

Client Presentation

Group 10

FEBRUARY 2023

Outline

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

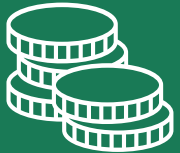
Executive Summary



- 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



2019 revenue \$11.5B

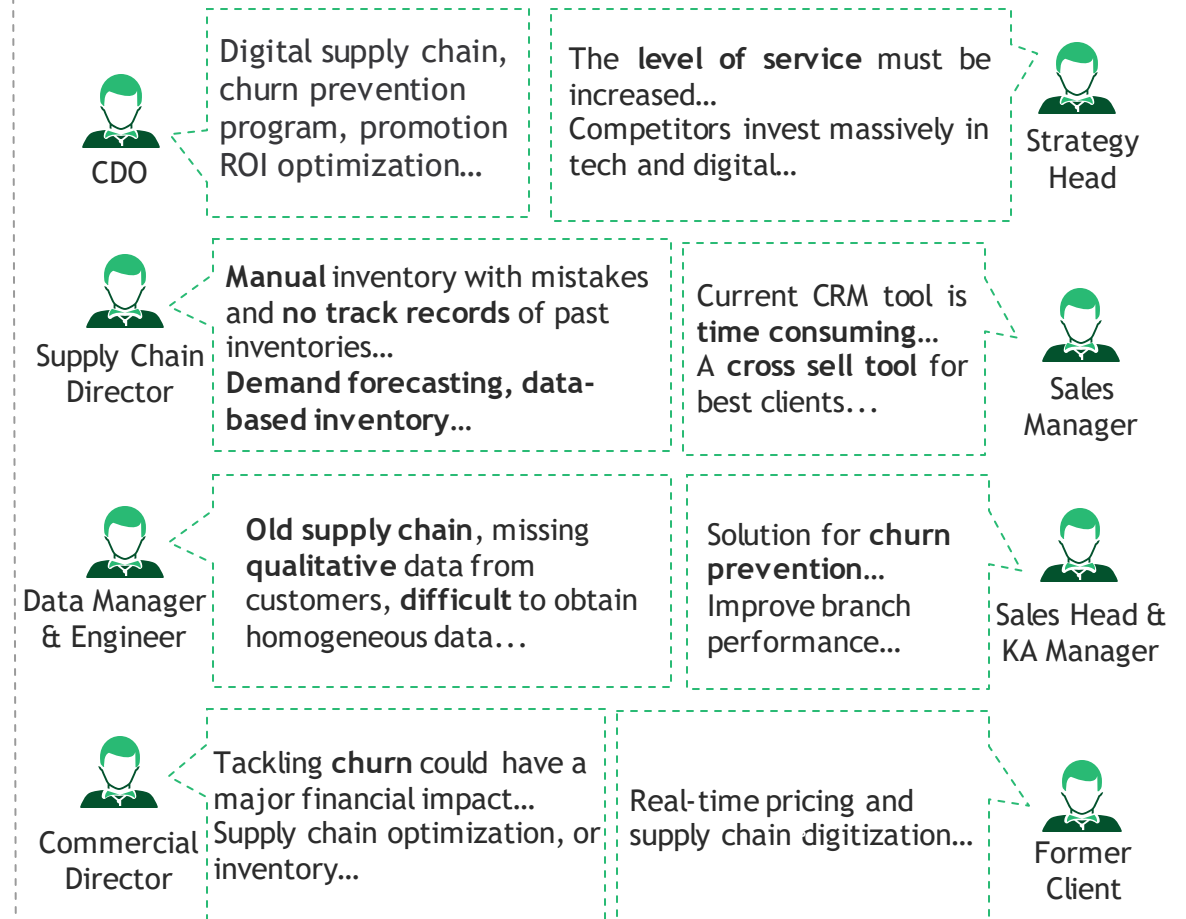
- Leading distributor of industrial supplies
- **KeepStock**: Inventory management platform analyzing consumption data and automating the procurement process
- **Integrated Data Warehousing**: Integrated technology platform for profitability analysis and decision making



