Personalization Assessment

BCG

THE BOSTON CONSULTING GROUP

Immersion Session Two

Cinépolis

Objectives for today

Discuss design of specific use cases to execute

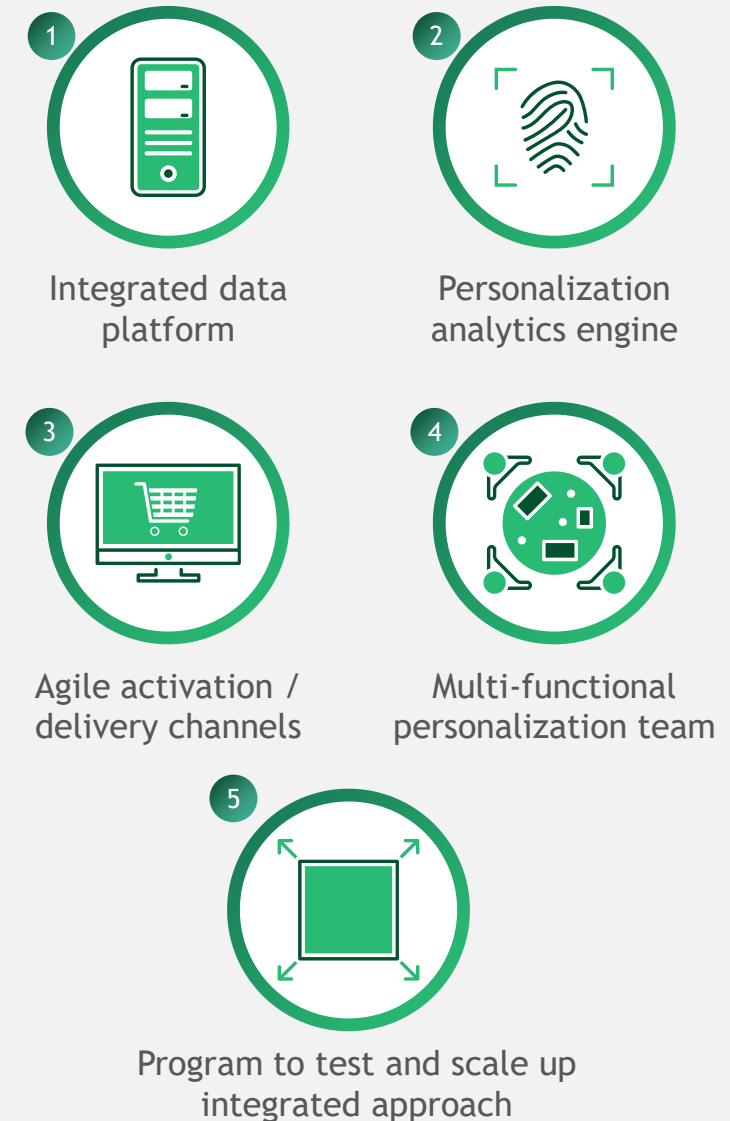Align on sandbox and evaluation methodology

Present resourcing requirements

Align on next steps and go/no-go decision

Recap:
Our personalization ambition

What is needed to unlock this

FROM		TO
Segmented promos	→	Customer-centric experiences
E-mail only channel	→	Orchestrate across physical & digital channels
Focus on Club Cinépolis	→	All identifiable customers (e.g. app)
Aggregated campaign results	→	Machine learning feedback for each customer response

1 Integrated data platform

2 Personalization analytics engine

3 Agile activation / delivery channels

4 Multi-functional personalization team

5 Program to test and scale up integrated approach

Next phase (pilots) will provide test and learn opportunities to drive customer behavior

MVP Scope

4 months of pilots
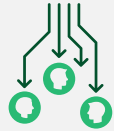
Test and learn & capability build

E-mail and push notifications

Dedicated sandbox ~18% of active TCC base
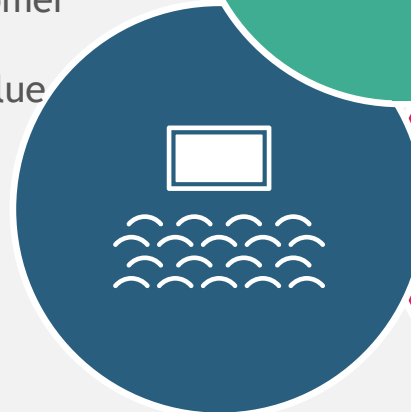
Objectives

For Cinépolis:
Validate we can...

