

01_Report Design Guidelines


Last updated by | Matthias Duschl | 27. Feb. 2020 at 14:31 MEZ

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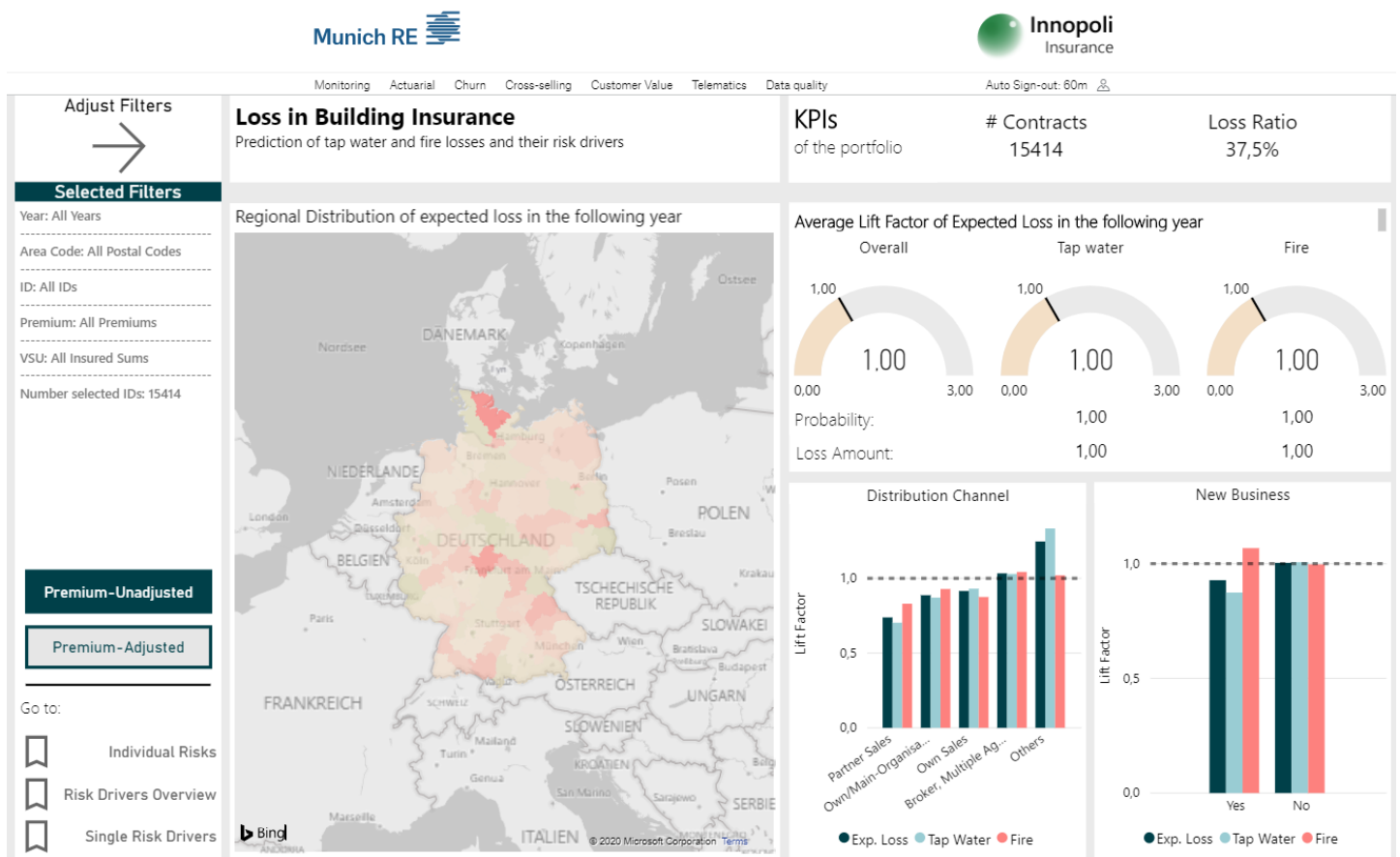
Dashboard Design Guidelines

To embed your PowerBI dashboard into the web-front end, we recommend the following design guidelines:

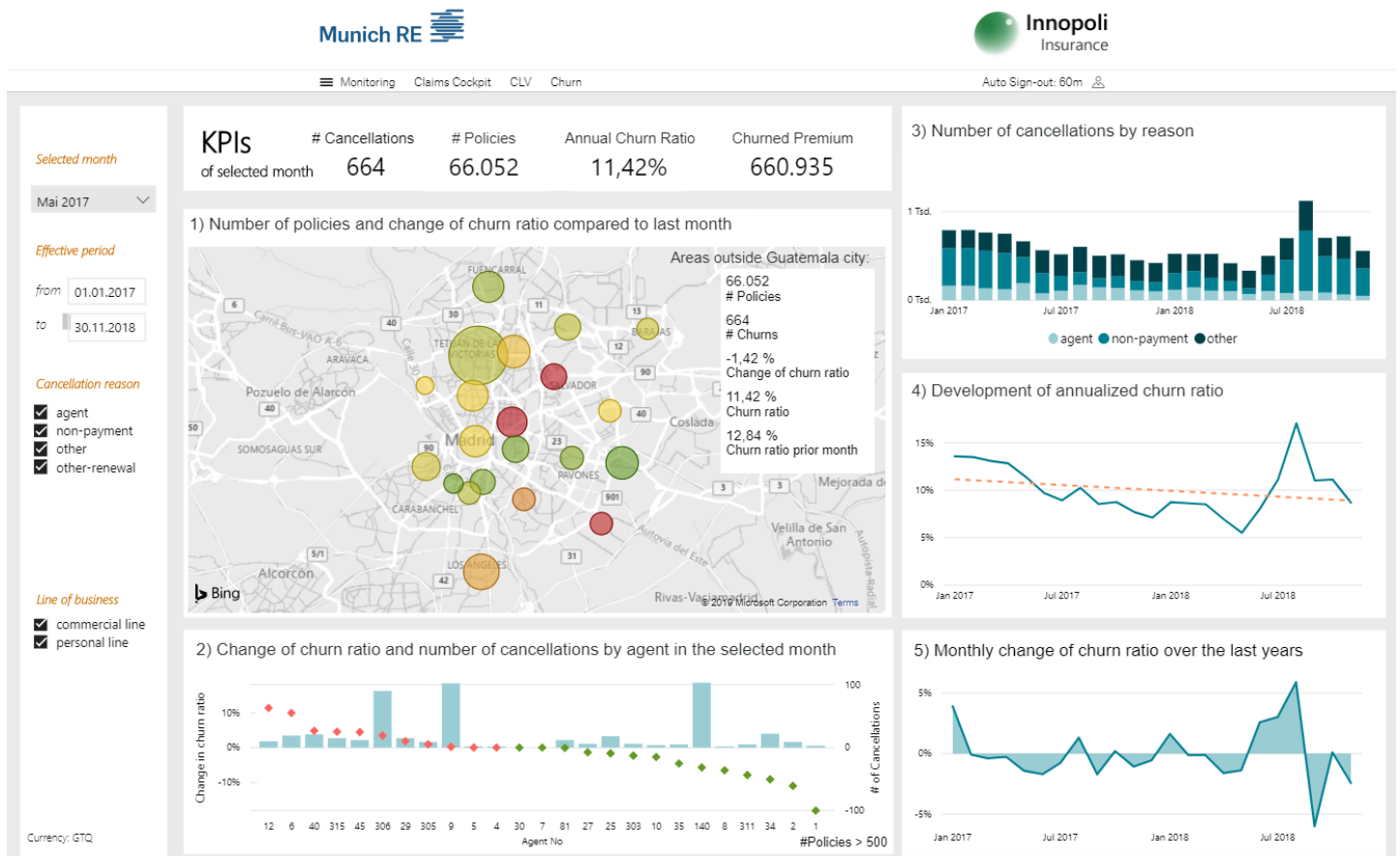
- do not place any MR or client logo within PowerBI. They will be part of the web-front end.
- use the [pre-configured design scheme](#) , which includes MR corporate colors and ensures consistency in formatting (font, sizes, colors). You can import the .json file in PowerBI under *Switch Theme* and *Import Theme*.
- place the navigation pane with your main/global filters on the left side. It consists of a white rectangular area as a background and left-aligned filter boxes
- use a light grey background and white rectangular shapes to visually structure your dashboard like in the gallery below
- if you use custom visuals, only certified visuals (with blue star) are supported
- **be as consistent as possible** in the design patterns within the sheets of your report but also with the other reports for the customer (e.g. avoid jumping filters, align everything perfectly).

