



TRANSFORMING YOUR BUSINESS WITH DATA

Trade Promotion Optimization



TPM/TPO: challenging for most, but companies who adopt data analytics outperform



86%

of CPGs don't have adequate resources to interpret analytics outputs

Data Analytics Manager



93%

of managers feel the entire process of creating a promotional plan takes a burdensome amount of time

Key Account Manager



85%

of managers said they have issues with getting retails to execute promotional plans as agreed upon

Trade Marketing Manager

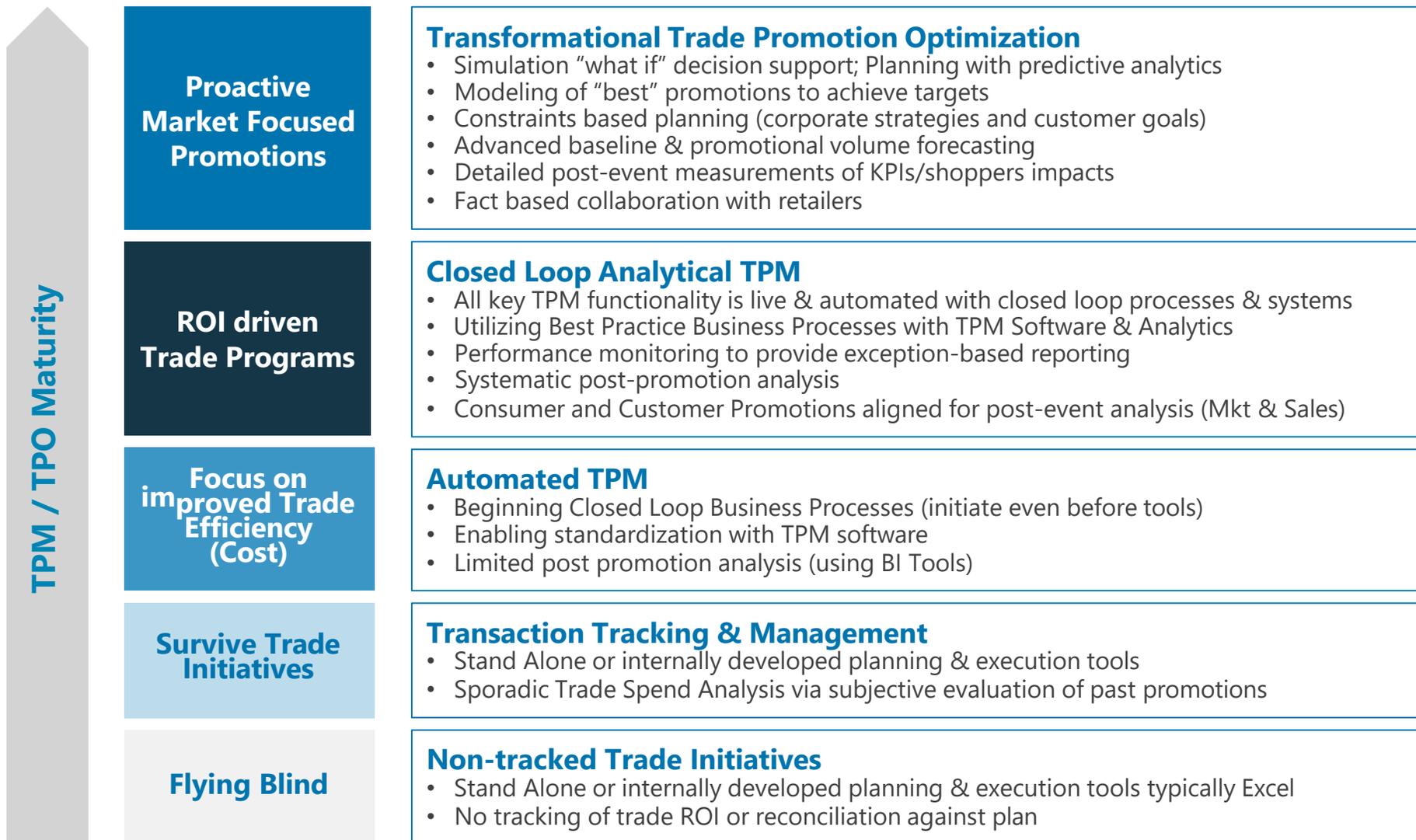


Outperforming CPGs All Adopted TPO & TPM Tools

"The winners' approach to trade investment is data driven. They differentiate trade investments using metrics that cover both outcomes and promo execution activities. They track a comprehensive set of key performance indicators."