Learn from personalized customer behaviour and optimize offers value proposition

For customers: Improve relevance and engagement
Change behaviour through optimized value proposition (promo, message, channel)

For the team:
Improve ways of working

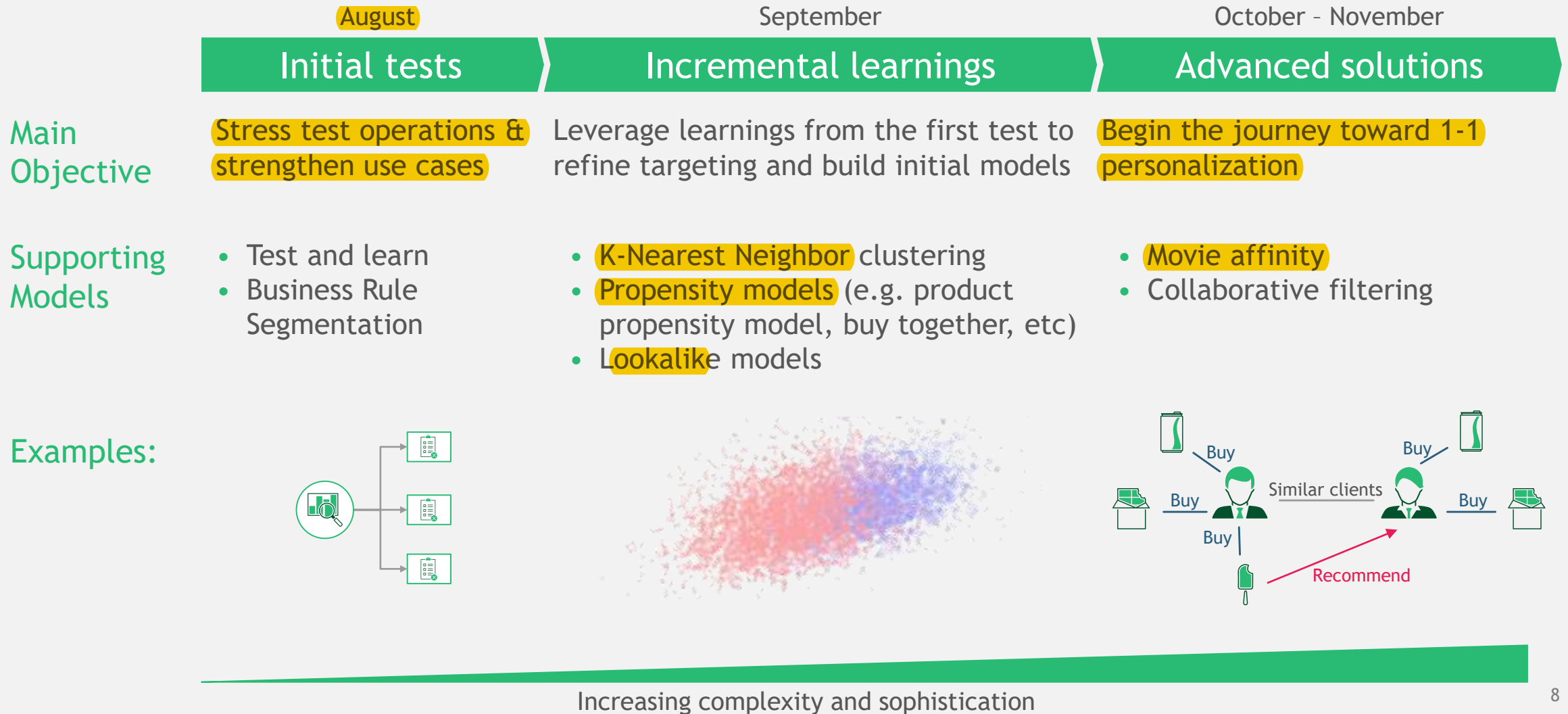Enabling automation and building new capabilities to drive efficiency

Pilot Use Case Design

Key Themes for Discussion

1   Specific use case design to execute during pilot phase

2   Feedback and machine learning mechanisms for pilots

3   Campaign execution sequence and marketing journeys

Sophistication will increase throughout the pilots, with more advanced models driving more incremental value

	August	September	October – November
	Initial tests	**Incremental learnings**	**Advanced solutions**
Main Objective	Stress test operations & strengthen use cases	Leverage learnings from the first test to refine targeting and build initial models	Begin the journey toward 1-1 personalization
Supporting Models	• Test and learn • Business Rule Segmentation	• K-Nearest Neighbor clustering • Propensity models (e.g. product propensity model, buy together, etc) • Lookalike models	• Movie affinity • Collaborative filtering
Examples:			

Increasing complexity and sophistication

Each use case family has been detailed to specific test use cases with clear hypotheses to validate in pilots

Frequency challenge

Menu exploration

Flash Offers

Description
- Unlock a reward after a personalized # of visits during a specific period of time
- Unlock a reward after purchasing a personalized set of concession products
- Offer a special discount for box office tickets during a short period of time

