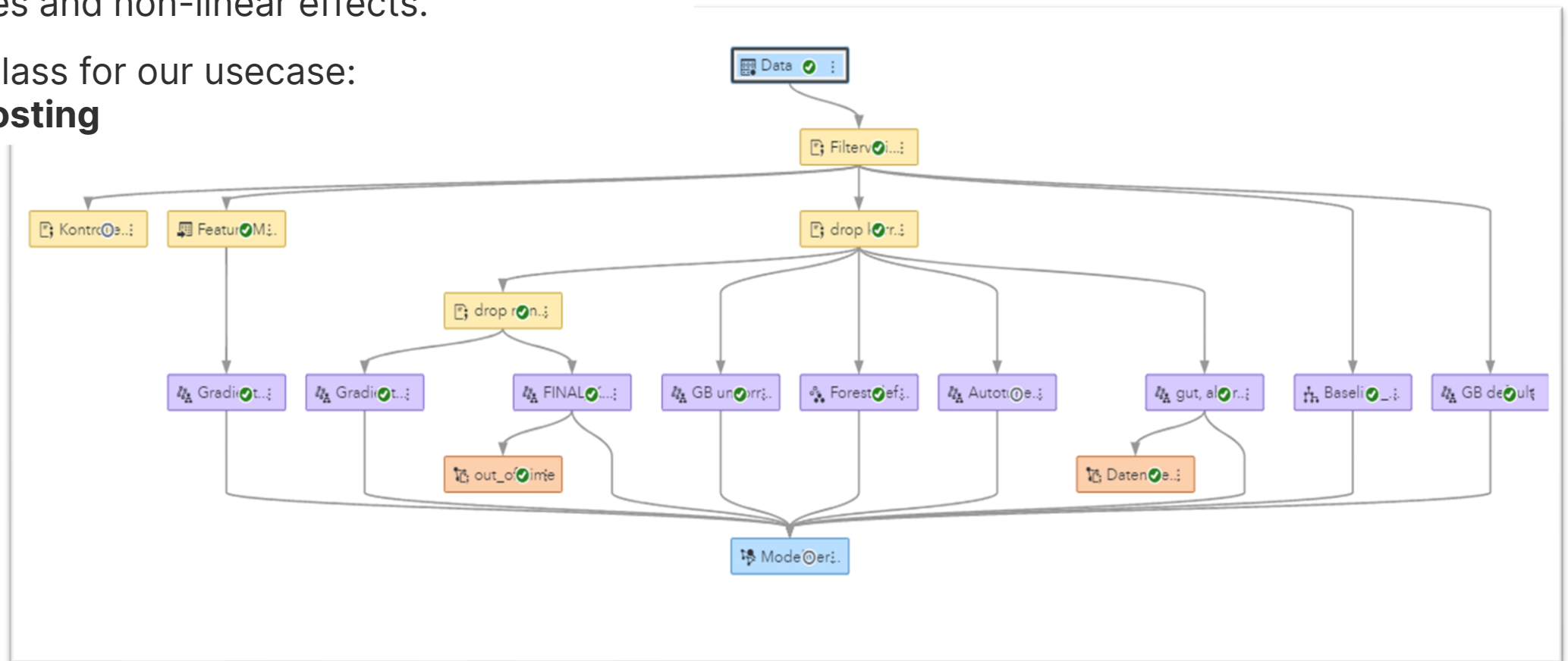


# Training the models



Focus on tree-based models due to informative missing values and non-linear effects.

