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Finance Decision
Intelligence



Decision-making in Finance

How a CFO can benefit from cognitive decision intelligence

CEO to CFO:

“Hey Claire, do you know how we can improve our gross margin on clothing sales next summer?”



Do I know my gross margin drivers on clothing sales?

Cognitive decision intelligence

- How?**
- Focus on the key drivers
 - Run scenarios & optimise
 - Validate outcomes

YES → I need to simulate and optimise

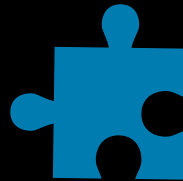


- How?**
- Identify drivers
 - Identify constraints
 - Understand correlations & impact

NO → I need to understand and explore my data

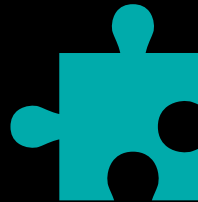
Decision-making – a CFO pulse check

Many Finance functions still rely on gut feeling and focus more on the past than anticipating the future



I need to **rely on data** rather than my gut feeling

I want to know my data and be able to leverage it for objective decision making!



I need to be able to look **beyond the P&L**

In order to fully understand my figures, I need to be able to look at all required dimensions and business drivers!



I want to **anticipate** rather than go in firefight mode

I want to be able to look forward and focus on actionable recommendations!

Common Finance decision-making challenges and how to tackle them

Shifting the focus beyond Finance and adopting a forward-looking approach are key success factors

Challenge



I need to **rely on data** rather than my gut feeling

Typical situations

- Too much effort invested in data preparation vs. data analysis
- Low level of trust in data quality and lack of one single source of truth
- Potential unawareness of cognitive bias

Enablers



Data-driven decisions



I need to be able to look **beyond the P&L**

- Scope of analysis is too narrow and one-dimensional
- Limited transparency on key dependencies beyond Finance
- Insufficient tools to simplify and streamline reporting processes



End-to-end collaboration



I need to **anticipate** rather than go in firefight mode

- Focusing too much on the past and present, instead of the future
- Limited transparency on potential decision outcomes
- Lack of analytical technologies and capabilities



Prescriptive analytics

Predictive vs prescriptive

- **Predictive analytics** is the practice of extracting information from existing data sets in order to determine patterns and trends that could predict future outcomes.
- **Prescriptive analytics** is an area of business analytics dedicated to finding a potential best course of action for a given situation – the “so what” that drives decision-making.

Data-driven decisions

Enhanced data proficiency will further substantiate decision making



Why can this improve decision-making?

- Remove data redundancies and inconsistencies
- More time available for analysis, less data preparation
- Focus on facts rather than intuition and bias



A Client Use Case: *Constraint-based optimisation*

AI Application that leverages machine learning and human cognition to identify financial data quality issues and embed a smarter spending culture



Client Challenge

- Needed to achieve 15% spend reduction from Sales and General Admin costs
- Financial data quality issues (i.e. miscategorised spend) preventing creation of a cost-saving baseline, and realisation of savings



Solution

- Implemented an AI application that leverages ML and human cognition to identify data quality issues and recategorise them



Impact

- Identified 34% of 2bn transactions as misclassified, amounting to ~\$600m of misclassified spend, and corrected the categorisation
- Enabled decision-makers to better plan and forecast costs



Timing

- 2 weeks discovery phase
- 2 months to implement, create dashboards and deliver pilot

What does best practice look like?

- One source of truth
- Include real-time non-financial and external data
- Leverage machine learning



End-to-end collaboration

Focusing on holistic and cross-functional decision-making will improve performance



Why can this improve decision-making?

- Facilitate transparency on key value drivers
- Understand impact of business decisions on financial performance
- Empower effective collaboration across functions



A Client Use Case: *NLG-enabled P&L dashboard*

Enhanced user insights and efficiency gains in report production through NLG enabled state-of-the-art reporting tool



Client Challenge

- Limited reporting capabilities in existing EPM solution
- High manual effort to create reports and suitable commentary
- Unaligned narratives and misinterpretations leading to discussions



Solution

- Implementation of Reporting suite and enabled dynamic commentary based on user selection (PowerBI + ARRIA for NLG)



Impact

- Significantly faster report generation and commentary production
- Better insights into company performance



Timing

- 8 weeks to achieve NLG tool implementation, user acceptance testing and go-live

What does best practice look like?

