Successfully Leveraging Customer Analytics in Actuarial Departments

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TYPICAL RESPONSIBILITIES OF AN EMPLOYEE IN A SALES-ORIENTED CUSTOMER ANALYTICS DEPARTMENT
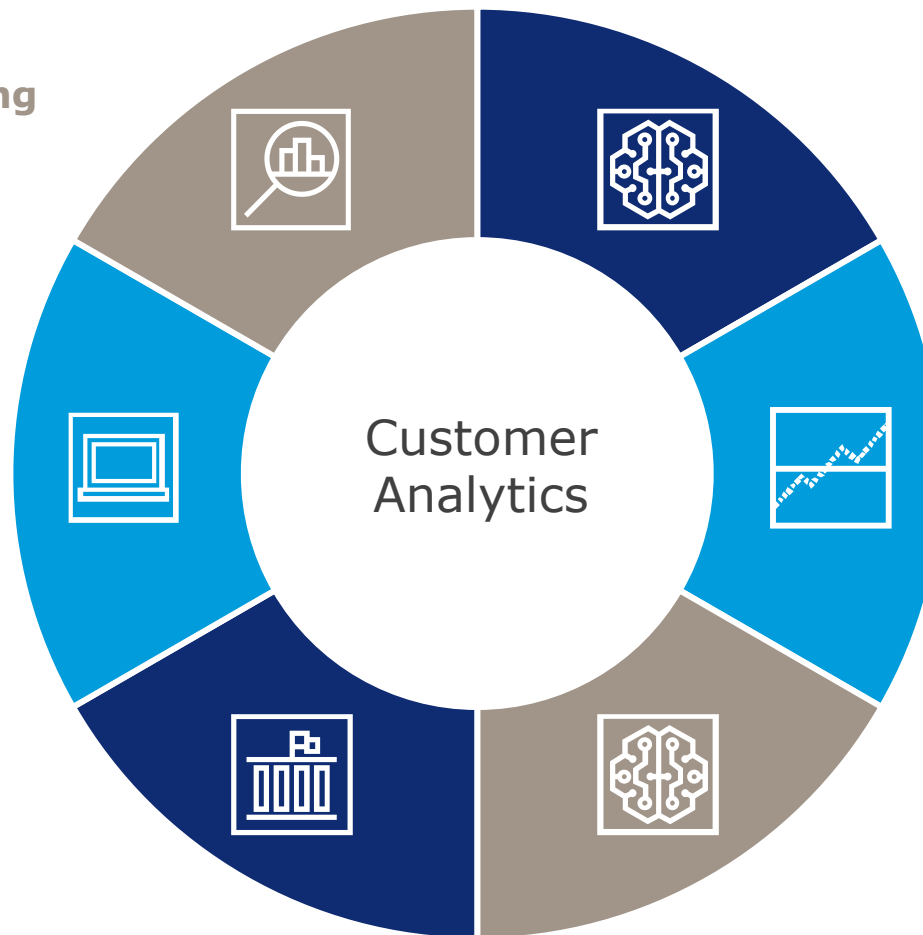
My work consists of identifying unused market potential and developing strategies and methods to exploit it.

Calculation of customer values for sales management and targeting of customers

Provision of dashboards with customer analysis for operational units

Synthetisation/masking of customer data

Customer Analytics

Development of next-best-offer (NBO) systems

Benchmarks for market and target group analysis

Purchase, cancellation and loyalty analysis

## DASHBOARD EXAMPLE FOR ANALYSING BUYING BEHAVIOUR AND NBO-SYSTEM

Typical filter options:

- Customer consent
- Distribution channel
- Insurance product
- Various customer attributes (e.g. job)

Challenges:

- Accuracy and timeliness of data
- For marketing campaigns: High level of customer consent within portfolio