Best model class for our usecase:  
**Gradient Boosting**



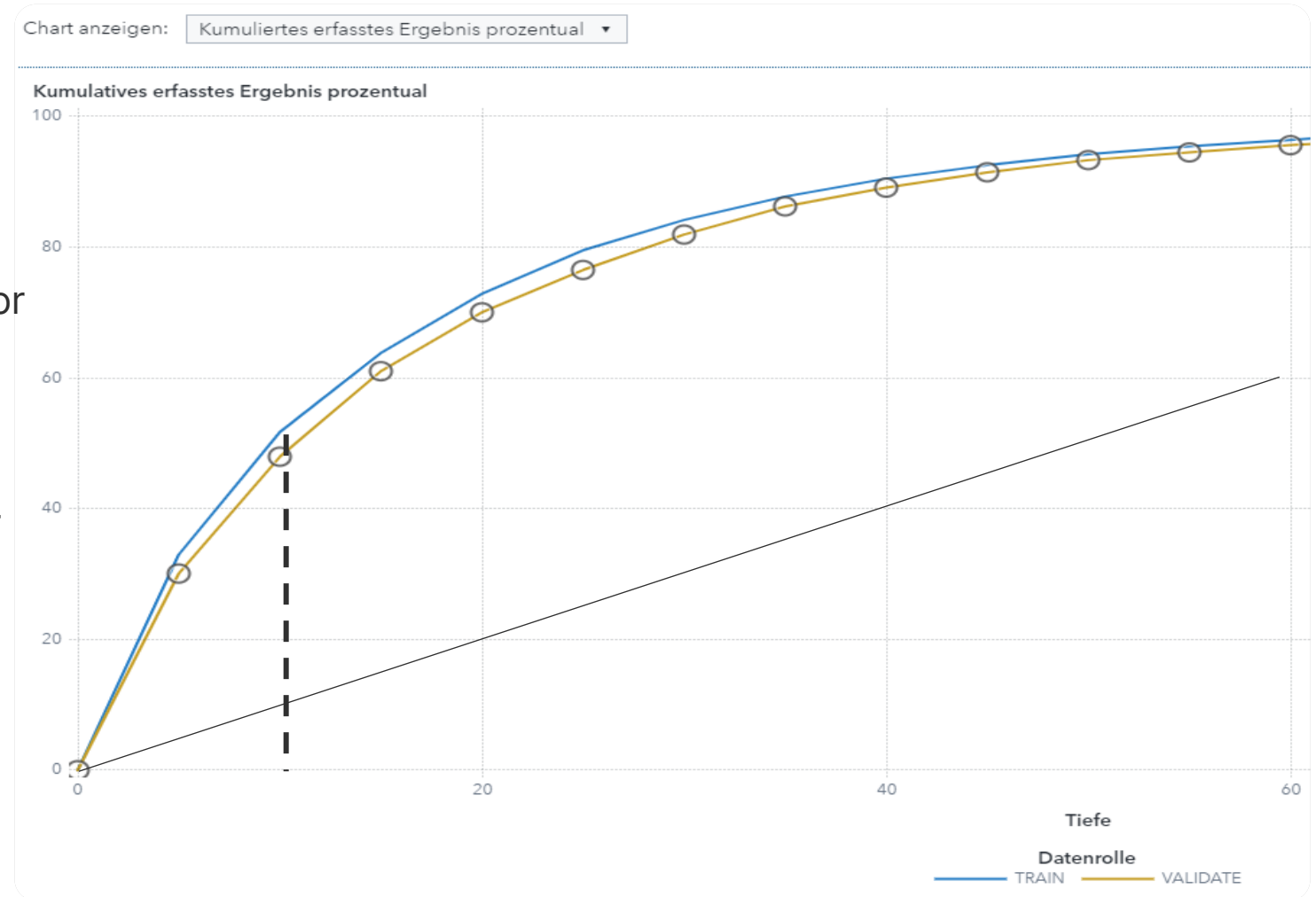
# Measure a model's quality



Measure model quality by comparing the **cumulative captured response percentage**.

This metric is not the only priority. Check for potential **data leakage or overfitting**, think about **interpretability**, etc.

**Out-of-time dataset** used for evaluation:  
Use events and non-events of later quarter to check for generalization of models.