- Centralised cross-functional data storage
- Full awareness of key KPIs and underlying value drivers
- Dynamic visualisation to enable intuitive interpretation



Prescriptive analytics

Simulating potential scenarios and constraints will enable actionable recommendations



Why can this improve decision-making?

- Shift focus to the future rather than the past
- Simulate and explore potential scenarios and constraints
- Substantiate your decisions with clear recommendations



A Client Use Case: *Constraint-based optimisation*

Optimise data based on relevant value drivers and constraints. Generate actionable recommendations on how to grow revenue and/or profitability.



Client Challenge

- Limited understanding of how to optimise promotional plans at a product level to maximise financial value
- Limited transparency on key value drivers and in-product promotion



Solution

- End-to-end mapping of the client's value chain including definition of key objectives and constraints
- Use of RiverLogic for optimisation & PowerBI for visualisation

What does best practice look like?

- Visibility on key value drivers, dependencies and constraints
- Extensive scenario modelling capabilities
- Real-time execution of decisions across relevant systems



Impact

- Promotional and financial metrics across scenarios are compared and the selected plan is published to the trade promotion system



Timing

- 6 months for Proof of Concept and pilot

Finance Decision Intelligence – how to bring it to life?

An example from the Consumer Retail industry

Here is the story of a large retail clothing company (K&M)

In late winter 202X K&M wanted to identify an optimal pricing for the upcoming summer season

Aim:

- Optimise the revenue and subsequently the gross margin of the summer collection

Actions:

- Predict the sales of clothing for the summer collection
- Optimise the promotional price that enables the highest gross margin across the summer collection

Key variable:

- Weather (long-term forecast from external provider)

Approach using Finance decision support technologies

a) Predicting and Scenario Modelling:

We predicted revenue and gross margin, modelling six different weather scenarios, using three types of data:

- External data: weather forecast
- Internal data: financial
- Internal data: non-financial

b) Machine Learning & Mathematical Optimisation:

- **Step 1:** we considered constraints such as inventory levels, production capacity, staff availability, and we calculated optimal revenue and gross margin for the scenarios modelled in a)
- **Step 2:** we used Machine Learning as K&M progressed through the spring months to learn how the external weather data and internal financial and non-financial data have influenced the optimal revenue and gross margin
- **Step 3:** we again considered constraints, this time to calculate the optimal promotion price for clothing for the rest of the season, ensuring the optimal revenue and gross margin will be reached

c) Prescriptive Analytics:

We made use of prescriptive technology to guide K&M towards the best course of action under the scenarios calculated in a) and b). Therefore, Finance helped the organisation **plan resources with more precision**, and with **higher confidence** in reaching its aim: “**Optimising the revenue and subsequently the gross margin**”

Deep dive into the key technologies for Finance decision support

The approach taken by the retailer in the example above is detailed on the next slide, with a visualisation of the three key technologies used:

- Predicting and Scenario Modelling,
- Machine Learning & Mathematical Optimisation
- Prescriptive Analytics



Finance Decision Intelligence – key ingredients for success

A deep-dive on essential capabilities

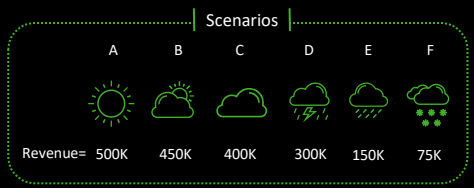
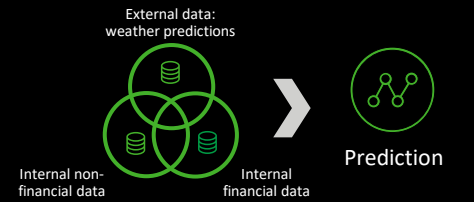
WHY?

HOW?