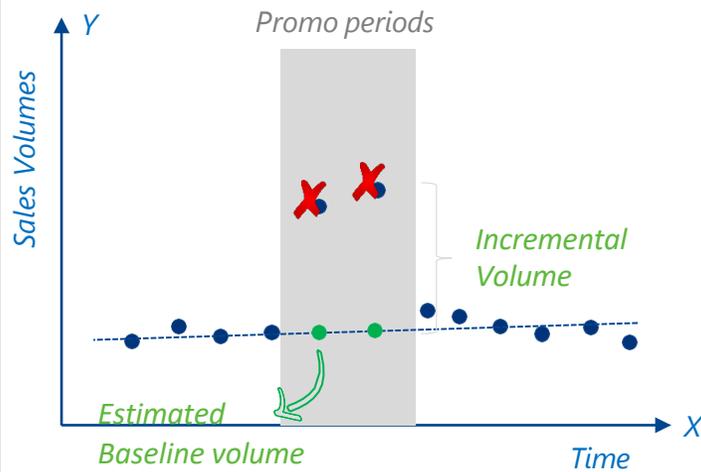
- McKinsey Industry Report

We Will Help Evaluate Your TPM/TPO Maturity



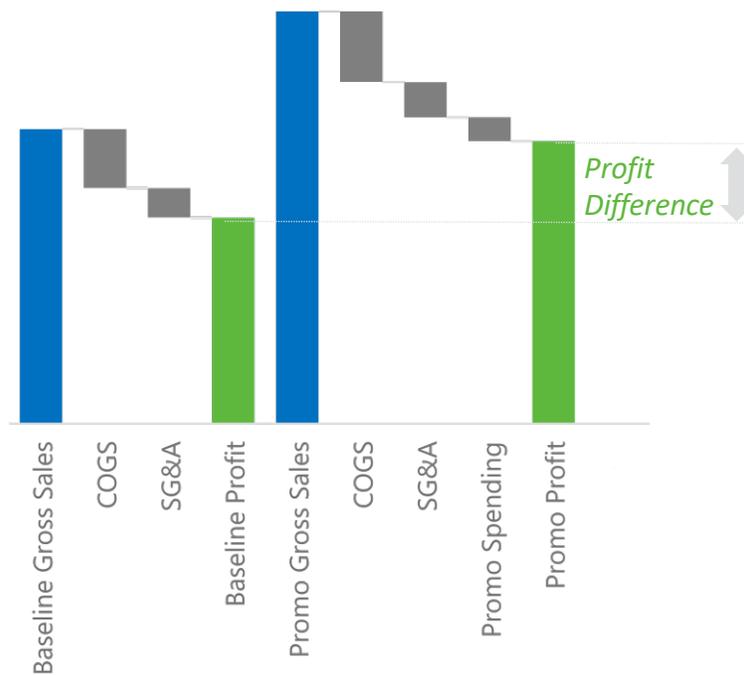
Machine Learning models leverage previous sales to predict future promotion performance

Sales analysis to estimates baseline



- Data models estimate sales volume if there were no promotion running. The estimation is baseline sales
- Baseline sales serve as basis for calculating promo profitability

Financial analysis focused on profitability



- Calculate impact of promotion by applying business rules
- Calculated promotion KPIs (e.g. net promo profit, promo uplift, promo effectiveness) will generate insights in historical promotion performance

Key factors in the past guide the future

Key variables in the past

- 🕒 Promo duration
- 📅 Promo timing
- 🏷️ Mechanic
- 📊 Discount depth
- 💰 Trade Spending
- 📅 Holiday
- 👕 Product segment
- 👕 Applicable product

ROI of Future Promo



- Machine Learning is used to predict KPIs of future promotions, given time period, applicable products, applicable stores, and promo characteristics
- Predicted KPIs will guide future planning

An Italian-based food manufacturer maximizes promotion benefits by deploying advanced analytics solutions

OBJECTIVES

Barilla needed to enable their Key Account Managers to create trade promotion plans that optimize ROI, and guide trade marketing strategies

Barilla needed a tool to enable them to survive and thrive in the fast-changing and competitive market

TACTICS

Created a cloud-based analytics solution to evaluate cost and benefit of past promo events
Created AI predictions for promotion ROI for Key Account Managers on-the-go

RESULTS

Calculate baseline sales and estimate promo lift
Evaluate promo benefits and identify successful promos mechanics and tactics
Predict future promo ROI to guide planning strategies that optimize yields of cost and investment

“This solution fills a critical need for our key account managers and revenue growth management team to evaluate historical promotion performance and enable better promotion planning where both Barilla and our customers benefit in the future.”

- Emilie Bianchi
Revenue Growth Manager, Western Europe, Barilla Group

Trade Promotion Optimization: Feature overview

Core



Post Event Promotion Analysis

Capabilities:

- Empower key account managers and trade marketing managers to understand promotion impact on sales
- Enable 360° evaluation of promo performance by different measurements and metrics

Business Impact

Post Event Analysis & ML Recommendations for Better Promotion ROI

Gold



Future Promotion ROI Optimization

Capabilities:

- Guide future promotion planning by recommending the optimal promotion (best timing, best product, best location, and best mechanic) for each customer, store, etc.
- Predict sales performance during future promotion periods through a user-friendly simulator interface

Business Impact

Improved Promotion Planning & Promotion Response Simulation

Platinum



Promotion Calendar Planning

Capabilities:

- Improve the accuracy of demand forecast for continuous future period
- Create, plan and manage promotion events on an easy-to-navigate calendar application
- Enable rapid responses to campaign performance through managing promotion events on-the-go

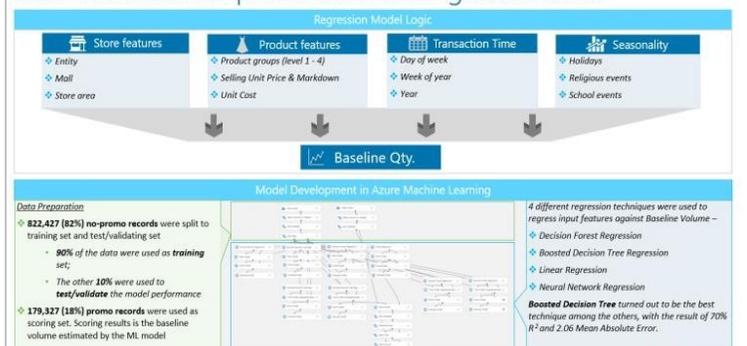
Business Impact

Increased Forecasting Capabilities and Promotion Calendar Management

Trade Promotion Optimization: Deliverables

Machine Learning Models

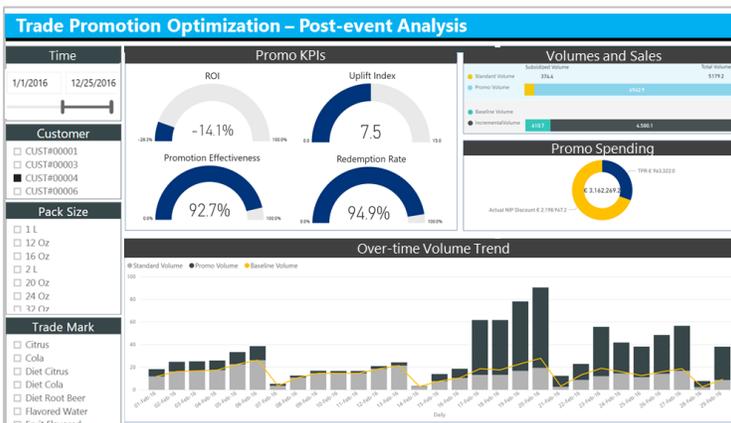
Regression models were built to estimate what sales would be if there was no promotion running at the time



Description

- The appropriate modeling approach is defined based upon customer needs (exponential smoothing, regression, ensemble, etc.)
- Models are developed using multiple layers of business logic and multiple data sources to evaluate past promotion performance and predict future promotion success.
- The model results are evaluated and business insights are revealed to guide strategic planning and decision making.