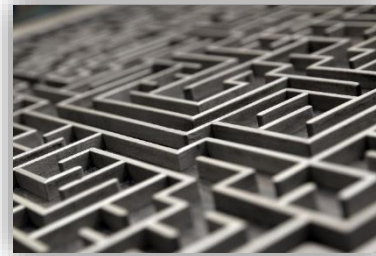
# Periodical scoring of customers



Latest data



Data preparation



Apply predictive model

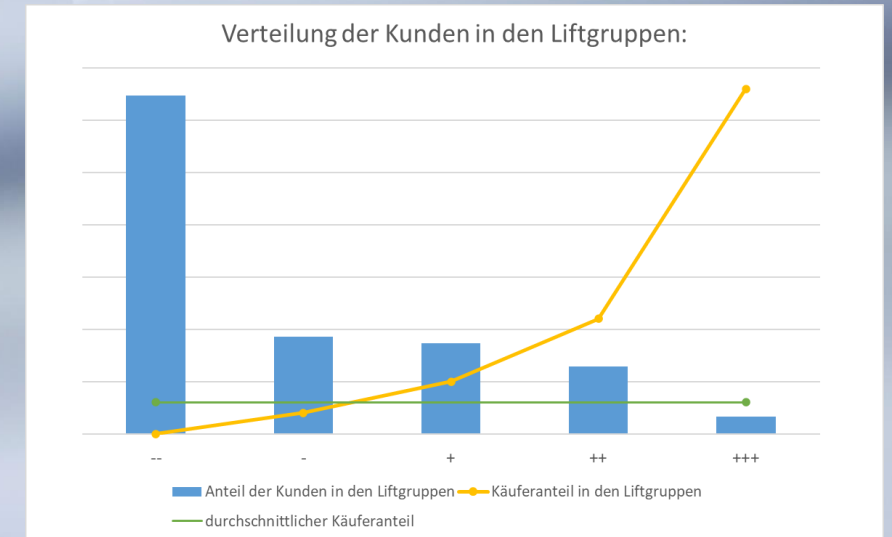


Scored data  
with propensities to buy



Two monitoring loops are implemented:

- **Monthly monitoring**  
Real-time check of distributions of input parameters & output scores to check for data drifts & data quality issues
- **Back testing**  
Delayed (post-hoc) measurement of model performance to detect changes in model or customer behaviour



”

**All models are wrong,  
but some are useful.**

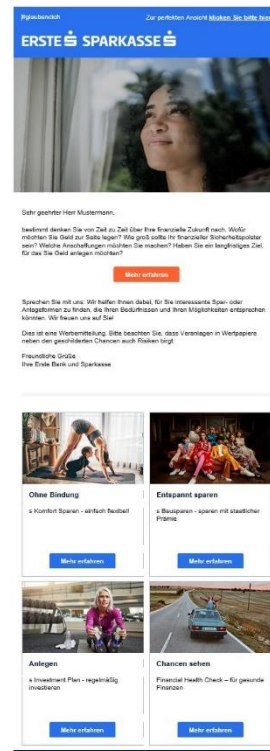
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George Box (British Statistician), 1987

# +80% higher conversions than comparable campaigns

Pilot results show good outcomes => integration in CRM campaigns.

- 40,000 customers with a high affinity for the topic of wealth creation selected
- Easy communication: sending an e-mail (incl. landing page) and, in the case of a customer reaction, follow-up communication via response-dependent George App banners

