

Hatékony szolgáltatásajánlás ML alapokon

Predictive next best tariff offer



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Introduction



Palotay Réka
Data Scientist,
United Consult K2



Erdélyi Balázs
Data Scientist,
CoE Lead,
Telekom HU

Scope of the predictive next best tariff offer



Sales Volume / Value / Delta Value



Maximize



Personalized offer



Behaviour information

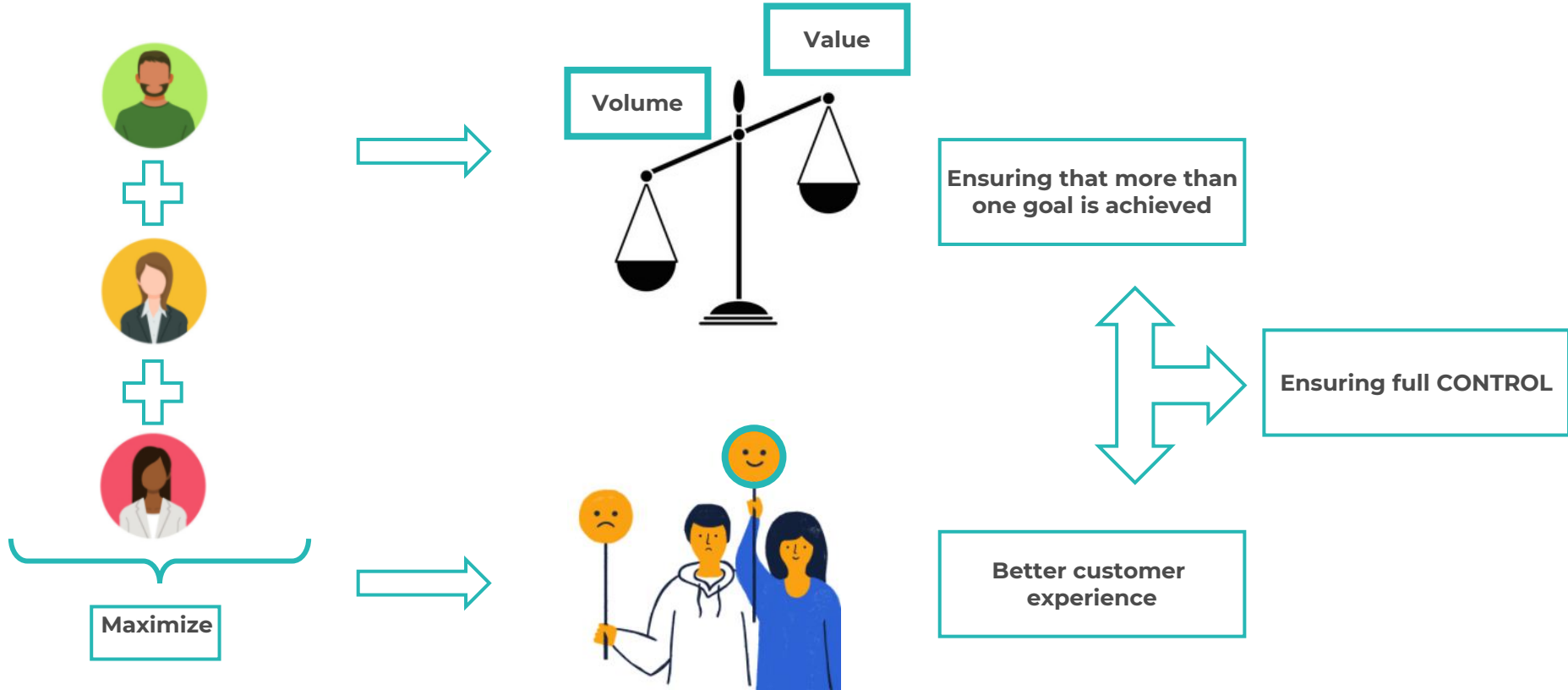


Maximize

Business Focus



Sales Volume / Value / Delta Value



Modeling Focus

Handling continuous
portfolio change

Optimization - more
than one goal

Manual
supervision/decision
effect

Customer & Offer
stability

Thinking in solution –
e2e process

Multiple offers at once

Variables



Past

One-step larger offer
based on classical data

Assumption

Digital footprint helps
with personalized offering

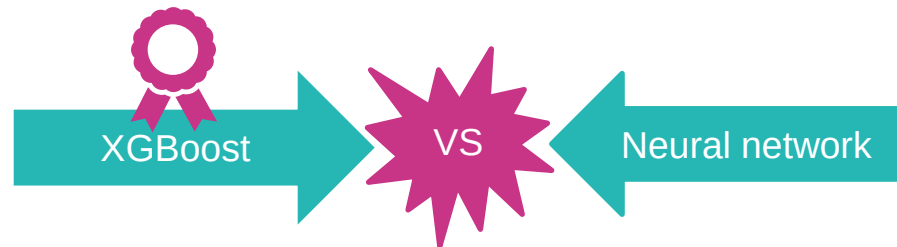
The **main goal** of the
data preparation was to
use not only the various
account information,
but the user activity and
behaviors