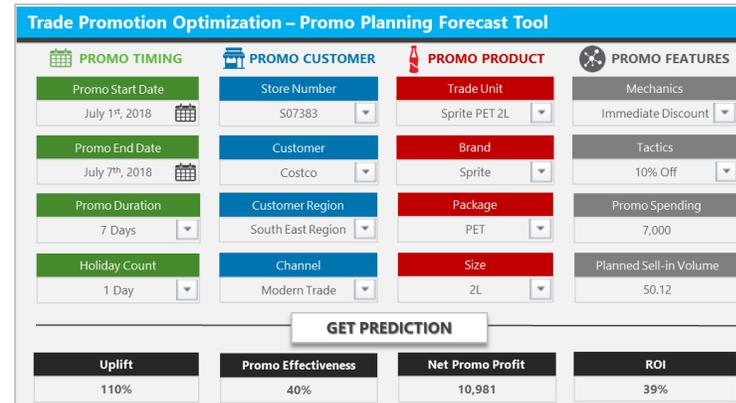
Post-event Analysis Report



Description

- An interactive dashboard in Microsoft Power BI that allows users to evaluate past promo performance by:
- Analyzing past promos by region / time / customer / product / mechanic
 - Evaluating past promos through different KPIs
 - Visualizing promo impact on sales
 - Understanding over-time sales trend
 - Identify top and flop past promotion events

Promo Planning App⁽¹⁾



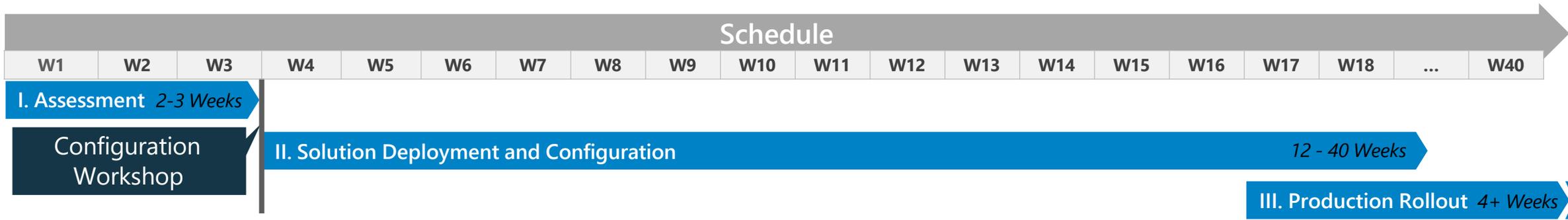
Description

- A sophisticated tool that provides promotion calendar functions and planning optimization through machine learning outputs:
- The user will key in attributes of future promo events under planning
 - Get optimized promotion plans from Azure Machine Learning
 - Get predictions for various KPIs from a set of Machine Learning models

⁽¹⁾Options are provided at different cost level (e.g. software app, web UI, Power App, Excel)

Trade Promotion Optimization: deployment timeline

Example



I. Opportunity Assessment (Optional)

Cost: \$20k

- Fractal works with the client team to analyze a sample dataset with the information to build an initial assessment
- Observe the data quality and provide guidance for future data engineering and modeling
- Provide a sample output of some model results using the sample data

II. Solution Deployment

Cost: \$220k+ (Subject to Assessment)

- Fractal Analytics team will hold a workshop with analytics team members and business stakeholders to determine key solution features and configuration
- The Fractal team will then spin up the solution and work with key users to apply business logic to estimate baseline sales, calculate incremental impact, iterate the reporting interfaces, and build forecast models

III. Production Rollout

Cost: \$20k-\$40k per month

- Select a test market for validation of solution value and measure impact in a 2-3 month test
- Configure data connection automation and user identity for full production access and ongoing updates
- Deliver executive presentation on test results and solution impact

ACTIVITIES

DELIVERABLES

- PowerPoint deck with an overview of the initial findings
 - Data quality assessment and basic Exploratory Data Analyses
 - Detailed project plan and updated timeline once the detailed approach has been determined
- Recommendations on next steps

- Post-event analyses report to evaluate historical promotion events in Power BI format
- An application to call the live machine learning model to give predictions on promotion ROI. This app is customizable and can be delivered as a web app, desktop app, or even in Excel.
- Final presentation of project recap, data science approach, results evaluation, final data findings, and business recommendations

- Solution up and running in the hands of the client's analytics and operations teams
- Case study to analyze the solution impact
- Incremental solution capability updates
- Additional customizations available ad-hoc via consulting engagements