Hypothesis
- Using game dynamics to deliver promotions based on individual frequency levels we can increase the customer frequency
- Using game dynamics to deliver promotions based on individual consumption patterns we can increase basket size of up-sell
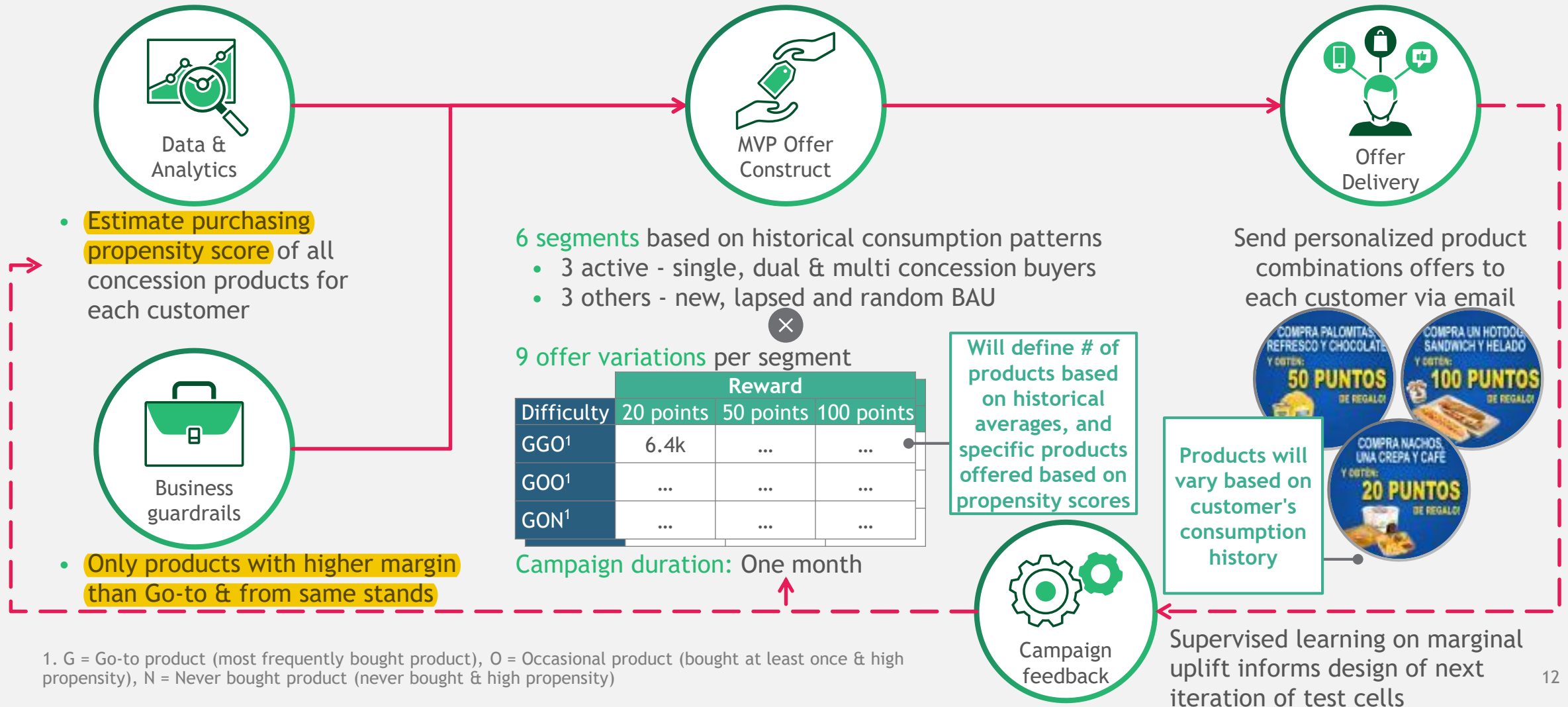- Delivering short fused offers promoting movies tailored to client preferences can drive an additional impulse visit

Variants to test
- Number of additional visits and amount of rewards
- Concession products and amount of rewards
- Promotion duration, movies and amount of rewards

For **frequency challenges,** we will optimize the difficulty & level of reward to each customer's profile

Data & Analytics

- Estimate average visits per month for every customer

Business guardrails

- Exclude members with frequency greater than eight visits per month

MVP Offer Construct

6 segments based on historical frequency
- 3 active - high, medium and low frequency
- 3 others - new, lapsed and random BAU

✕

6 offer variations per segment

Hurdle	Reward		
	20 points	50 points	100 points
+1 visit	n = 6.4k	...	...
+2 visits	...	...	...