Dashboard Gallery

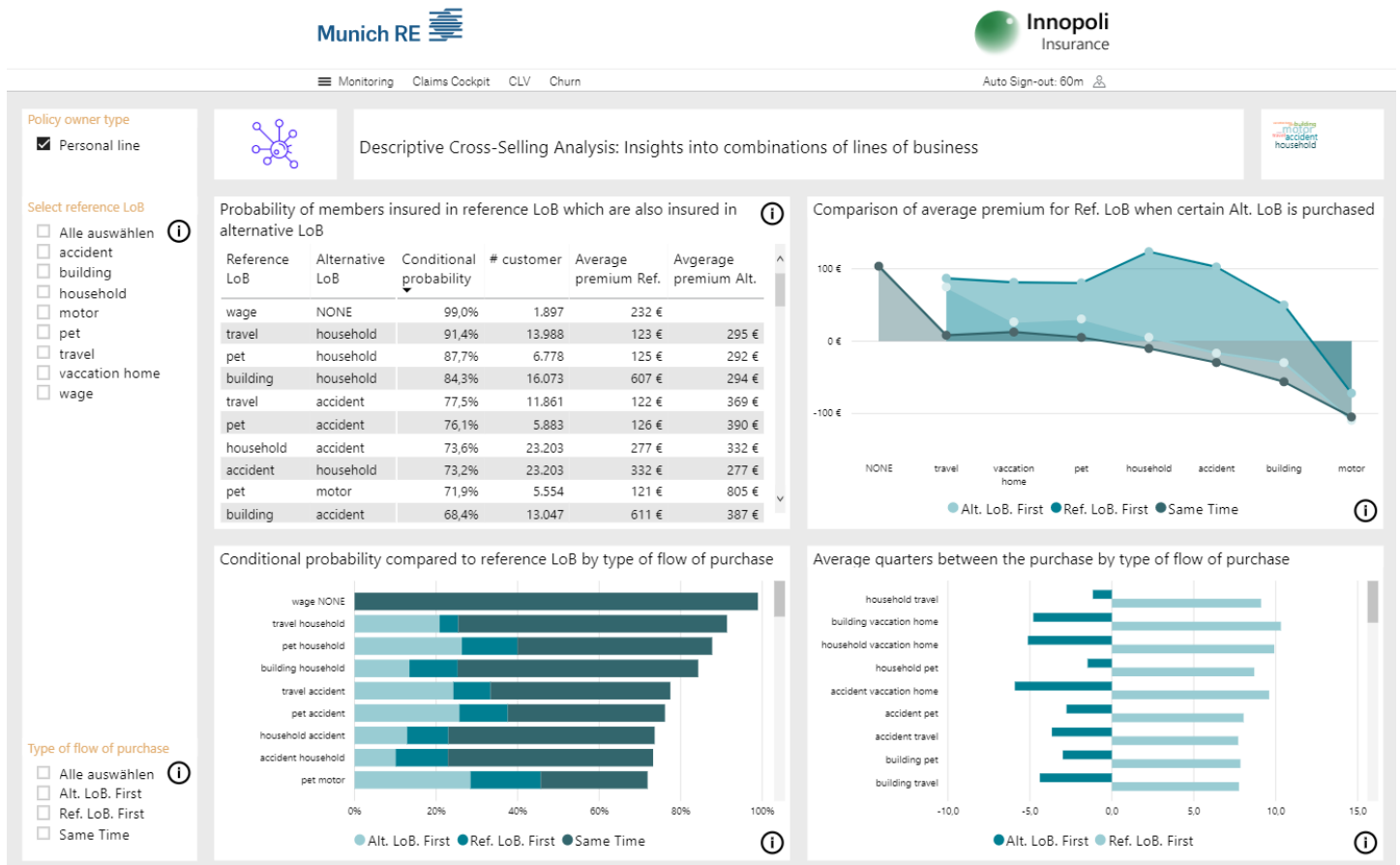
Report layout and modern-looking filters