Fractal Analytics' Agile program model

Engagement Model



Flexible, Balanced Team

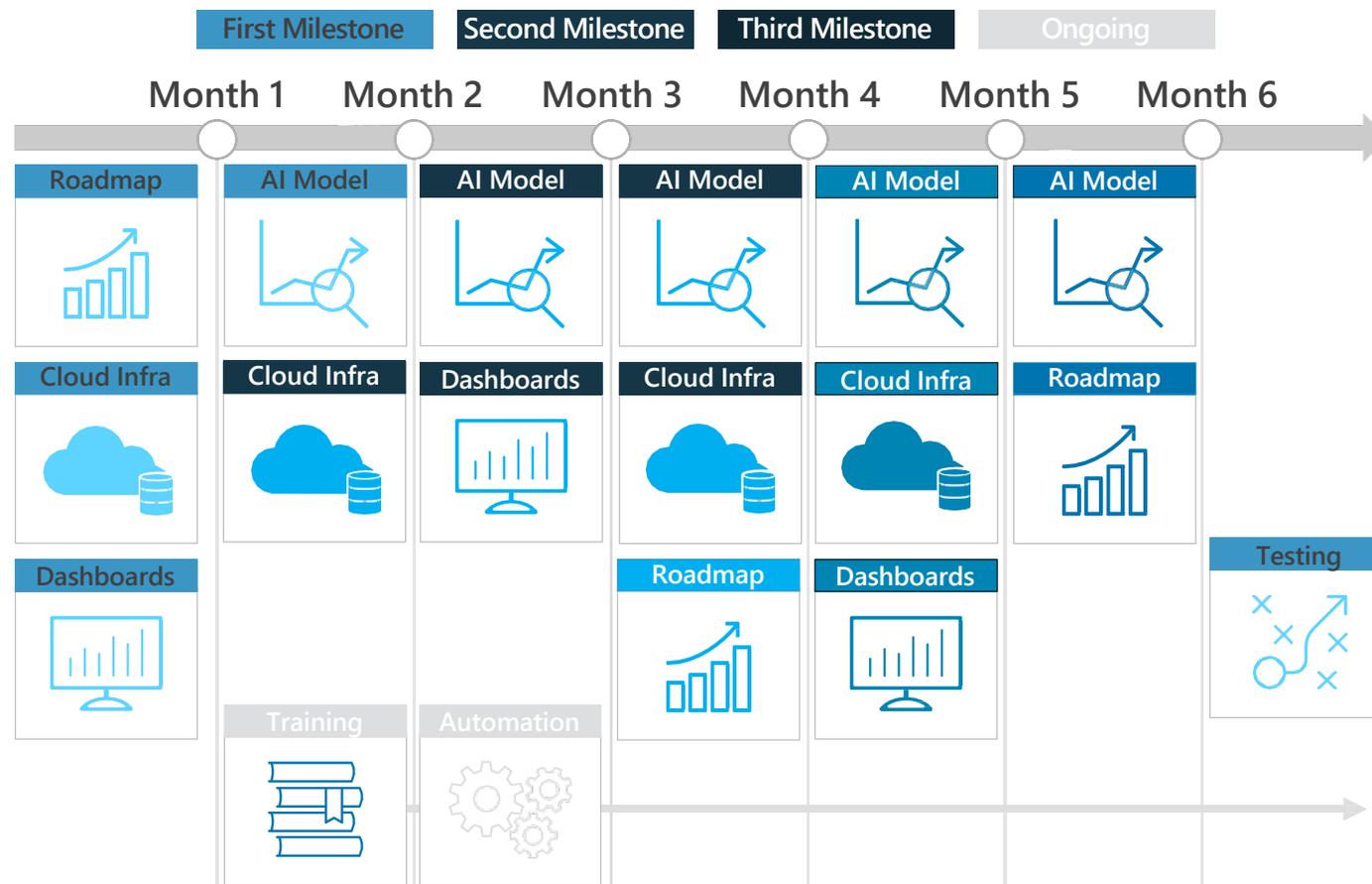


Retainer-based

Description:

- Leverages Agile Methodology
- Adjustable Team Size (Scale Up/Down)
- Balanced Team with multiple skills:
 - MC, PM, DS, DE, Arch, PBI, etc.
- Flexibility to pivot as workstream demands
- Phased, stage-gate delivery approach
- Establish a foundation for repeatable analytics

Illustrative Timeline and Deliverables*



*Estimates are subject to change based on gained realities and engagement's evolution over time

Example Program Team and Monthly Budget

Fractal Analytics Team	
Personnel	Responsibilities
Digital Consultants	<ul style="list-style-type: none"> All-up program success Digital roadmap generation and stewardship Business value crafting
Project Manager	<ul style="list-style-type: none"> Develop plans to deliver initiatives and manage resources to deliver, including user stories & tasks Responsible for delivery quality, timeline, and budget management Liaison as a single point of contact
Architects	<ul style="list-style-type: none"> Ensure development and automation tasks are delivered successfully Operate as point of escalation for technical issues Ensure security and GDPR compliance of solution Test and QC of design and deliverables
Data Scientists	<ul style="list-style-type: none"> Responsible for data modeling and development of machine learning algorithms Configuration and application of business logic Enhance and improve models as necessary
Data Engineers	<ul style="list-style-type: none"> Process and cleanse data from required data sources for loading into analytics infrastructure Develop the data pipeline (for updates and automation) Provide integration with operational systems



Who we need from the Client Team **		
Personnel	Count	Responsibilities
Innovation/ Project Manager	1X (50% time)	<ul style="list-style-type: none"> Supporting Program Manager and driving internal alignment to business goals Interfacing with key stakeholders, guiding the Fractal Analytics team to data or those with insights into business logic, processes, and workflows
Business SMEs, End Users, Designers	Rotate in as applicable (10% time)	<ul style="list-style-type: none"> Provide insights on existing business processes, product trial knowledge, etc. Support and validate assumptions on consumer trends, behaviors, etc.
Data Engineers, Analysts	1-2X (25-50%)	<ul style="list-style-type: none"> Process and cleanse data from required data sources for loading into cloud services Develop frameworks for data pipeline (updates and automation) Provide necessary data/model outputs for integration with operational systems

** Client may optionally choose to add/removed additional technical (i.e. Data Science and Data Engineering) or business team members as the project proceeds. These resources should assume a 25% utilization as the project team is available.

Cost: USD \$##K/Mo; Initial Commit for # months

Analytics as a Service. What is it? What am I buying?

Engagement Model



Initial Tenure: 6 month commit



Methodology: Agile



Contract Structure: Services Retainer



Initial Team Size: 6 FTEs



Cancellation : 2 months notice



Multi-disciplinary team

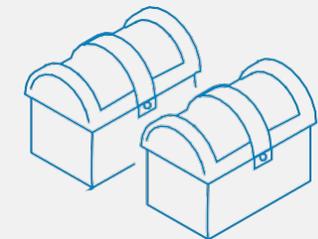


DS, DE, Arch, PM, MC, etc.