Campaign duration: One month

Offer Delivery

Send personalized offers to each customer via email

¡VEN AL CINE 4 VECES en el próximo mes y obtén 100 PUNTOS DE REGALO!

¡VEN AL CINE 1 VEZ en el próximo mes y obtén 50 PUNTOS DE REGALO!

¡VEN AL CINE 2 VECES en el próximo mes y obtén 20 PUNTOS DE REGALO!

Campaign feedback

Supervised learning on marginal uplift informs design of next iteration of test cells

For menu exploration challenges we will optimize the product combinations and rewards to each customer

Data & Analytics

- Estimate purchasing propensity score of all concession products for each customer

Business guardrails

- Only products with higher margin than Go-to & from same stands

MVP Offer Construct

6 segments based on historical consumption patterns
- 3 active - single, dual & multi concession buyers
- 3 others - new, lapsed and random BAU

9 offer variations per segment

Difficulty	Reward		
	20 points	50 points	100 points
GGO[1]	6.4k	...	...
GOO[1]	...	...	...
GON[1]	...	...	...

Will define # of products based on historical averages, and specific products offered based on propensity scores

Campaign duration: One month

Offer Delivery

Send personalized product combinations offers to each customer via email

Products will vary based on customer's consumption history

Campaign feedback

Supervised learning on marginal uplift informs design of next iteration of test cells

1. G = Go-to product (most frequently bought product), O = Occasional product (bought at least once & high propensity), N = Never bought product (never bought & high propensity)

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For <mark>flash offers,</mark> we will optimize time-limit, depth of rewards and movie advertised to each customer

Data & Analytics

- <mark>Estimate average visits per month for every customer</mark>
- *Future: movie affinity score for every customer*

Business guardrails

- Excl. blockbuster & opening weekend
- Excl. high propensity movies

MVP Offer Construct

6 segments based on historical frequency
- <mark>3 active - high, medium and low frequency</mark>
- <mark>3 others - new, lapsed and random BAU</mark>

×

9 offer variations per segment (segmented by same groups as frequency challenge)

Difficulty	Reward		
	20 points	50 points	100 points
2 days	6.4k	…	…
3 days	…	…	…
6 days	…	…	…

Offer Delivery

Send specific offer to each customer via email

¡VEN AL CINE 1 VEZ EN LOS PRÓXIMOS 2 DÍAS Y OBTÉN 50 PUNTOS DE REGALO

¡VEN AL CINE 1 VEZ EN LOS PRÓXIMOS 6 DÍAS Y OBTÉN 50 PUNTOS DE REGALO

¡VEN AL CINE 1 VEZ EN LOS PRÓXIMOS 3 DÍAS Y OBTÉN 20 PUNTOS DE REGALO

Campaign feedback

Supervised learning on marginal uplift informs design of next iteration of test cells

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For pilot use cases will develop set of test cells and use supervised learning to optimize ensuing campaigns

Example – Frequency Challenge

Customer Segments

Segment personalization sandbox based on frequency to understand different behaviors across groups

Offer Design

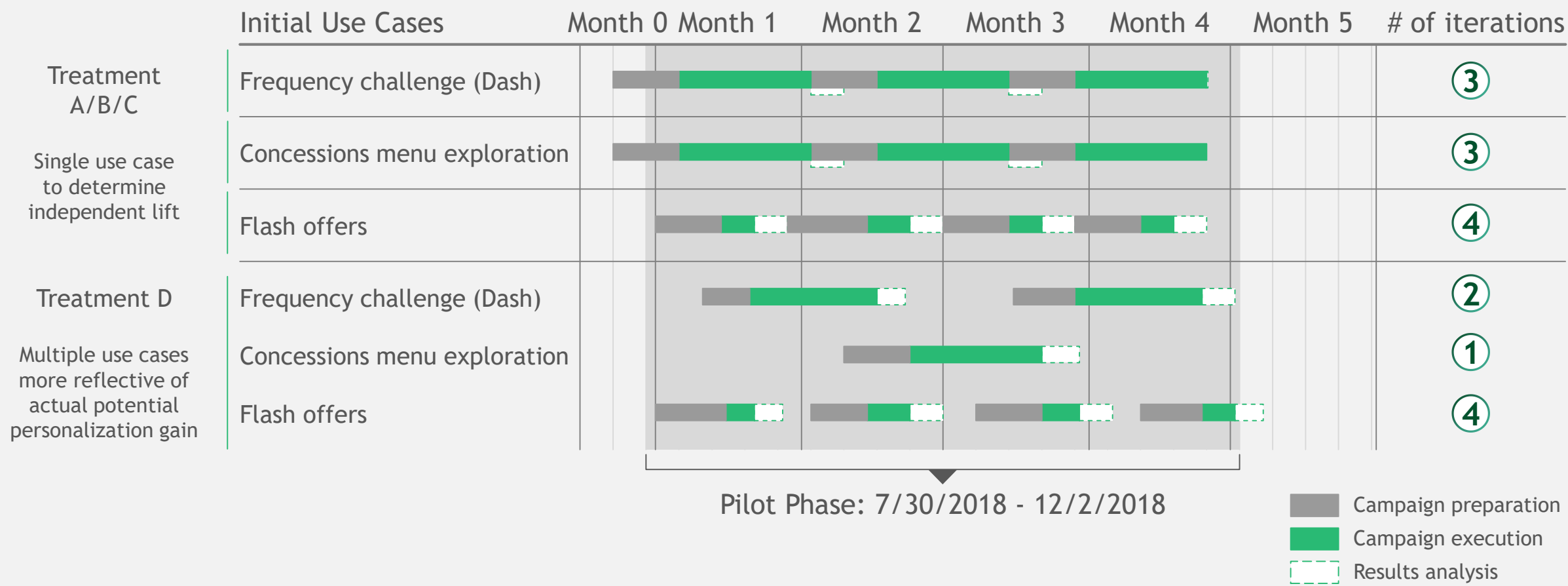Test different difficulties and rewards assigning equal number of customers to each test cell