2019 revenue \$7.2B

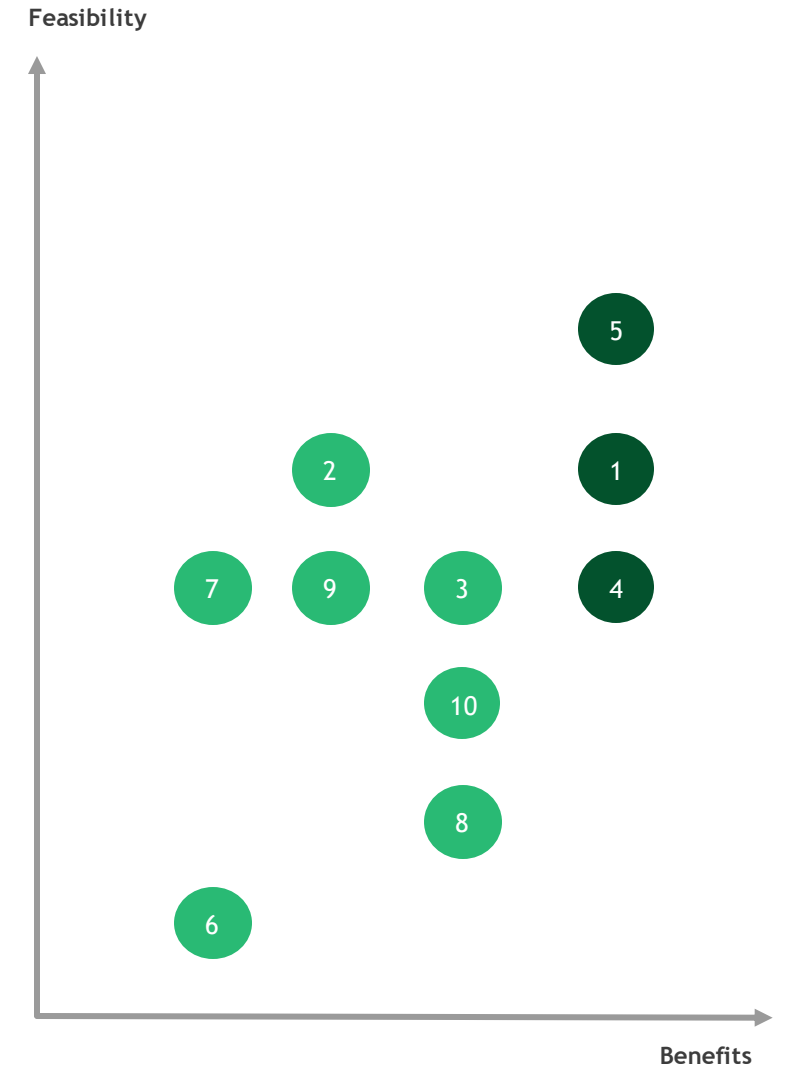
- Leading distributor of building & industrial materials
- **Predictive analytics for R&D**: Streamline innovation efforts, reduce testing time for faster product development and less cost of iterative performance testing

Internal needs



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

1 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 believe 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



2 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 cross-selling

3 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 churning ranking on client database