40% of the variables
used by the model
were **behavior
information**



40%

Model selection



Expectation from the model

- Understanding behavioral information
- Easy implementation
- Fast result

Similar accuracy

XGboost is easy to interpret

XGboost is easy to implement

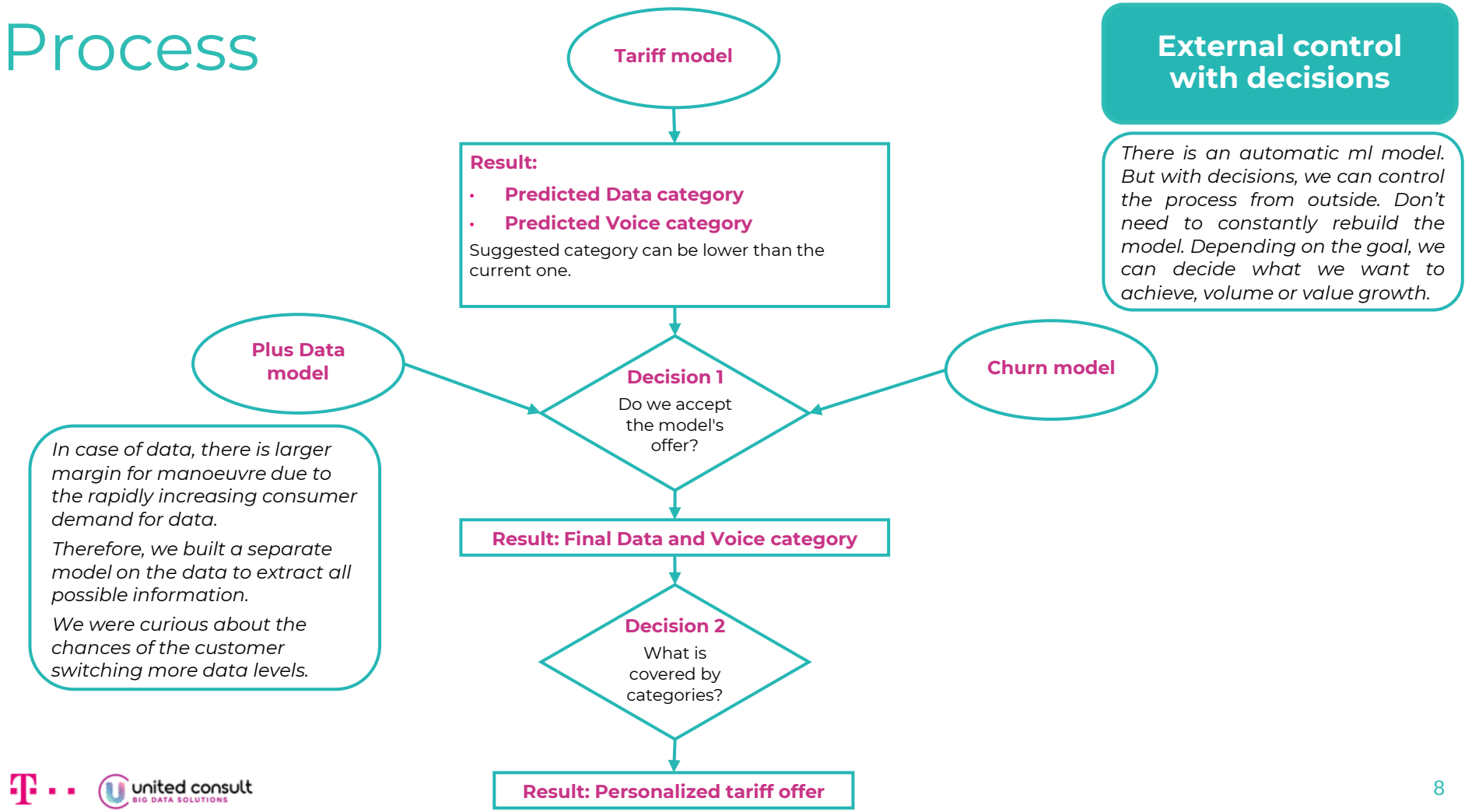
XGboost: Lower training time

NN is more flexible

NN more customizable

we didn't discard the neural network permanently. It can be useful later for new, more complex data.

Process



Decision 1 – Category prediction

Customizable result

Voice

Predicted voice category by the model

Examination: downshifting was suggested by the model because there is no chance of upshifting or there is a high chance of churn?

- If yes: select voice category suggested by the model, because retention is more important than switching to a larger package
- If no: select current voice category

Churn model result

Predicted voice probability score > n
or
churn score > m

True

Predicted voice category