Results Analysis

Estimate Net Incremental Gross Margin (NIGM) for each test cell to identify top performing offers

Frequency Challenge Sample

Active[1] – High Frequency

Hurdle	Reward		
	20 points	50 points	100 points
+1 visit	6.4k	…	…
+2 visits	…	…	…

Hurdle	Reward		
	20 points	50 points	100 points
+1 visit	+$224	+$315	+$148
+2 visits	+$15	-$31	-$12

Results will inform next iteration design (e.g. Don't include +2 visits difficulty)

Active[1] – Medium Frequency

Hurdle	Reward		
	20 points	50 points	100 points
+1 visit	6.4k	…	…
+2 visits	…	…	…

Hurdle	Reward		
	20 points	50 points	100 points
+1 visit	-$18	-$37	+$263
+2 visits	+$23	+$81	+$410

Results will inform next iteration design (e.g. Always provide 100 points as reward)

…

Supervised learning informs design in next iteration

Potential pilots execute both pure personalization lift measurement and a real-world marketing approach

	Initial Use Cases	Month 0	Month 1	Month 2	Month 3	Month 4	Month 5	# of iterations

Treatment A/B/C

Single use case to determine independent lift

- Frequency challenge (Dash) — ③
- Concessions menu exploration — ③
- Flash offers — ④

Treatment D

Multiple use cases more reflective of actual potential personalization gain

- Frequency challenge (Dash) — ②
- Concessions menu exploration — ①
- Flash offers — ④

Pilot Phase: 7/30/2018 - 12/2/2018

Legend:
- Campaign preparation
- Campaign execution
- Results analysis

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How it all comes together: Individual customers will receive multiple use cases during pilots

Andrea

Visits Cinepolis on average twice per month

Always buys popcorn and occasionally nachos but never soda

✓ Andrea completed the challenge, so we test for a harder challenge with a lower reward

Frequency challenge
Come 4 times in the next month and get 20 points

Flash offer
Come once in the next 4 days and get 20 points

Frequency challenge
Come 3 times in the next month and get 50 points

Menu exploration
Buy popcorn, soda, and nachos in the next month and get 50 points

Menu exploration
Buy popcorn and nachos in the next month and get 100 points

✗ Andrea did not complete the challenge, so we test for an easier challenge with a larger reward

What Andrea's journey could look like

Sandbox and Evaluation Methodology

Key Themes for Discussion

1 Pilot experiment design and sandbox sizing

2 Campaign evaluation methodology

During pilot phase will split CC customer base into three main groups

Business-As-Usual Group
~3.4M customers[1] will continue to receive promos from existing marketing journeys

Personalization Sandbox
~700k customers will receive personalized offers from the Lab and be excluded from BAU promos[2]

Global Control
~50k customers that will be supressed from all promotional communications

1. ~8M Club Cinépolis contactable users, ~4.2 M active members; 2. Will only be able to receive informative comms.   22

Testing campaign effects with statistical significance for the use cases and variants will require ~750k CC members

Sample required to be statistically significant vs reference group

Statistical parameters
- Confidence = 95%
- Power[1] = 99%

Response rate of test versus reference
- Test = 0.7%
- BAU = 0.2%[2]