Results

Accuracy : 60%
Recall : 60%

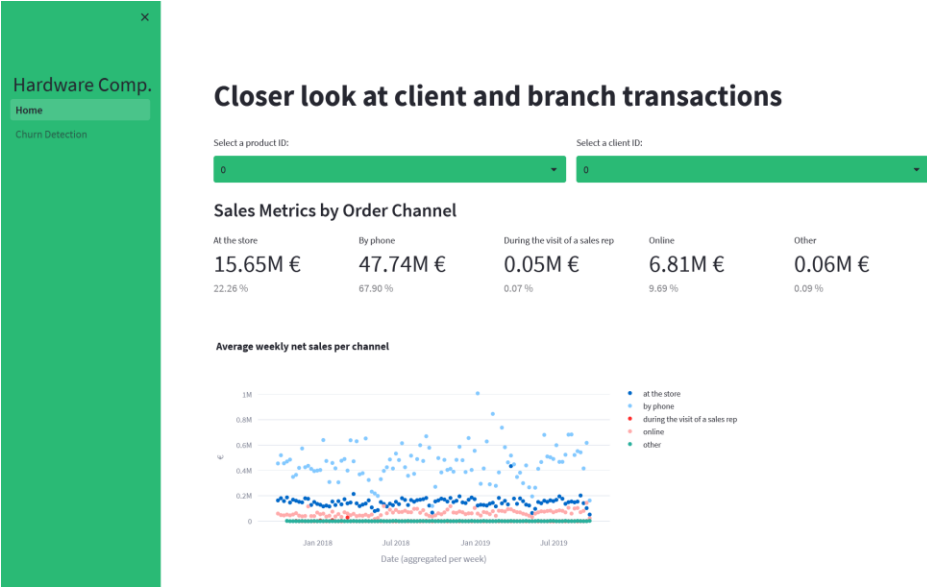
Methodology - Leverage the predictions

Identify the priority clients

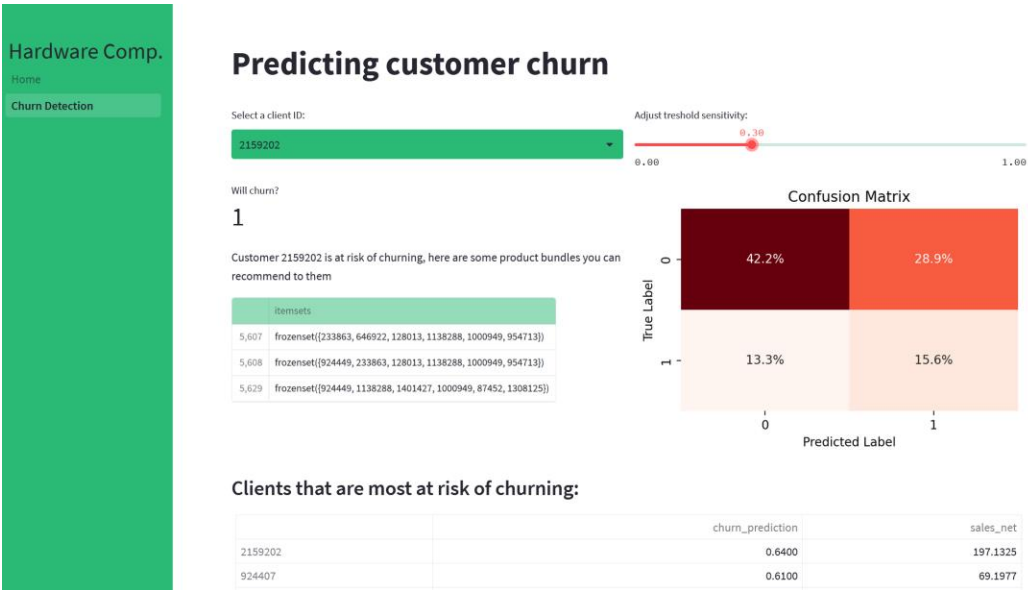


Ranking based on :
Expected expenses & probability to churn

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

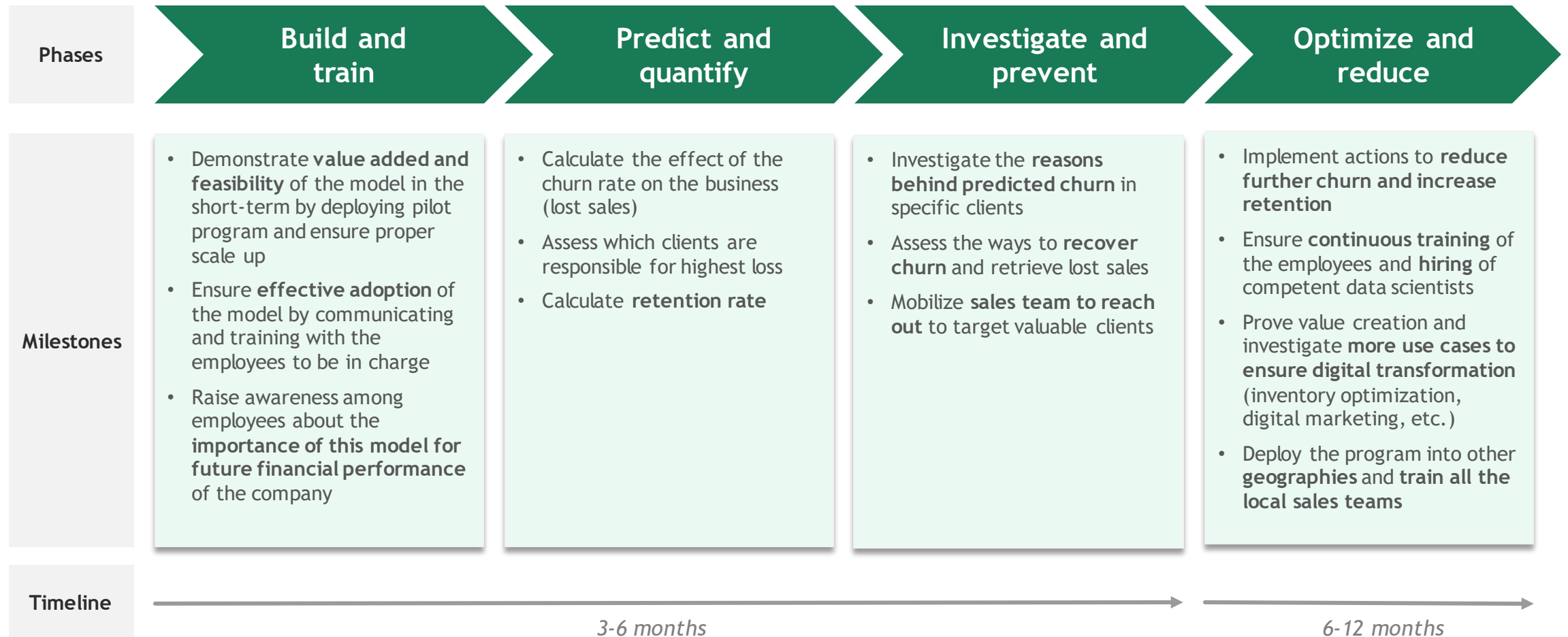
ROI = 176 millions euros (or 5% of 2019 net sales)¹

Benefits

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