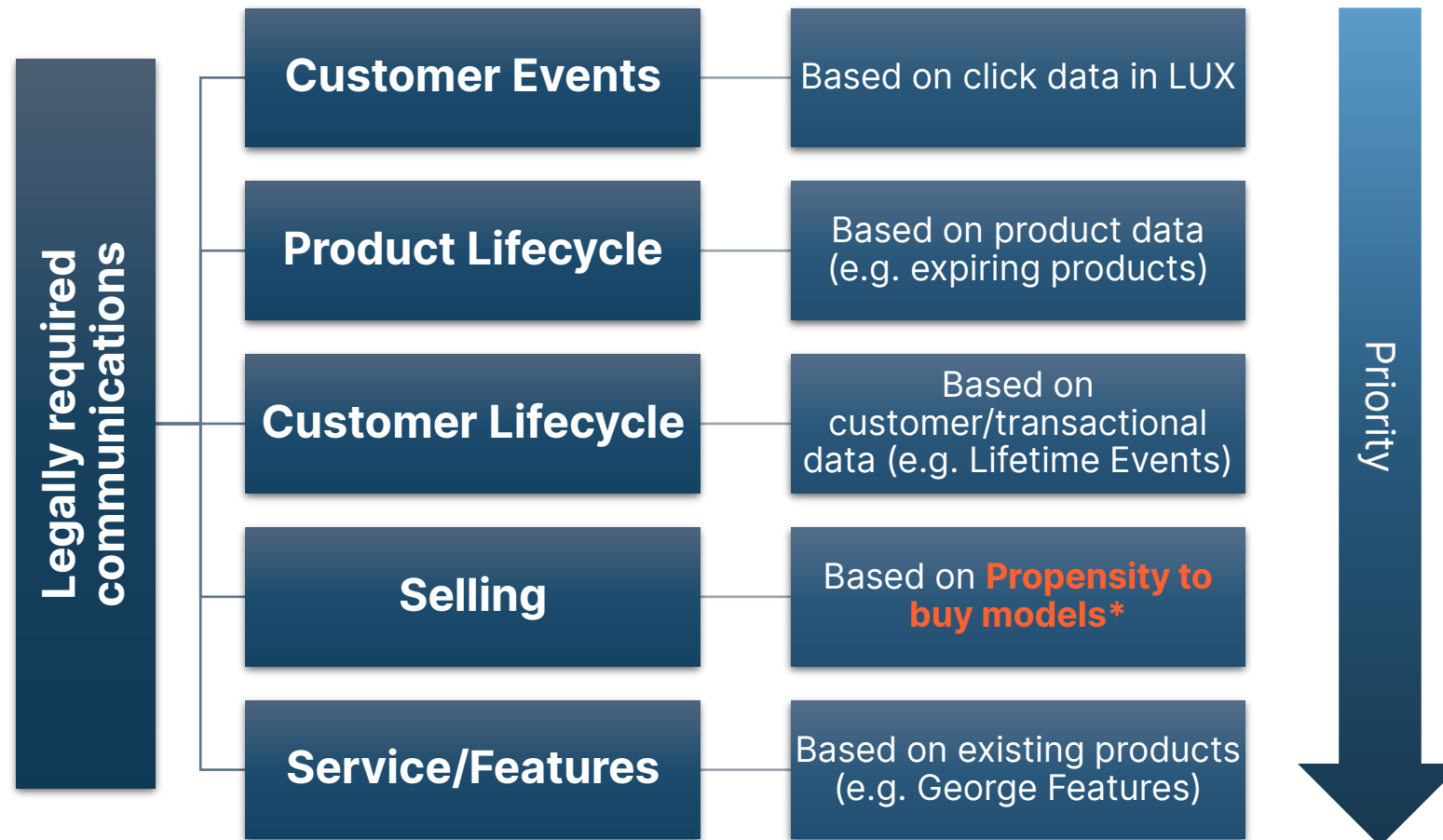


response-abhängige George App Banner

- **Conversion rates** significantly higher than in similar campaigns (+80%) although fewer contacts/customers
- Invitation to **financial health checks** very effective, appointment booking rate for customers increased by 80% in the pilot campaign compared to similar campaigns

# PtB-models are integrated in our CRM-contact strategy

Our propensity to buy models for customer needs are one fundamental input for our contact strategy within CRM-campaigning



The focus is on reaching the **right customers** at the **right time** with the **right** (= relevant) **messages** via the **right channels**.

At the same time, it ensures that a balance is achieved between **contact intensity and advertising pause** through a sophisticated orchestration of channels and optimised targeting of messages.