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6.4k

Min. sample size for each test cell
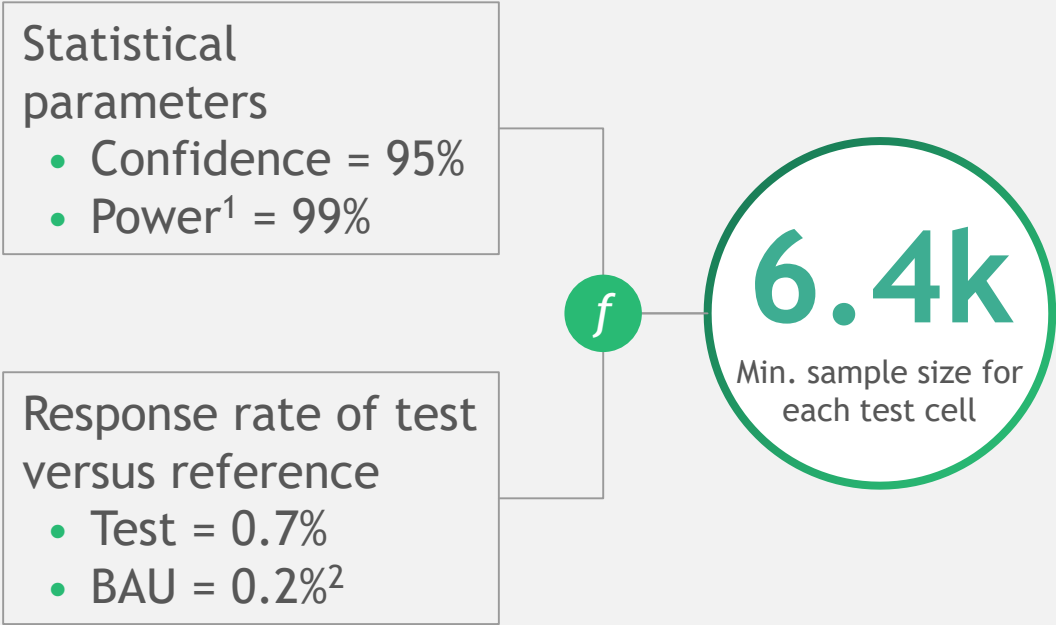
Will require ~750k CC members to run three use cases in parallel

Group	# of variants	Use Case Sample Size
Frequency Challenge	34	~250k
Menu exploration	34	~250k
Box office ticket offers	25	~200k
Total test group		**~700k**
Control Group	6	~50k
Total		**~750k**

1. The probability that the test correctly rejects the null hypothesis (H0) when a specific alternative hypothesis (H1) is true
2. Using redemption rate of the frequency challenge promotions they send as a proxy of their BAU;
Source: Historical CC campaign results, BCG Experience

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Four key principles for campaign evaluation

1 Results evaluation will be based on gross margin ($) differentials, after deducting campaign reward costs

2 Top performing variants in each segment will be the comparison reference versus BAU and their control group

3 CC points will be valued at opportunity cost adjusting for redemption rate[1] (1pt ≈ MX$1.0 x ~80% = ~MX$ 0.8)

4 Operational metrics funnel (e.g. Open Rate, CTR) will be used to inform future designs, not measure campaign success

1. Average redemption rate 76%

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Will estimate incremental results by calculating incremental margin difference of test cells vs. BAU

Active - High	20 points	50 points	100 points
+1 visit	$120	$155	$140
+2 visits	$55	$60	$80