SUCCESSFUL OPERATIONALISATION IS CRUCIAL FOR THE SUCCESS OF SALES-ORIENTED CUSTOMER ANALYTICS USE CASES

Step 1
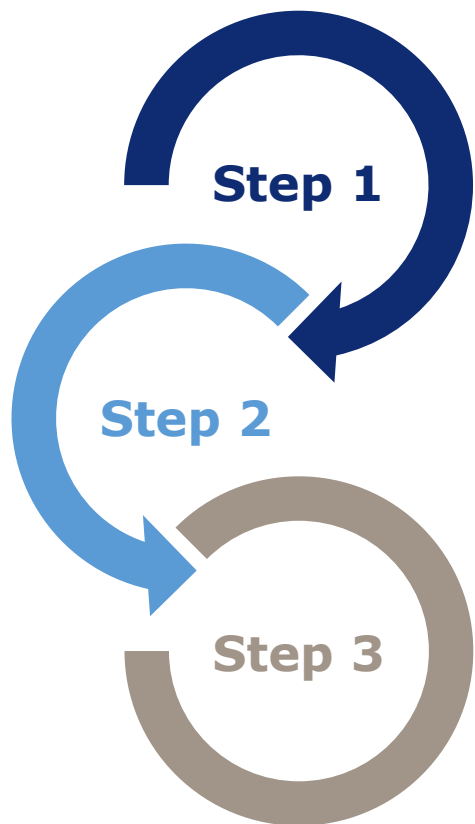
Results are calculated on an ongoing basis and used for central sales controlling

Step 2

Results and recommendations for action are rolled out to the operational units.

Step 3

The system allows feedback from the operational units and the feedback is incorporated into the model.
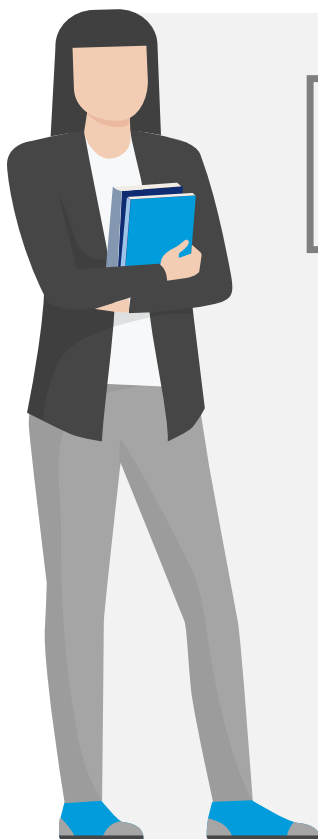
Target status and market overview

Only by operationalising the results and models sustainable success can be achieved.

- Some market participants have implemented models with procedural feedback capabilities. By implementing feedback capabilities, customer scores are collected by operational units and integrated into the models.

- The added value of a feedback option is measurable and can contribute to increasing the acceptance of a model.

IN ADDITION TO SUCCESSFUL OPERATIONALISATION, MISSING AND INCORRECT DATA ARE KEY CHALLENGES FOR IMPLEMENTING SALES-ORIENTED CUSTOMER ANALYTICS USE CASES

Sources

1 **Internal Data**

2 **External Data**

3 **Data Collection**

Challenges

1 — Internal Data

- Incorrect policy data, e.g. due to incorrect input or errors after policy migrations
- No suitable infrastructure for aggregating and processing customer data

2 — External Data

- The level of aggregation or definition of the customer clusters do not fit to the company's portfolio
- Incorrect data or methodological errors in data collection may lead to misinterpretations
- The purchase of data can come at a high expense

3 — Data Collection

- Misstatements by policyholders can lead to misleading results and cleaning up misstatements can be a challenge
- A carefully planned and executed survey design is crucial for the quality and relevance of the data in customer surveys.
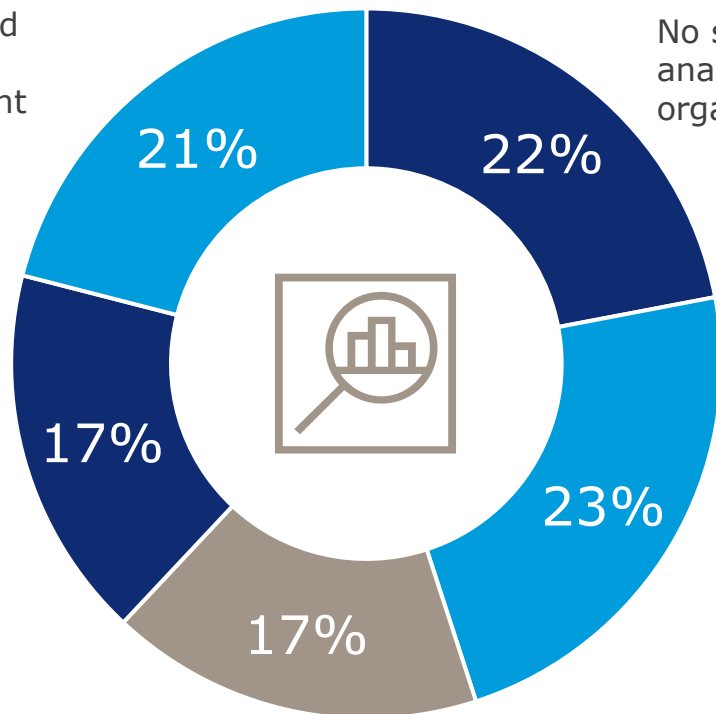
THERE IS NO CLEAR OPERATING MODEL FOR DATA & ANALYTICS (DA) WITHIN ACTUARIAL DEPARTMENTS