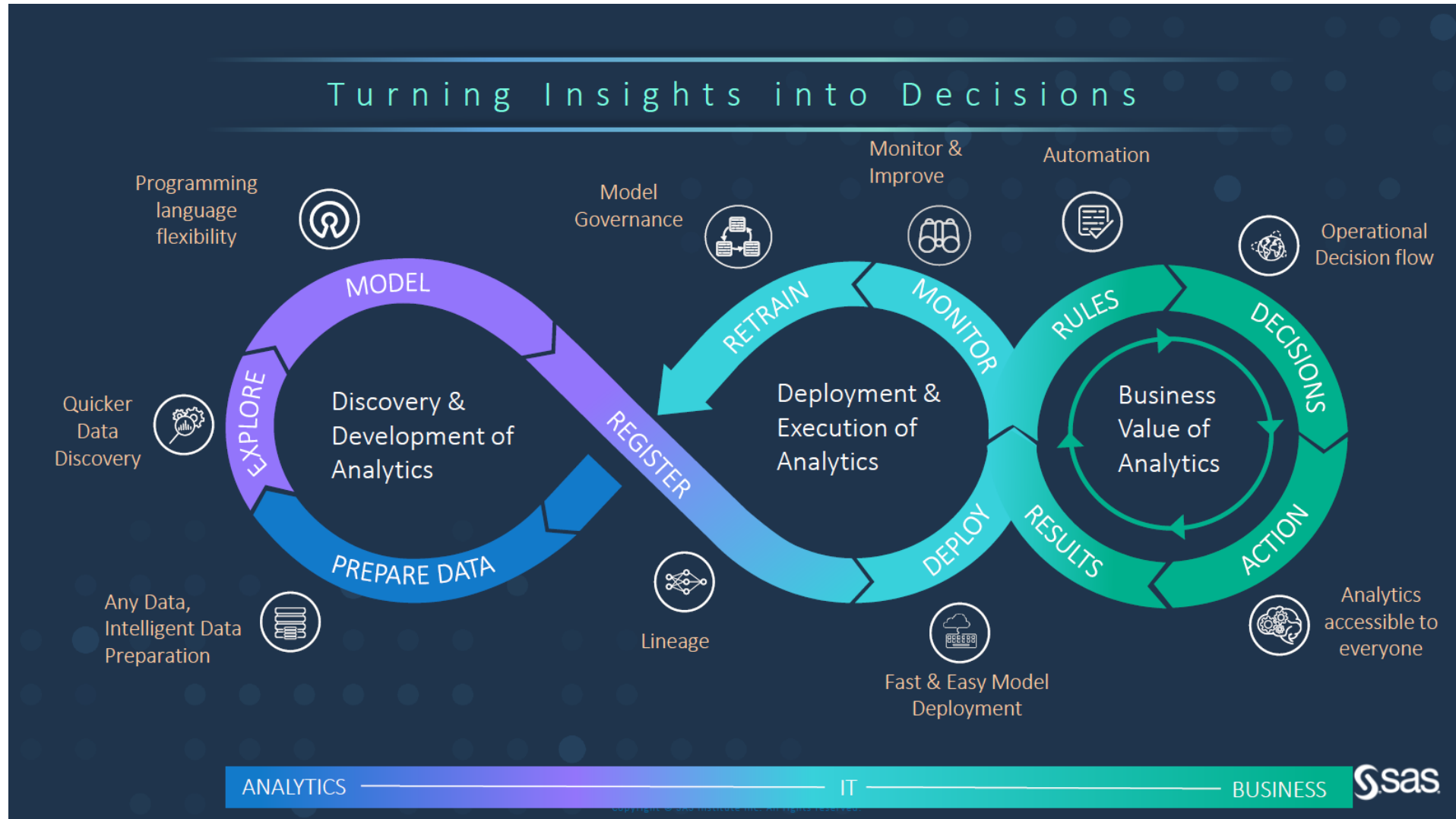
For selling campaigns, there is a limit of one campaign (with separate communications) per 30 days per customer. If a campaign of the type Event, PLC or CLC has already been generated for the customer on the same day, no further selling campaign will be executed.