Playbooks



Assets



Proposed next steps

Deep Dive Call



Further Assess Trade Promotion Needs

Data Readiness Evaluation



Our Consultants Will Analyze Your Data for TPO Readiness

Onsite Workshop



Align on Functionality and Build Roadmap



Review each relevant offering in detail with your business decision makers to narrow down options



Understand your data and business needs to scope the optimal engagement required

Build a proposal for beginning an engagement with Fractal Analytics



Bring executive leadership together for alignment and prioritization of among the various available features

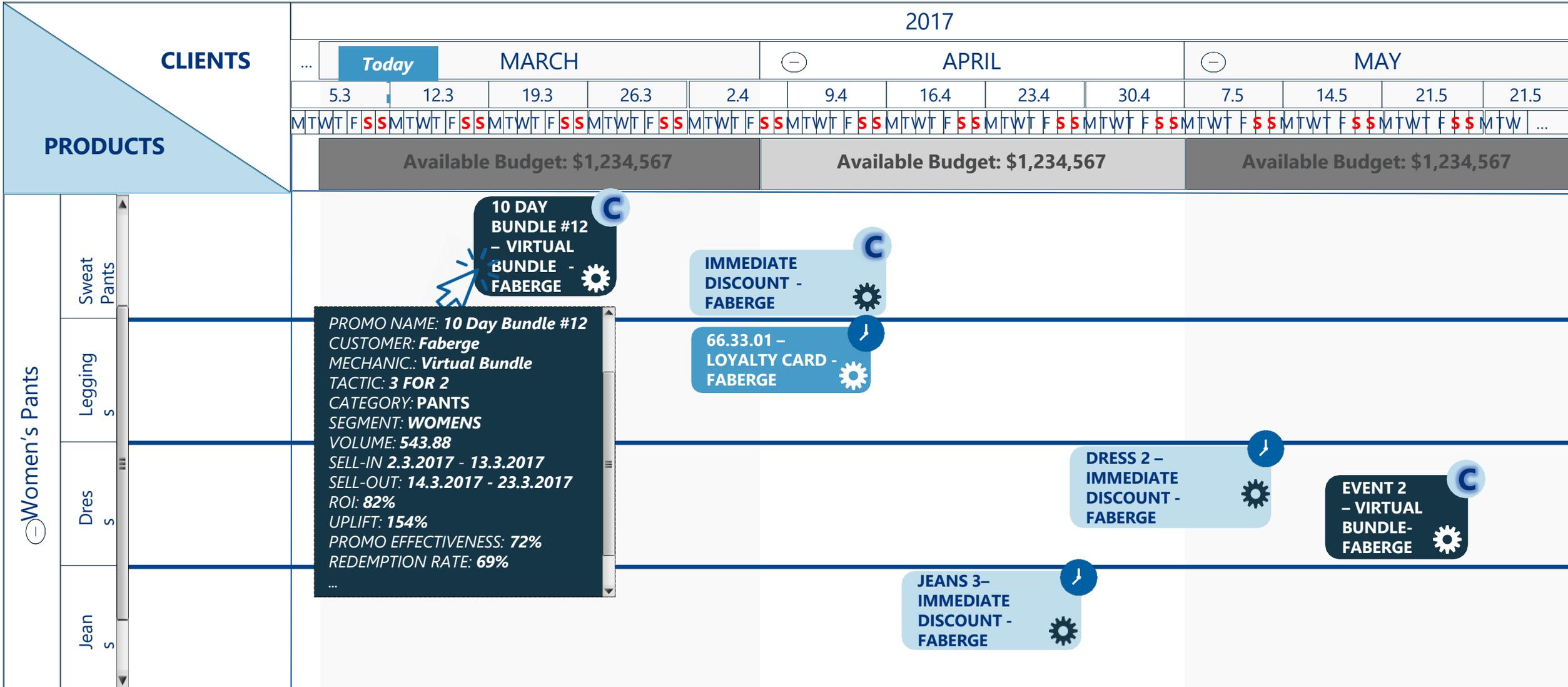
fractal

The word "fractal" is written in a white, lowercase, sans-serif font. To the right of the text are three solid-colored circles: a red one, a yellow one, and a blue one, arranged horizontally.

<https://fractal.ai>

Promotion Calendar Application

Planning Design Model



Status Legend:

- Proposed
- Confirmed
- Released
- Completed

Planning Design Model - Adding a new Promotion



CLIENTS		2017															
		MARCH					APRIL				MAY						
		5.3	12.3	19.3	26.3	2.4	9.4	16.4	23.4	30.4	7.5	14.5	21.5	21.5			
		MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS			
PRODUCTS		Available Budget: \$1,234,567					Available Budget: \$1,234,567				Available Budget: \$1,234,567						
		PASTA	PREMIUM PASTA	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> DEPENSEZ MOINS 12 – VIRTUAL BUNDLE - GALEC </div>													
SPAGHETTI	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> TRACT REGION – IMMEDIATE DISCOUNT - GALEC </div>																
RAVIOLI	<div style="border: 1px dashed yellow; padding: 10px;"> <div style="background-color: #0070C0; width: 100px; height: 20px; margin-bottom: 5px;"></div> <div style="display: flex; align-items: center;"> Add New Promo </div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;"> C Calendar Options... </div> <div style="border: 1px solid #ccc; padding: 2px;"> C View Settings... </div> </div>																
GLUTEN FREE						<div style="border: 1px solid black; padding: 5px; display: inline-block;"> TOP BIO – LOYALTY CARD - GALEC </div>				<div style="border: 1px solid black; padding: 5px; display: inline-block;"> ANNIVERSAIRE 3 – LOYALTY CARD - GALEC </div>				<div style="border: 1px solid black; padding: 5px; display: inline-block;"> EVENEMENT 2 – VIRTUAL BUNDLE - GALEC </div>			

Statuses Legend:



Planning Design Model - Accepting system proposal on Mechanics and Tactics

Header

PROMO DESCRIPTION: REUSSIR SA..