¹:Based on 2019 net sales by customers identified as churning in 2019

Next Steps: Roadmap



The Team



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Thank you for your attention!

Appendix

Churn prediction

Choice of the metric used for the machine learning model

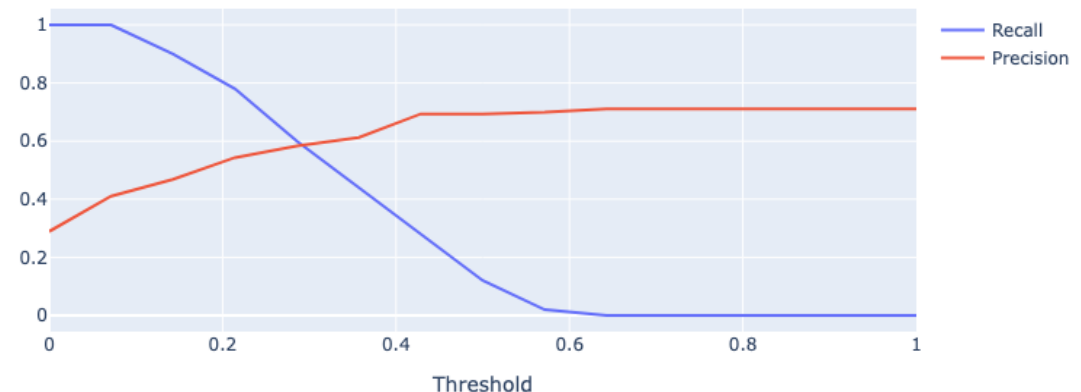
It is more costly to miss a churner than to identify a non-churner as so  over-shooting strategy

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

We spot the right balance between accuracy and recall.