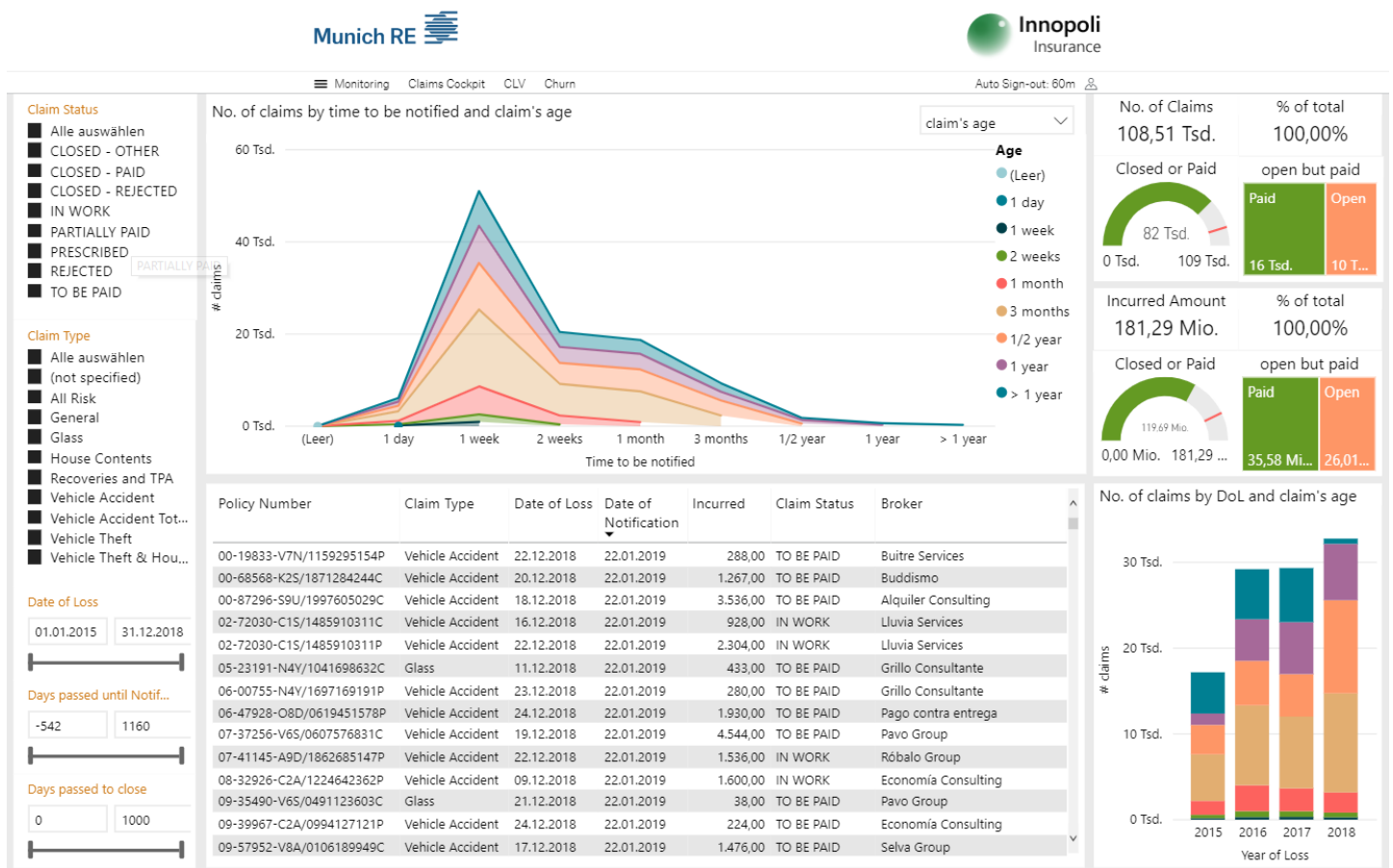
Visualising analytics model outcomes



Guiding through multi-variate correlations



Monitoring of operational aspects



Explaining underlying model logic interactively

Customer Lifetime Value

Customer lifetime value (CLV) is a **prediction** of the **net profit** attributed to the entire **relationship** (insured period; past and future) with a customer. In general the model can have varying levels of sophistication and accuracy, ranging from a crude heuristic to the use of complex analytics techniques. In our case the focus is on the **predicted customer life time** for the **next x-month**. It is driven mainly by **four** components:

$$CLV_{t_0} = \sum_{i=1}^T \frac{\overset{(see\ 1)}{profit_{t_i}}}{\overset{(see\ 1)}{retention_{t_i}} (1 + \overset{(see\ 4)}{discount_{t_i}})^i} \quad \text{with } i \in 1, \dots, T \text{ (in month) and } t_0: \text{reference time point}$$

$$profit_{t_i} = \left(\overset{(see\ 3)}{premium_{t_i}} * \overset{(see\ 3)}{loss\ ratio_{t_i}} - \overset{(see\ 4)}{costs_{t_i}} \right) * \overset{(see\ 2)}{cross\ pot_{t_i}} \quad cross\ pot_{t_i} = \begin{cases} 1, & \text{if customer has product at } t_0 \\ c_{t_i}, & \text{else} \end{cases}$$

$$discount_{t_i} = risk\ free\ interest_{t_i} + inflation_{t_i} + risk\ interest_{t_i}$$

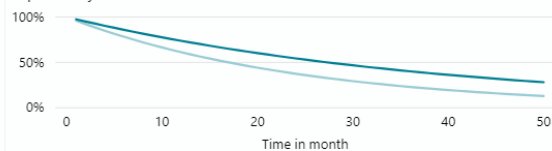
1. The likelihood of retention is different between customers based on his characteristic.

--> Statistical **modelling** to get **individual retention curves** (overall and each line of business).

Model type retention

- ☐ Cox Regressi...
- ☒ Discrete Tim...
- ☐ Survival Rand...

Explanatory retention curve for two customers based on model used



2. The cross-selling potential has a major impact on the CLV. The more likely it is to sell additional products to the customer the higher the CLV.

--> Statistical **modelling** of **individual cross-selling potentials** for each line of business.

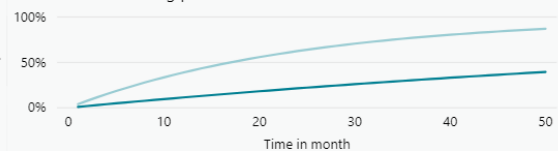
Model type cross-selling

- ☒ Logistic Regr...
- ☐ Random Fore...
- ☐ XG Boost

Cross-selling to LoB

- ☒ Motor
- ☐ Travel

Predicted cross-selling potential for two customers based on model used



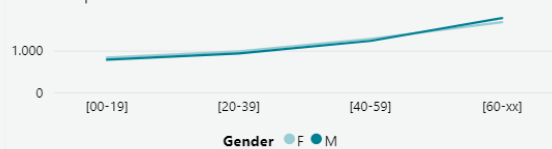
3. An adequate pricing is assumed and therefore the loss ratio for each line of business is fixed based on past history. However the individual premium can vary among customers.

--> Statistical **modelling** for **individual expected premium**.

Premium of LoB

- ☒ Accident
- ☐ Motor
- ☐ Travel

Predicted premium based on member characteristics and LoB



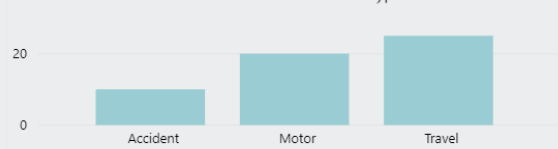
4. Costs include administration costs and run-off costs which are different for each LoB.

--> Different **costs based on best practice** in the market and/or company.

Cost type

- ☒ Marketing
- ☐ Run-off

Assumed costs for different lines of business and type of cost



General dashboarding principles

Consider general best practices on visual design, which you can find for example in the materials from the MR Training on dashboarding:

[Deloitte_Visual Analytics Training_Documentation.pdf](#)

Style guide

This style guide is already implemented in the corresponding [PowerBI design scheme](#) . The following table just serves as an overview.

Colour Scheme

https://munichre.sharepoint.com/:x:/r/teams/NL_Analytics_Platform/_layouts/15/Doc.aspx?sourcedoc={987CC0FC-90E4-4D6B-A87E-B2523E511C08}&file=Information Font etc. Template.xlsx&action=default&mobileredirect=true

[Template.xlsx&action=default&mobileredirect=true](#)