Contribution margin / test cell: $155

Segment control contr. margin: $140

Net incremental contr. margin / cell: +$15

Population distribution

Net incremental contribution margin: +$10 / +$5

Global control contribution margin: $85

Contribution Margin of BAU cell: $90

+$5
Incremental margin / customer / campaign

25
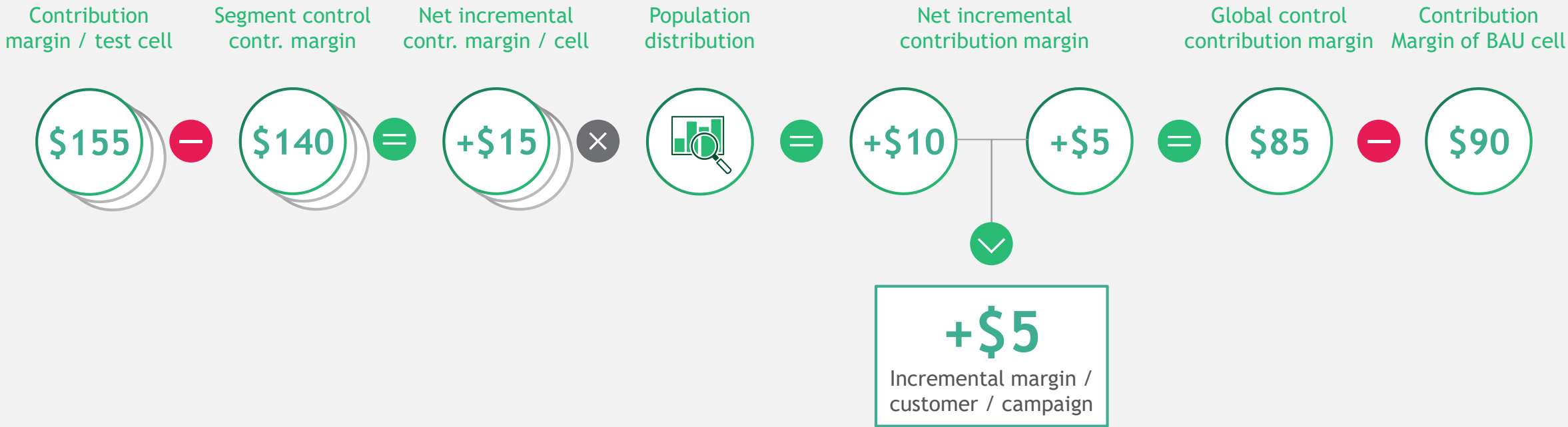
Cross-functional Resourcing Needs

Cross-functional personalization team design based on five core principles

1. **The majority of members will be dedicated full-time to the team, with virtual co-location** (in short term most roles covered by BCG)

2. Team members **will report dotted line** upwards to the overall team lead

3. The team **will be further divided** into use case and enabler-focused pods, to support an agile, sprint-based methodology

4. **Pod structure will change over the course of the project**, as focus on use cases and enablers shifts

5. **While pods will plan and execute on sprints independently,** team leads and the Overall Lead will ensure that interdependencies are clearly managed to follow overall roadmap

We will create cross-functional "pods" focused on execution and break down silos

Illustrative for pilot

Program management

| Overall Leads | Business Leads | Data Leads | Tech Leads |

UC #1: Concessions Menu Exploration

Campaign Analyst   Data Scientist

UC #2: Frequency Challenge

Campaign Analyst   Data Scientist

UC #3: Optimized offers
(related to # of tickets)

Use cases employ similar analytic model which allows sharing of resources

Shared resources

IT, QA, Architecture, other BUs, BU-specific strategy teams, Legal, HR, Finance, and others

Expectation that pods change over time, as additional use cases launch

Multiple bodies will govern personalization team

Forum	Stakeholders	Objective	Meeting Cadence
Executive Committee	• M. Mier • M. Vaca • A. Lopez • B. Rugama • G. Morales	• Review overall program progress including campaign results • Approve recommendations for campaign iterations • Review staffing and approve required investments	2 hours monthly
Senior Leadership Team	• A. Villanueva • M. Urrutia • BCG Lead	• Review weekly progress & status of key deliverables • Align cross-functional operations • Mobilize organization to remove roadblocks • Prioritize resource asks, use case iterations and issue escalation	2 hours weekly
Senior Execution Team	• C. Carreño • M. Rivas • Lead Data Scientist (TBD)	• Review daily status: progress and blockers • Review operational interdependencies, cross-functional needs and deadlines • Adjust use case scale up plans	1 hour daily

Proposed structure of personalization team during pilots

Steering Committee

Program Leadership

Lab Leadership

| M. Urrutia | A. Villanueva | BCG Co-Lead |

~8 hours a week

- Review use case execution and overall strategy
- Work with Leads to remove roadblocks

~4 hours a day

- Provide guidance to team
- Coordinate approvals from external departments
- Final approval before deployment

Key

| Inside lab | BCG team |
| Outside lab | |

Business Lead (.5 FTEs)

Business Co- Lead (1 FTEs)

Data Lead (.5 FTEs)

Data Co-Lead (1 FTE)

Tech Lead (.2 FTEs)

Marketing Analyst (.5 FTEs)

Campaign Analysts (2 FTEs)

Data Scientists (2 FTEs)

Vista Specialist (.2 FTE)

Mescalina (.2 FTEs)

~4 hours a day

- Provide guidance on campaign construction
- Coordinate creative and copy design
- Ensure adherence to brand guidelines
- QA on emails and creatives

~4 hours a day

- Review data strategy and help manage progress
- Support data scientists on model development
- Track required investments and incremental changes

~8 hours a week

- Review strategy and solve tech issues
- Plan sprints and tech integration
- Map required investments and changes to team based on future requirements

Ad hoc support as needed from:
- Revenue Management
- Finance
- Programming
- Legal

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As we continue the journey past the pilots, development of the ecosystem will drive increasing complexity

Today

~2 months

~4 months

~6 months

~12-16 months

Assessment & Strategy	In-market testing of initial use cases	Scale & optimize	Innovation, full scale and roll out