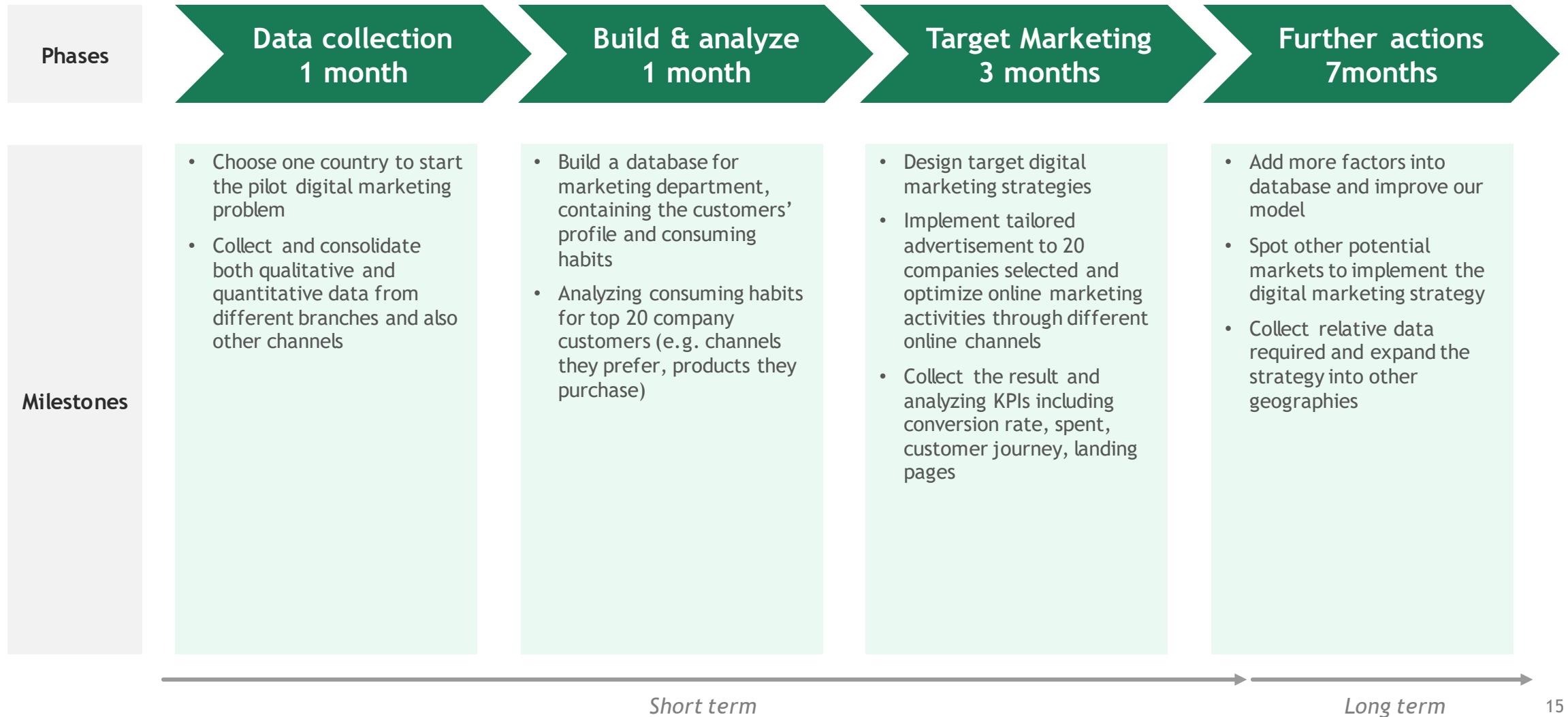
Final recall : 60%

Churn threshold tradeoff



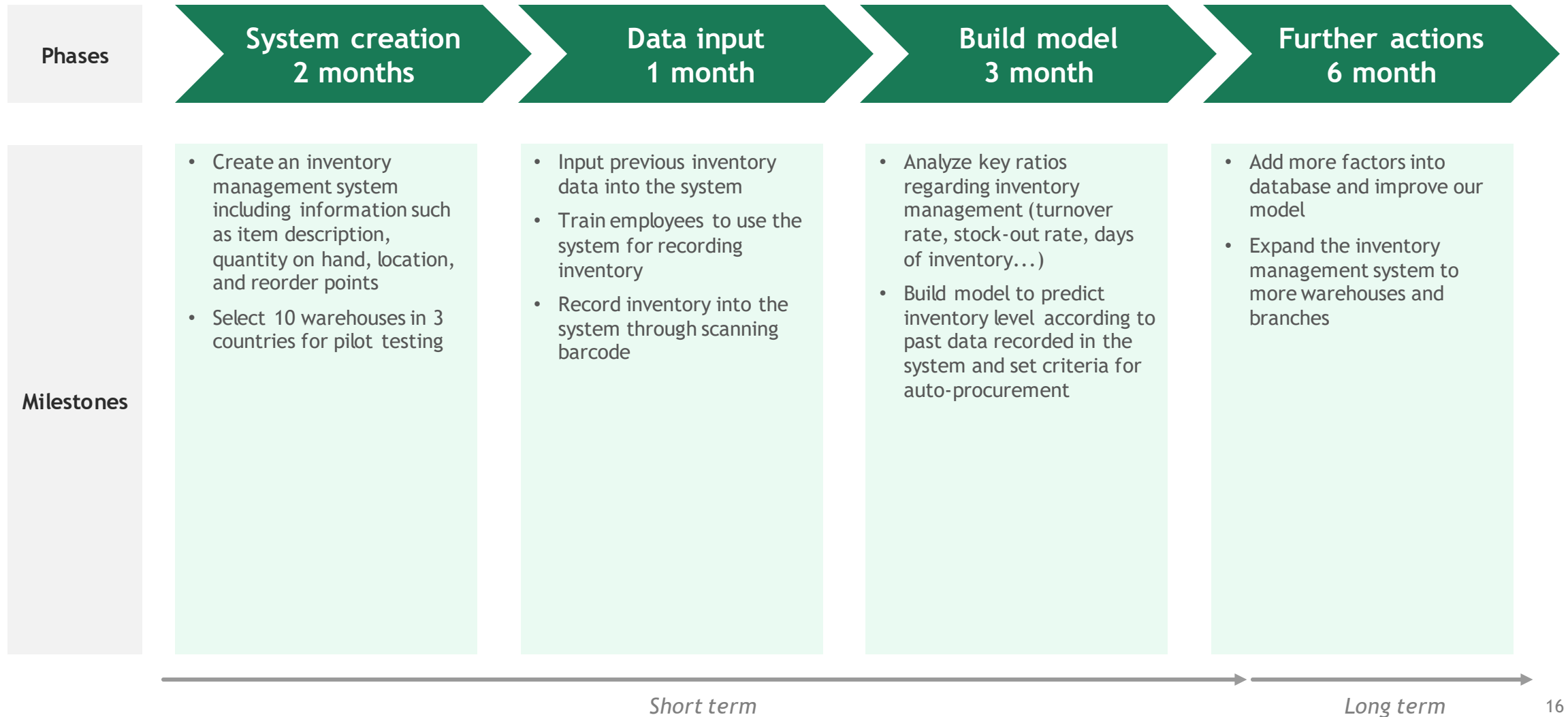
Appendix

Scope 2: Digital Marketing



Appendix

Scope 3: Inventory optimization



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
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