# Analytics & Campaigning from a single source

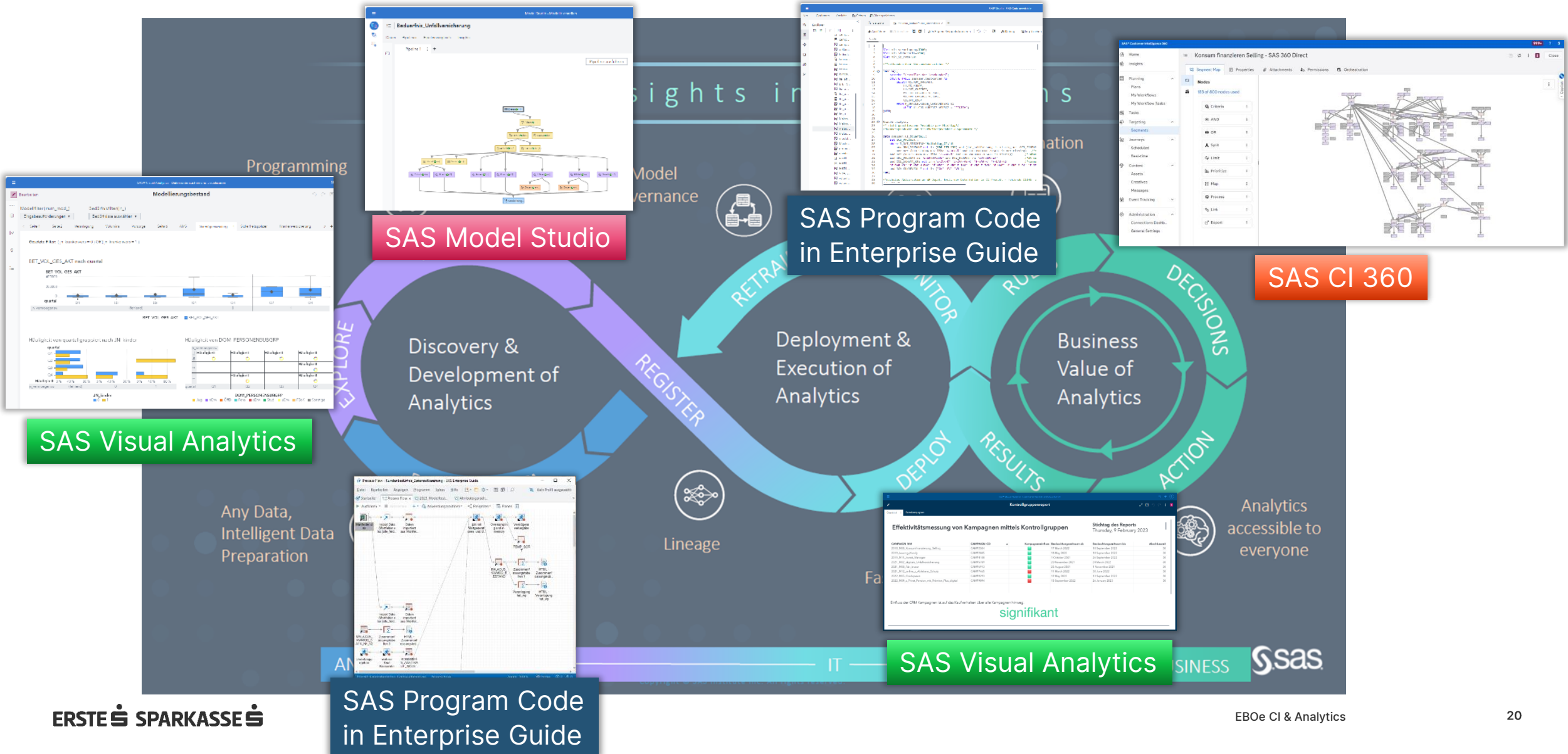




# Integrated process is necessary



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