(lower than the actual category)

False

Actual voice category

Voice probability score(n) and churn score(m) threshold can be adjusted according to business needs

Data

Predicted data category by the model

Examination: Is there chance for this customer to switch to larger data (Plus data model result)?

- If yes: it is worth recommending larger data category
- If no: select data category suggested by the model

Plus Data model result

Plus data score > k

True

Larger data category

False

Predicted data category

Plus data score(k) threshold can be adjusted according to business needs

Decision 2 – Tariff assignment

**Handling
continuous portfolio
change**



Problems

- Portfolio changes frequently
- The number and value of packages can also change
- Some customers are in a very old portfolio



Challenge

How can we handle problems without always having to build a new model



Solution

Cover portfolio with categories

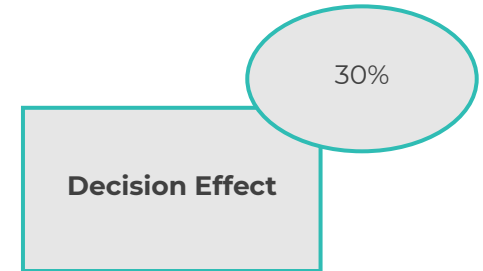
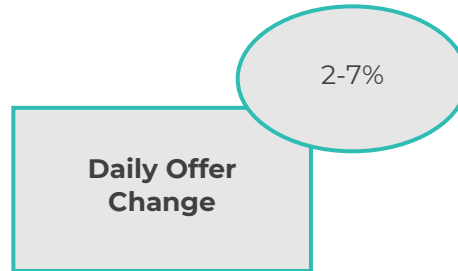