Q: Please describe your company's operating model for Data Analytics (DA)*:

Data analytics solutions owned and driven both in the actuarial department and a central specialised unit | Close collaboration

No specific data analytics organisation in place

21%

22%

17%

23%

17%

Data analytics solutions exclusively owned and driven by the actuarial department.

Data analytics solutions owned and driven both in the actuarial department and a central specialised unit | Clear use case based separation

Data analytics solutions exclusively owned and driven by a central specialised unit

*PwC Global Actuarial Modernisation Survey 2022, n=203

- A clear operating model for DA solutions provides greater clarity on responsibilities and objectives to be achieved with DA solutions.

- Companies without an operating model often struggle to monitor processes and operationalise solutions.

- Insurers with a well-defined operating model for DA solutions have a clear advantage.
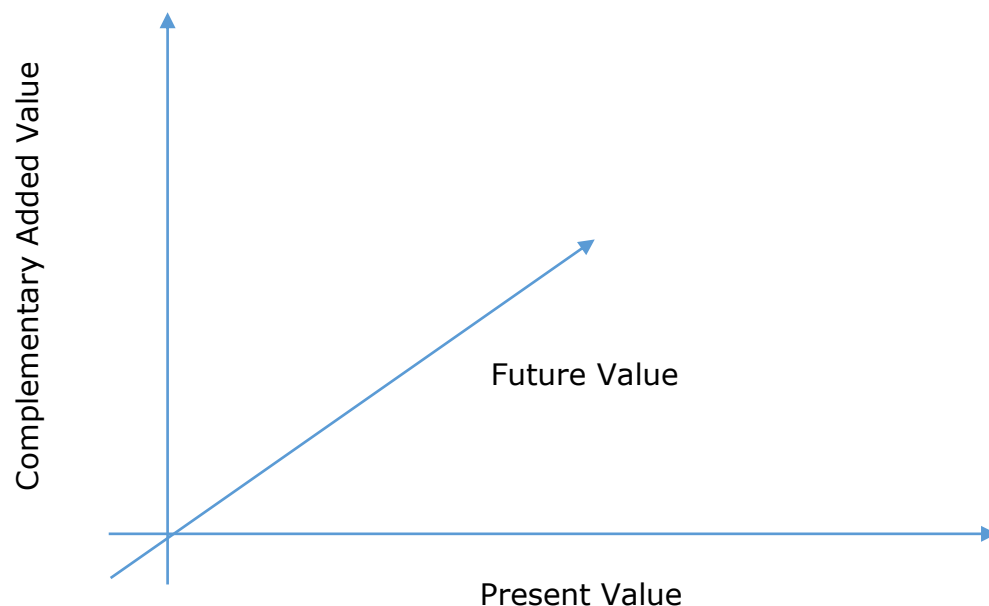
?

Which data & analytics solutions are suitable to be driven by the actuarial department?

THE TYPICAL CUSTOMER VALUE CONCEPT CONSISTS OF 2 TO 3 COMPONENTS

Standard model for determining customer values in the insurance industry

Complementary Added Value

Future Value

Present Value

General information:

- Customer value analysis is needed for sales management, but especially for the management of service units.

