

# Client Presentation

Group 10





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# **Outline**

- 1. Executive summary
- 2. Context & Objectives
- 3. Key Success factors
- 4. Methodology
- 5. Pricing and Benefits
- 6. Next steps
- 7. Team presentation

# **Executive Summary**



- Context + key success factors
- Highlighting internal and external needs for using data



- Methodology
- Created a client churn prediction model to detect future churners



- Pricing and benefits
- With the cost of 220,000 euro, the revenue will be increased by 5%



- Next steps
- Improve model, expand the usage and initiate pilot programs for other 2 cases

# There are external trends and internal needs for data programs

### Market trends



- Leading distributor of industrial supplies
- **KeepStock:** Inventory management platform analyzing consumption data and automating the procurement process
- **Integrated Data Warehousing:** Integrated technology platform for probitability analysis and decision making



2019 revuenue \$7.2B

- Leading distributor of building & industrial materials
- Predictive analytics for R&D: Streamline innovation efforts, reduce testing time for faster product development and less cost of iterative performance testing

### Internal needs



Digital supply chain, churn prevention program, promotion ROI optimization...

The level of service must be increased...

Competitors invest massively in tech and digital...



Strategy Head



Supply Chain Director

Manual inventory with mistakes and **no track records** of past inventories...

Demand forecasting, databased inventory...

Current CRM tool is time consuming... A cross sell tool for best clients...



Manager



Data Manager & Engineer

Old supply chain, missing qualitative data from customers, difficult to obtain homogeneous data...

Solution for churn prevention... Improve branch performance...



Sales Head & **KA Manager** 



Commercia Director

Tackling churn could have a major financial impact... Supply chain optimization, or inventory...

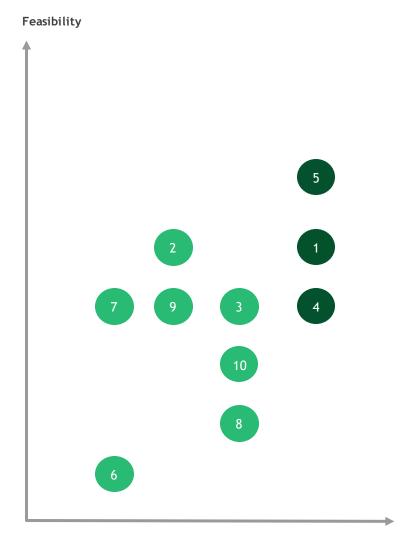
Real-time pricing and supply chain digitization...



Client

### 10 valued-added use cases are identified

	Use Case	Reasoning	
1	Digital Marketing	To raise customer awareness and improve brand image	
2	Financial Dashboard	To address liquidity problems, reduce currency fluctuation risks and improve financial visibility for better decision-making	
3	Sales data platform including prediction	To better allocate resources according to sales predictions thus increasing revenue	
4	Inventory Optimization	To reduce cost and improve efficiency of all store inventories	
5	Customer Churn Prediction	To increase revenue increase, improve customer satisfaction and loyalty	
6	Data based ESG program	To build up brand image and fulfil social responsibility	
7	Data governance program	For data security to prevent cyberattacks and cybersecurity vulnerabilities	
8	Supplier optimization	To reduce procurement cost and improve quality of raw material	
9	Portfolio Optimization	To improve performance and resource allocation	
10	Market Expansion Recommendation	To capture more market share to compensate the declining performance in Western Europe and in Southeast Asia	



# 3 cases should be prioritized after analysis



### Churn prediction

"Sales data is accessible, doesn't involve too many staff, and could bring medium term value to enable additional programs. From previous experience, I believes it could lead to 1% income growth"

Charlotte Davelle, CDO

### Resources needed:

- · Transaction data
- Branch locations

### Rationale:

- Have access to transaction data
- Quick to develop and implement as a small pilot project
- Promising financial benefits









### Digital marketing

"Marketing data is very poor. We have basic info such as transactions per customer, but we don't have qualitative info on customers that could help us improve our promotions or segment our database."

Laurent Stacks, Head of Strategy

### Resources needed:

- Customer specifics data
- Sales orders by type of product
- Data on product & services portfolio

### Rationale:

- Can enhance marketing strategy and boost sales
- Can help develop a better understanding of client base for targeted ads and crossselling



# Inventory optimization

"Not familiar with data analytics but best options could be supply chain optimization to reduce delays and out of stocks, or assortment optimization, or inventory

Laure McKenzie, Commercial Director

### Resources needed:

- Warehouse and branch locations
- · Sales orders and accounting data
- Suppliers and point-of-sale (POS) data

### Rationale:

- Can improve efficiency and retrieve potential lost sales
- Can increase customer retention by enhancing customer experience (less delays and/or out of stocks)
- Can ensure better planning and sales forecasting

# Methodology - client churn prediction

Data collection



6+ M Datapoints 170k+ unique customers 2 years of transaction analysed Data processing





Created relevant features for Churn prediction:

- Average and Total quantity bought per client
- Average and Total net sales per client
- Average and max time between transactions
- Number of order per order channel per client

ML model

### Input:

- · Client id
- Transaction Patterns
- Order KPIs
- Sales channels

### Churn rule:

 Labelled as churned if the time next transaction is bigger than 90% of transaction time intervals

### Output:

 Churn predictions and churner ranking on client database

Results

Accuracy: 60% Recall: 60%

# Methodology - Leverage the predictions

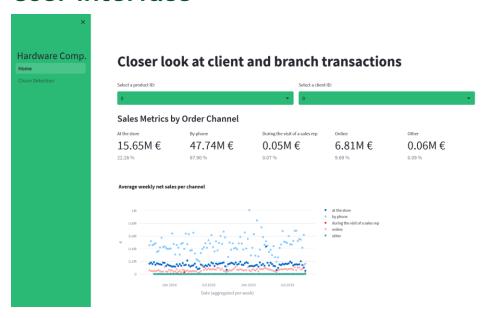
### Identify the priority clients



Ranking based on:

Expected expenses & probability to churn

### User interface



1. Client & product analysis



2. Client churn & product recommendations

# **Pricing & Benefits**

# Resources mobilized over a 2 months period

3 full time data scientists

120 000 euros



1 full time business lead

60 000 euros



1 full time IT support

40 000 euros

**Total** 

220 000 euros

ROI = 176 millions euros (or 5% of 2019 net sales)<sup>1</sup>

### **Benefits**

- Understanding the lifecycle stage of customers, which can be a critical factor in policy development, management and distribution
- Understanding the patterns of customer experience, allowing managers to target team members who are most likely providing excellent customer experience
- Identifying customer who require additional resources and sales competence
- Assess risk factors that may impact revenue performance (e.g. segments with higher churn rates or low renewal rates may reflect greater risk factors)
- Set a precedent for other data use cases in the future to enhance value creation using data

<sup>1:</sup> Based on 2019 net sales by customers identified as churner in 2019

# Next Steps: Roadmap

**Phases Milestones** 

# Build and train

# Predict and quantify

# Investigate and prevent

# Optimize and reduce

- Demonstrate value added and feasibility of the model in the short-term by deploying pilot program and ensure proper scale up
- Ensure effective adoption of the model by communicating and training with the employees to be in charge
- Raise awareness among employees about the importance of this model for future financial performance of the company

- Calculate the effect of the churn rate on the business (lost sales)
- Assess which clients are responsible for highest loss
- Calculate retention rate

- Investigate the reasons behind predicted churn in specific clients
- Assess the ways to recover churn and retrieve lost sales
- Mobilize sales team to reach out to target valuable clients

- Implement actions to reduce further churn and increase retention
- Ensure continuous training of the employees and hiring of competent data scientists
- Prove value creation and investigate more use cases to ensure digital transformation (inventory optimization, digital marketing, etc.)
- Deploy the program into other geographies and train all the local sales teams

Timeline

3-6 months

6-12 months

### The Team



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# Thank you for your attention!

# Appendix

# Churn prediction

### Choice of the metric used for the machine learning model

It is more costly to miss a churner than to identify a non-churner as so



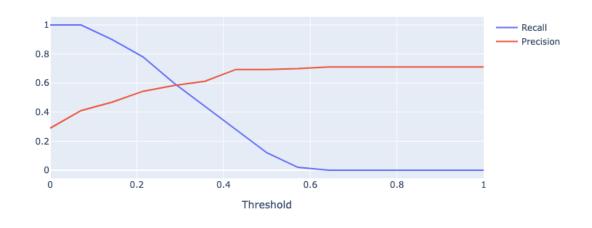
over-shooting strategy

Recall = ratio of the churners predicted as so, among all churners.

We spot the right balance between accuracy and recall.

Final recall: 60%

### Churn threshold tradeoff



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# Appendix Scope 2: Digital Marketing

**Phases** 

Data collection
1 month

Build & analyze
1 month

Target Marketing 3 months

Further actions 7months

Milestones

- Choose one country to start the pilot digital marketing problem
- Collect and consolidate both qualitative and quantitative data from different branches and also other channels
- Build a database for marketing department, containing the customers' profile and consuming habits
- Analyzing consuming habits for top 20 company customers (e.g. channels they prefer, products they purchase)

- Design target digital marketing strategies
- Implement tailored advertisement to 20 companies selected and optimize online marketing activities through different online channels
- Collect the result and analyzing KPIs including conversion rate, spent, customer journey, landing pages

- Add more factors into database and improve our model
- Spot other potential markets to implement the digital marketing strategy
- Collect relative data required and expand the strategy into other geographies

Short term Long term 15

Appendix Scope 3: In

Scope 3: Inventory optimization

**Phases** 

System creation 2 months

Data input 1 month Build model 3 month

Further actions 6 month

### Milestones

- Create an inventory management system including information such as item description, quantity on hand, location, and reorder points
- Select 10 warehouses in 3 countries for pilot testing

- Input previous inventory data into the system
- Train employees to use the system for recording inventory
- Record inventory into the system through scanning barcode
- Analyze key ratios regarding inventory management (turnover rate, stock-out rate, days of inventory...)
- Build model to predict inventory level according to past data recorded in the system and set criteria for auto-procurement
- Add more factors into database and improve our model
- Expand the inventory management system to more warehouses and branches

Short term Long term 16

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# **Use Cases**

	Use Case	Benefits (/10)	Feasibility (/10)	Reasoning
1	Digital Advertising Campaign	8	7	To raise customer awareness and improve brand image
2	Financial Dashboard	6	7	To address liquidity problem, reduce currency fluctuation risks and improve financial visibility for better decision-making
3	Sales data platform including prediction	7	6	To better allocate resources according to sales prediction thus increasing revenue
4	Inventory Optimization	8	6	To reduce cost and improve efficiency
5	Customer Churn Prediction	8	9	To increase revenue increase, improve customer satisfaction and loyalty
6	Data based ESG program	5	3	To build up brand image and fulfil social responsibility
7	Data governance program	5	6	For data security to prevent cyberattacks and cybersecurity vulnerabilities
8	Supplier optimization	7	4	To reduce procurement cost and improve quality of raw material
9	Portfolio Optimization	6	6	To improve performance and resource allocation
10	Market Expansion Recommendation	7	5	To capture more market share to compensate the declining performance in Western Europe and in Southeast Asia



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