Benefits of the solution

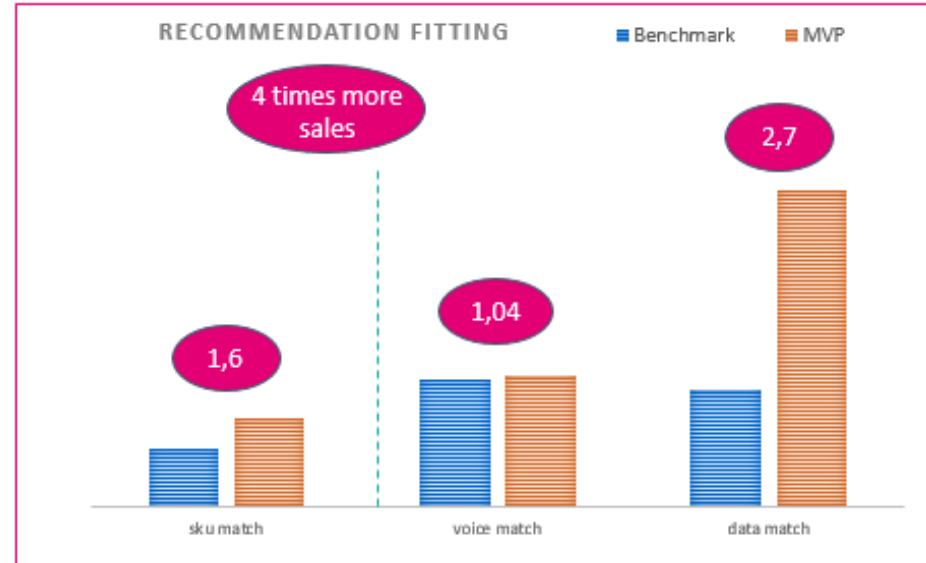
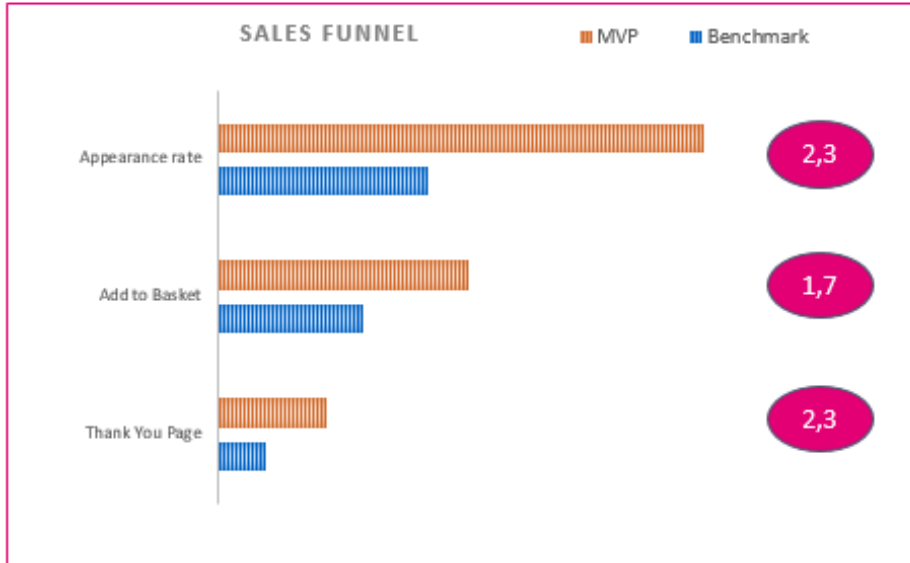
- The new portfolio can be assigned to categories immediately
- The category assignment can be changed at any time
- If the business goal is transformed, re-categorization may be enough, don't need to develop a new model

Results

Model Stability



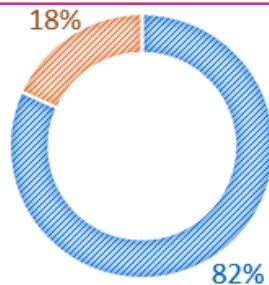
MVP Results* – Go Live



MVP Results – Go Live

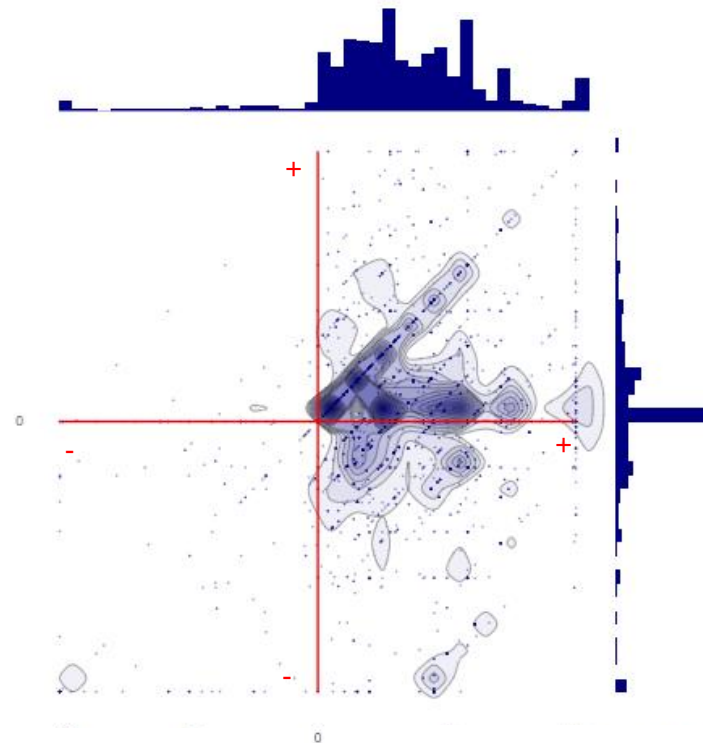
AVG. PRICE INCREASE (HUF)

■ Actual ■ Gap



Monthly fee change

Purchase change from previous



Offer change from previous

Thank you!