- It is often assumed that it is necessary to calculate a very granular and monetary customer value.
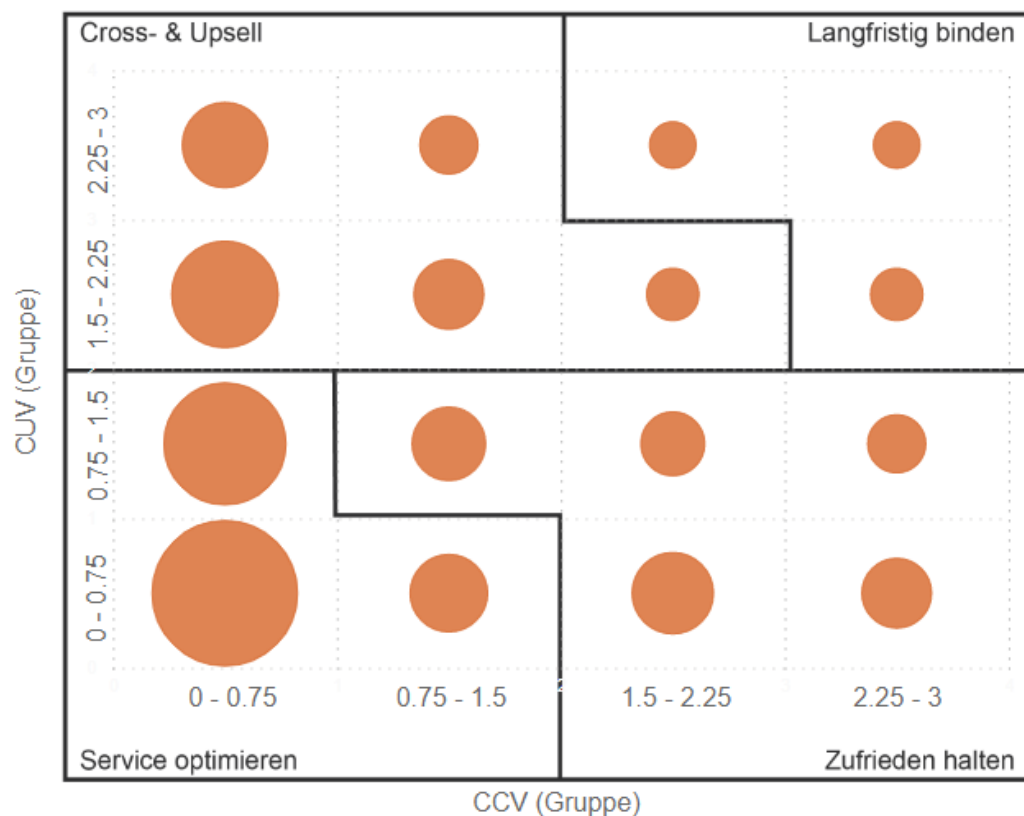
! The analysis of more than 20 customer value use cases has shown that more than 70% of the use cases do not require high granularity of actuarial data.

CUSTOMER VALUE ANALYSIS REQUIRES ACTUARIAL KNOW-HOW AND CONTRIBUTES TO THE ACHIEVEMENT OF BUSINESS OBJECTIVES

CLV-Gruppierung
Anzahl Verträge je CLV-Cluster

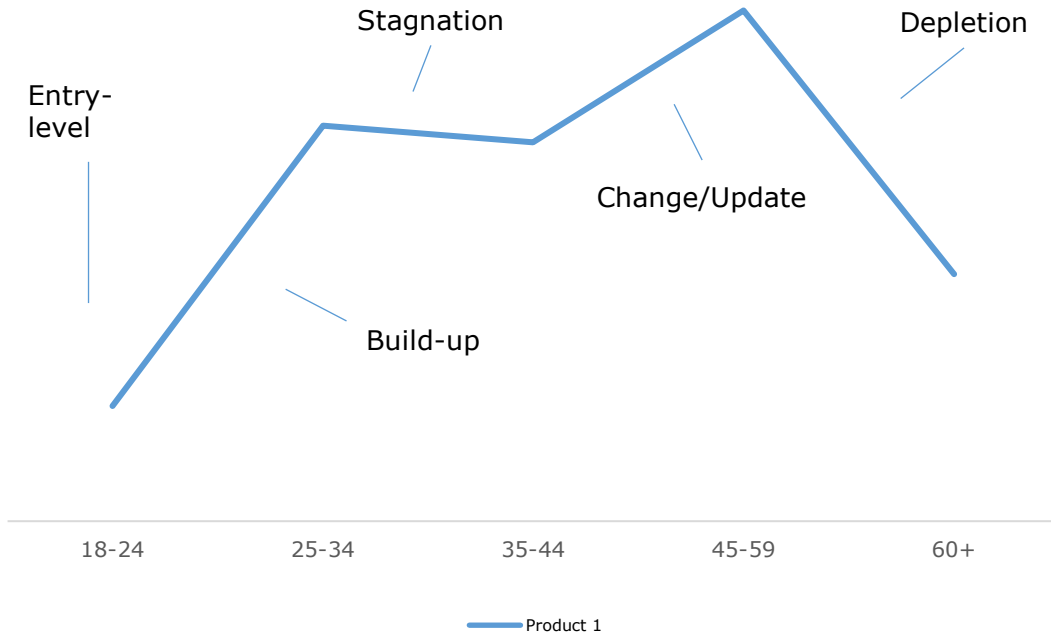CCV = Current Customer Value, CUV = Cross- & Upsell Value

General information:

- Managing customer services based on customer value scores is a common practice in many industries.