PROMO NAME: BLUE BOX #1

HIGHLIGHTS: OFF ON

DISPLAYS: OFF ON

FEATURE: OFF ON

LEAFLET: OFF ON

Customer

CLIENT: GALEC

PLANNING LEVEL: NCD

COVERAGE: ALL STORES

STORE FORMAT: HYPERMARKET

EXPECTED WD: 20%

Period

SELL-IN DATES: 21/02 – 19/03

SELL-OUT DATES: 06/03 – 20/03

ENGAGEMENT DATES: 21/02 – 20/03

Product

PRODUCT: PASTA > BLUE BOX

BRAND: BABILLA

SELECT TRADE UNIT

SELL-IN	Tons	RSP
1/4P. MULT. CAPELLII 500X6 F. BA	24,5	0,85
1/4P. MULT. SPAGH.TI 500X6 F. BA	15,0	0,95

PROMO FEATURES

Mechanics	Tactics	Redemption Rate	TPR REM.	TPR RENF.	NIP (€)	DISC. DEPTH	MAN. FEE (€)
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---

HINT

Given available information, for that product, **Virtual Bundle** is the most effective Mechanic in terms of **ROI %** and **Promo Effectiveness**

Accept

SELL-OUT

Volume & Sales

	Tons	€
BASELINE	TBD	TBD
INCREMENTAL VOL.	TBD	TBD
PROMO	TBD	TBD
STD	TBD	TBD
TOTAL	TBD	TBD

KPIs

	Expected	Actual
ROI %	TBD	TBD
UPLIFT %	TBD	TBD
PROMO EFFECTIV.	TBD	TBD
REDEMPTION RATE	TBD	TBD
FORWARD BUYING	TBD	TBD

Planning Design Model - Updating expected Key Figures and KPIs

Header

PROMO DESCRIPTION: REUSSIR SA..

PROMO NAME: BLUE BOX #1

HIGHLIGHTS: ON

DISPLAYS: OFF

FEATURE: OFF

LEAFLET: ON

Customer

CLIENT: GALEC

PLANNING LEVEL: NCD

COVERAGE: ALL STORES

STORE FORMAT: HYPERMARKET

EXPECTED WD: 20%

Period

SELL-IN DATES: 21/02 – 19/03

SELL-OUT DATES: 06/03 – 20/03

ENGAGEMENT DATES: 21/02 – 20/03

Product

PRODUCT: PASTA > BLUE BOX

BRAND: BARILLA

SELECT TRADE UNIT

SELL-IN	Tons	RSP
1/4P. MULT. CAPELLII 500X6 F. BA	24,5	0,85
1/4P. MULT. SPAGH.TI 500X6 F. BA	15,0	0,95

PROMO FEATURES

Mechanics	Tactics	Redemption Rate
VIRT.BUND	2 FOR 1	85%
VIRT. BUND	3 FOR 2	85%

SPENDING

TPR REM.	TPR RENF.	NIP (€)	DISC. DEPTH	MAN. FEE (€)
5%	10%	13.000	50%	2.000
10%	10%	9.000	33%	1.400

(Numbers from ML APIs)

SELL-OUT Volume & Sales

	Tons	€
BASELINE	13,28	16.278,49
INCREMENTAL VOL.	20,22	23.876,92
PROMO	26,03	30.287,67
STD	7,47	9.867,74
TOTAL	33,50	40.155,41

KPIs

	Expected	Actual
ROI %	105%	TBD
UPLIFT %	146%	TBD
PROMO EFFECTIV.	77%	TBD
REDEMPTION RATE	85%	TBD
FORWARD BUYING	7,3 Tons	TBD

Planning Design Model - Choosing specific filtering options



FILTERS OPTIONS

CLIENT

30.4 NATIONAL 7.5 CUSTOMER BANNER 21.5

SELECT SELECT

PROMO PLANNING CLIENT LEVEL

NCD CPU LDP SHIP-TO

PRODUCT

CATEGORY SEGMENT

RAVIO SELECT

DISCOUNT GALEC TACTICS

MECHANICS BUNDLE-

VIRTUAL BUNDLE
 LOYALTY CARD
 IMMEDIATE DISCOUNT
 MANAGEMENT FEE

SELECT

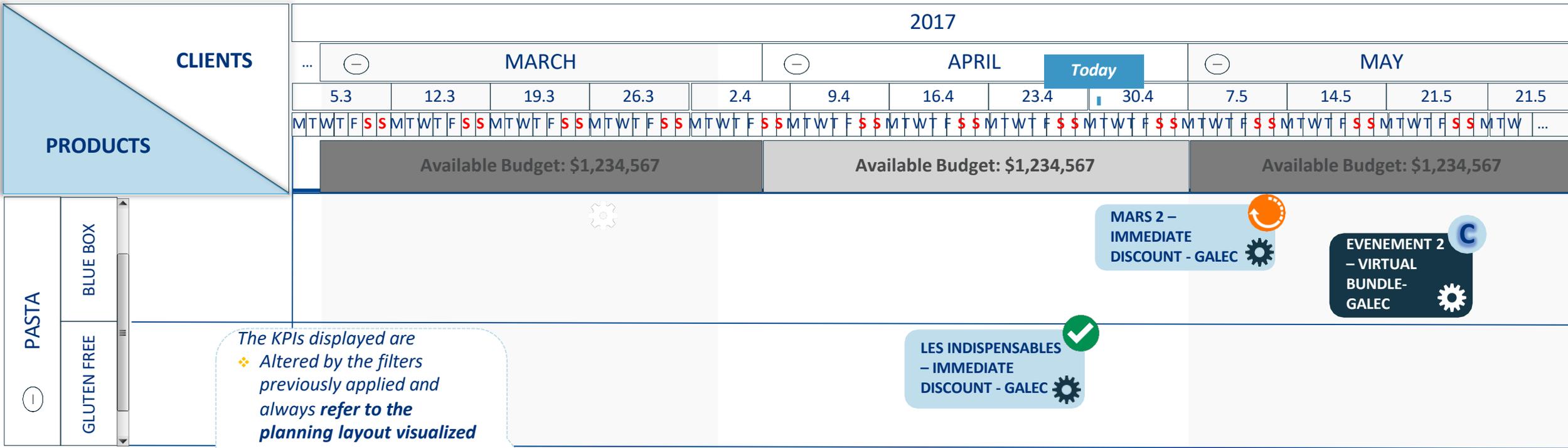
The tool will provide capability to select criteria depending on Customers, Product Mechanics, etc.