A Predicting and Scenario Modelling

- Determines trends that can predict the future and models them into mutually exclusive scenarios
- Facilitates a prioritization and impact-proofing of key business drivers

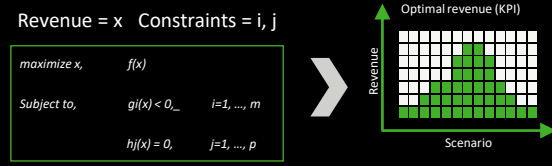
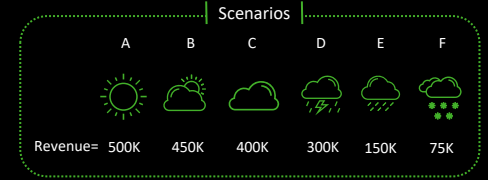
- Identify and leverage the key business drivers
- Assess and prioritize the most impactful trends and underlying data sets (internal & external)
- Define key scenarios and predict future outcomes



B Machine Learning & Mathematical Optimisation

- Enables flexibility to maximise or minimise model outputs under defined constraints
- Leverages machine learning technology to reinforce targeted results

- Define objectives and key constraints based on significant dependencies to the key business drivers
- Optimise your objectives within the different scenarios
- Assess the outcomes and refine the machine learning algorithms if needed



C Prescriptive Analytics

- Generates quantifiable and actionable recommendations for the different scenarios
- Identifies the potential best course of action for a given situation

By combining:

- A** Key drivers and trends impact
- B** Optimised outcomes based on constraints
- &** Using prescriptive analytics to guide to the best course of action (decision)

Examples of vendor platforms to use for prescriptive analytics:



Your Finance Decision Intelligence journey

Some practical tips for how to get started

Identify and prioritize suitable use cases

- Listen to the business and understand where improved insights can truly drive value
- Prioritize identified use cases to make sure the most critical aspect is addressed first

Explore your data

- Achieve a solid understanding of the availability and quality of key data (both internal & external)
- Identify critical data gaps and define measures for how to close them

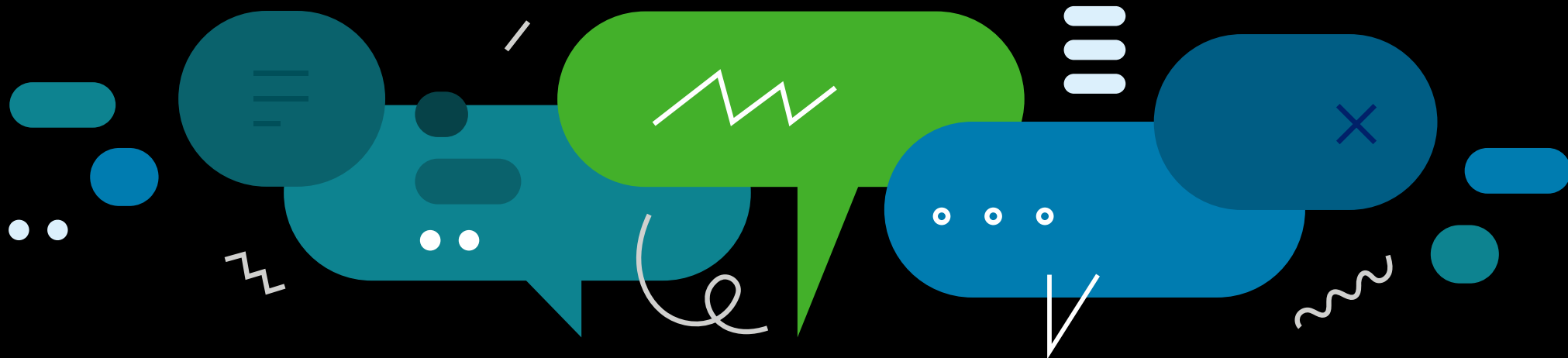
Assess available technology

- Evaluate the analytical maturity of your existing tool landscape
- Assess the need and viability for additional technology

Define required skills

- Make sure you have the right people and skills on board – be careful not to overstretch existing teams
- Activate and mobilise all relevant stakeholders (incl. key leadership and management personnel)

Design a Proof of Concept



Let's connect

We are looking forward to hearing from you



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