- The added value of customer service management based on customer values is measurable.

- The design of the matrix dimensions depends on the use case and must be adapted accordingly.
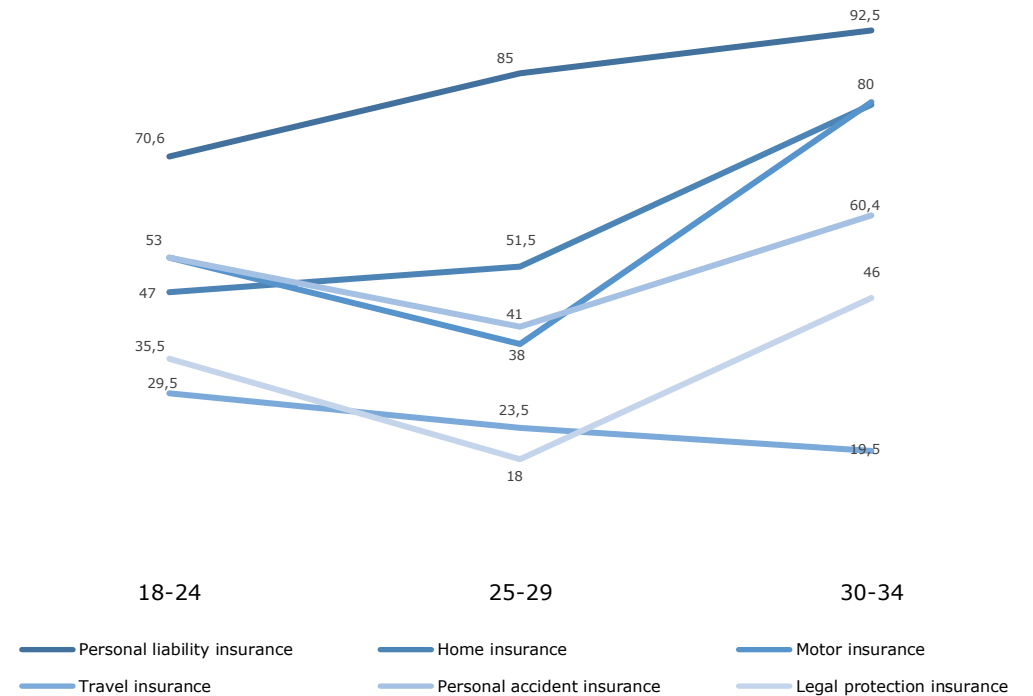
! Due to the complexity of data and the necessary product knowledge, customer value analysis offer an ideal chance for actuaries to drive the use case.

Share of purchased products by age

Stagnation

Entry-level

Depletion

Change/Update

Build-up

| 18-24 | 25-34 | 35-44 | 45-59 | 60+ |

— Product 1

Share of policyholders per age group (in percent)

92,5

85

80

70,6

60,4

53

51,5

47

46

41

38

35,5

29,5

23,5

19,5

18

| 18-24 | 25-29 | 30-34 |

— Personal liability insurance   — Home insurance   — Motor insurance
— Travel insurance   — Personal accident insurance   — Legal protection insurance

? Which triggers lead to customers entering a new phase and what are the differences regarding customer attributes?