CLIENTS		2017													
		MARCH							APRIL						
PRODUCTS		Today	MARCH						APRIL						
		5.3	12.3	19.3	26.3	2.4	9.4	16.4	23.4						
		MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS		
		Available Budget: \$1,234,567							Available Budget: \$1,234,567						
PASTA	PREMIUM PASTA	<div data-bbox="777 492 1031 649" data-label="Complex-Block"> <p>10 DAY BUNDLE #12 - VIRTUAL BUNDLE - GALEC <input checked="" type="checkbox"/></p> </div> <div data-bbox="1121 578 1414 678" data-label="Complex-Block"> <p>IMMEDIATE DISCOUNT - GALEC <input checked="" type="checkbox"/></p> </div> <div data-bbox="1121 699 1414 806" data-label="Complex-Block"> <p>66.33.01 - LOYALTY CARD - GALEC <input checked="" type="checkbox"/></p> </div>													
	SPAGHETTI														
	RAVIOLI														
	GLUTEN FREE	<div data-bbox="1465 1092 1745 1213" data-label="Complex-Block"> <p>GLUTEN FREE 3- IMMEDIATE DISCOUNT - GALEC <input checked="" type="checkbox"/></p> </div>													

Statuses Legend:

- Proposed
- Confirmed
- Released
- Completed

Planning Design Model - Visualizing KPI and Key Figures Area (Below calendar)



The KPIs displayed are
 ❖ Altered by the filters previously applied and always refer to the **planning layout visualized** in a specific moment
 ❖ to be considered **Balance To Go (BTG) figures**

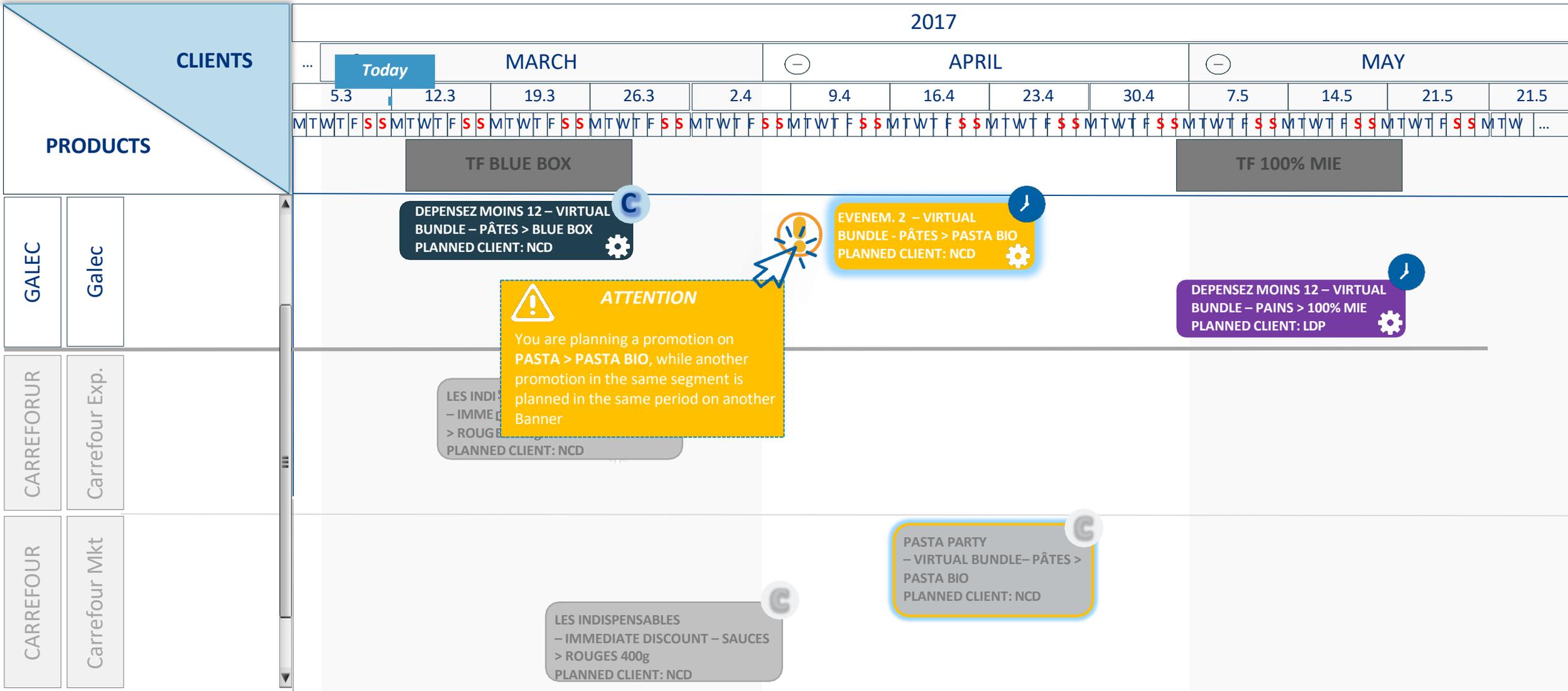
KPIs and KFs Details of Current Year

VOLUME	BASELINE	INCREMENTAL VOLUME	FORWARD BUYING	ROI	UPLIFT	PROMO EFFECTIVENESS	REDEMPTION RATE
640.000 (TO) 704.000 k€	256.000 (TO) 2434.000 k€	384.000 (TO) 461.000 k€	20.000 (TO) 3.000 k€	84%	148%	68%	91%

Statuses Legend:



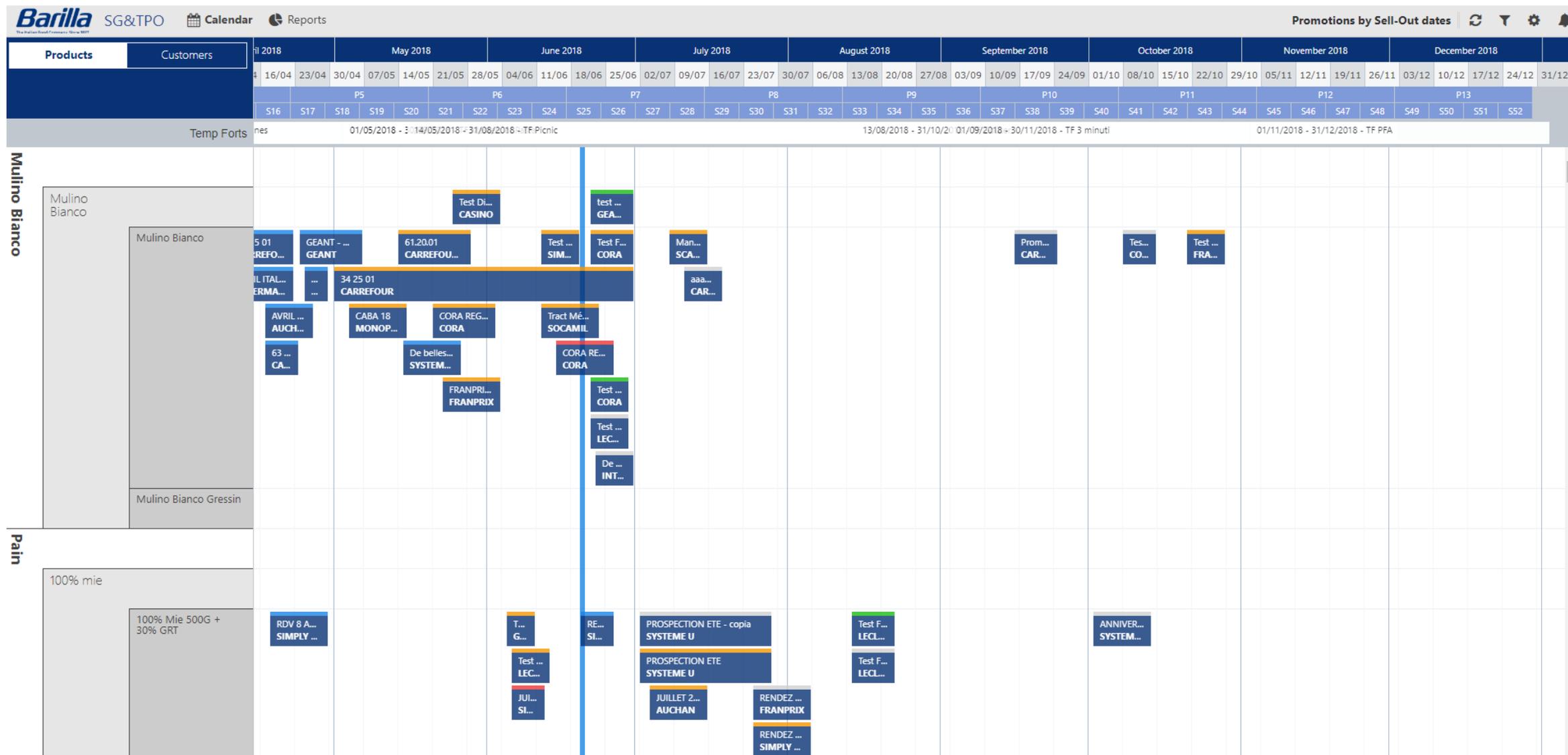
Planning Design Model - Alerting to avoid Customer's Frontality



Statuses Legend:

-  Proposed
-  Confirmed
-  Released
-  Completed

Screenshots of Actual Calendar App Built for Barilla



Screenshots of Actual Calendar App Built for Barilla

Barilla SG&TPO Calendar Reports

Header

Status: Planned

Promo Id: 19750

Promo Code: 19750

Promo description: Test FF2 14052018

Temp Forts: Choose...

Attributes: Carte Fidélité

Encart Trade:

General notes:

Customer

Coverage: National

Client: PROVERA - CORA

Planning Level: CORA

Store format: Supermarket

Vitesse: 90

Period

Engagement: 08/10/2018 - 14/10/2018

Sell-in dates: 01/10/2018 - 14/10/2018

Sell-out dates: 08/10/2018 - 14/10/2018

Products

Product: Choose... Brand: Mulino Bianco

Simulate Save & Promote Save

Trade Units	Product Features	Sales Figures	Promo Features			Spending	KPIs
			Mechanics	Tactics	Disc Depth (%)		
✖ 1000015658 ABBRACCI MB GR350 X 12PZ EU (PCB: 12) (EAN: 8076809070850)	Immediate Discount %	1%					Planned
			1	0,02	0,019		Estimate
			0	0	0		Actual
✖ 1000015659 PAN DI STELLE GR350X12PZ EU (PCB: 12) (EAN: 8076809070867)	Virtual Bundle	3 POUR 2					Planned
			33,33	0,667	0,632		Estimate
			0	0	0		Actual

Screenshots of Actual Calendar App Built for Barilla

Barilla SG&TPO Calendar Reports Settings Notifications

Header

Status: Planned

Promo Id: 19750

Promo Code: 19750

Promo description: Test FF2 14052018

Temp Forts: Choose...

Attributes: Carte Fidélité

Encart Trade:

General notes:

Customer

Coverage: National

Client: PROVERA - CORA

Planning Level: CORA

Store format: Supermarket

Vitesse: 90

Period

Engagement: 08/10/2018 - 14/10/2018

Sell-in dates: 01/10/2018 - 14/10/2018

Sell-out dates: 08/10/2018 - 14/10/2018

Products

Product: Choose... Brand: Mulino Bianco Simulate Save & Promote Save

	Trade Units	Product Features		Sales Figures		Promo Features		Spending		KPIs
		Unit Net Sales Promo (€) / tons	Net Sales Promo (€)	Sales Figures (€)	Promo Profit (%)	Incremental Volume (T)	ROI (%)	Consider for Calculation		
✖ 1000015658 ABBRACCI MB GR350 X 12PZ EU (PCB: 12) (EAN: 8076809070850)	Estimate	3 838,27	383 826,56	105 664,56	27,53	0	0	<input type="checkbox"/>		
	Actual	0	0	0	0	0	0	<input type="checkbox"/>		
✖ 1000015659 PAN DI STELLE GR350X12PZ EU (PCB: 12) (EAN: 8076809070867)	Estimate	2 303,36	230 335,96	18 926,96	8,22	0	0	<input type="checkbox"/>		
	Actual	0	0	0	0	0	0	<input type="checkbox"/>		

Thank You.



A strategic partner to the most admired Fortune 500® companies globally, we help power every human decision in the enterprise by bringing advanced analytics & AI, engineering and design.



www.fractal.ai