IN ORDER TO ACHIEVE A HIGH COVERAGE OF POSSIBLE APPLICATIONS, AN ADJUSTMENT TO THE CUSTOMER VALUE DIMENSIONS IS USEFUL

Three dimensions of a customer value

CCV

contractually bound

CUV

further potential

RV
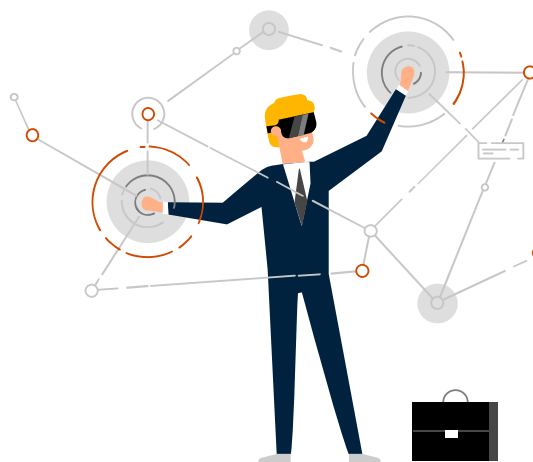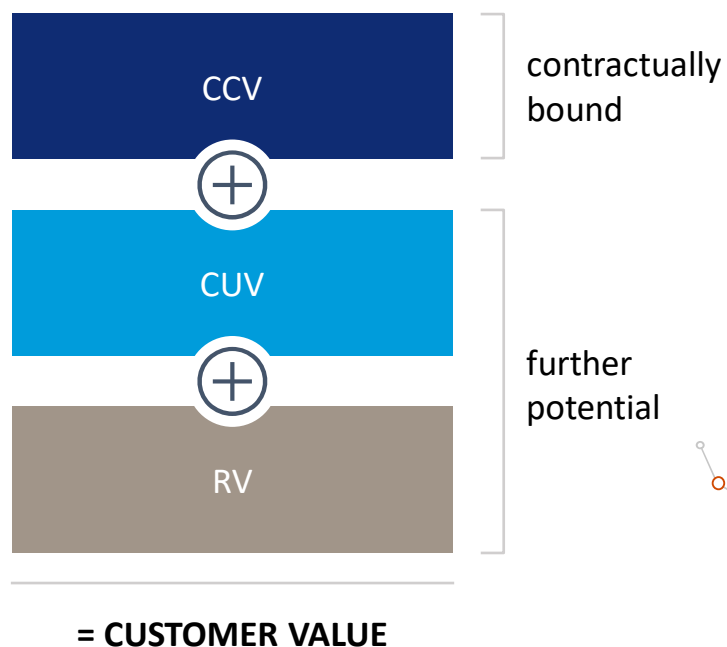
= CUSTOMER VALUE

Current Customer Value (CCV)

- Describes the contractually bound value of a customer and is based on actuarial data and assumptions
- If feasible, a granular cost allocation is useful at this point

Cross-& Upsell Value (CUV)

- Describes the potential value stemming from new sales to the customer and is determined using a life-cycle model and market data.

Recommendation value (RV)

- Is a complementary component and is based on portfolio data as well as expert judgement

CALCULATION OF THE CROSS-& UPSELL VALUE USING A LIFE CYCLE MODEL (1/2)

The CUV is calculated using the following bulding blocks:

0

| Preprocessing |

Establish a standard portfolio of insurance products for customers in each life phase and attribute group	Use market data (for example in Germany use at least 8-10 products)
Add additional product if necessary	**!** Market data for many products is frequently unavailable or of low quality, particularly when it comes to purchase behaviour of older age groups. As a result, it is often necessary to conduct your own data or to estimate outlying states using simplified methods.
Determine the purchase probabilities and potentials for each product in your standard portfolio with respect to every state in the life cycle model.	

CALCULATION OF THE CROSS-& UPSELL VALUE USING A LIFE CYCLE MODEL (2/2)

The CUV is calculated using the following bulding blocks:

1		2		3
Short Term Potential	⊕	**Mid-Term Potential**	⊕	**Long Term Potential**
▪ Calculate the current buying probabilities and potentials (Take only into account the contracts of the standard portfolio that the customer does not have.)		▪ Consider the remaining years within a given life phase and multiply by the market potential of that particular group.		▪ Add the potentials of the remaining life phases.

! Please note that we use a "left for good" model and a strong heuristic approach.

WHAT CAN ACTUARIES LEARN FROM SALES-ORIENTED CUSTOMER ANALYTICS DEPARTMENTS?

Focus on operationalisation of the use cases

The operationalisation of data analytics applications is challenging, but crucial for the success of a use case.

01

02

Improving models through targeted data collection and feedback systems

To improve models, it is important to collect targeted information and data from customer interfaces. The optimisation of models through feedback systems is often measurable.

03

04

Agile use case development with risk assessment

A fully precise result is not always required to derive actions. Therefore, use cases should be divided into different development speeds, with one factor being the risk of drawing inaccurate conclusions.

Using triggers in different life phases

In order to better understand and predict customer behaviour, it is helpful to consider triggers depending on different life phases. This allows us to optimise not only the customer approach but also the pricing and product design.

Thank you very much for your attention

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