- Assess current personalization efforts and capabilities
- Define what's needed to deliver (e.g., people, process, system investments, …)
- Develop initial use cases
- Set up analytics space

- Set up technology, data, and team structure
- Develop and launch customer behavioral models and pilots
- Test and learn to fund the journey
- Build internal team capabilities

- Iteratively refine offers and customer solutions
- Identify new need states, explore additional use cases, and build new offerings
- Develop additional technology, analytical tools, and execution processes to enable rapid testing

- Scale up personalization efforts across channels and customer segments
- Further build out tech stack and team as needed

- Validated the opportunity
- Identified path to capture opportunity via developed strategy and capability roadmap

- Prove we can capture value
- Develop initial capabilities
- Develop scale up plan

- Ramp up use case deployment to full base
- Transfer capabilities to Cinépolis

- Full financial benefit realization
- Capable organization

Fully mobilized team could potentially involve ~21 FTEs

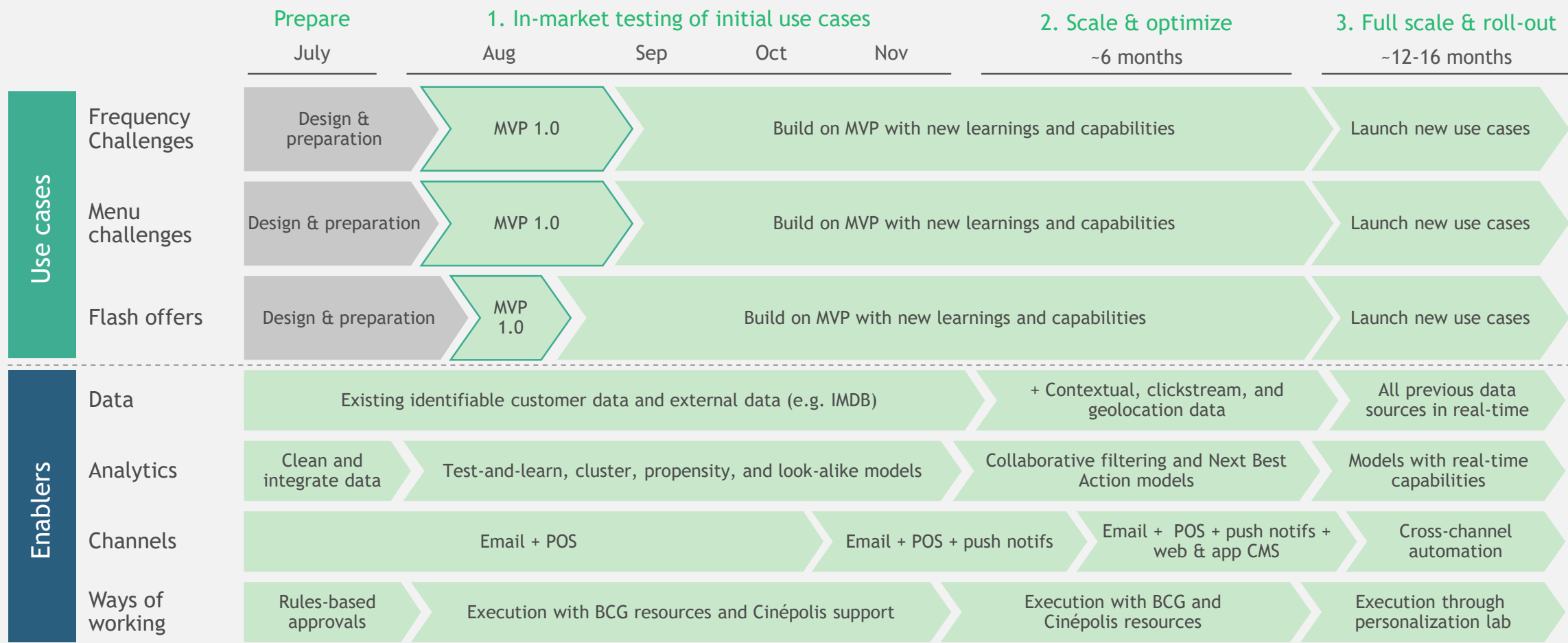|		In-market testing of initial use cases (~4 months)		Full-scale optimization and roll-out (~6-8 months)		Best-in-class personalization (12~18 months)	
		Cinépolis[1]	BCG	Cinépolis	BCG	Cinépolis	BCG
Project management	Overall Lead	.2	1	.2	1	.5	1
	Business Lead	.5	1	.5	1	1	1
	Data Lead	.5	1	1	1	1	1
	Tech Lead	.1	-	.5	1	1	1
Use cases	Campaign Analysts[1]	-	2	-	2	-	2
	Marketing Analyst	.5	-	.5	-	1	-
	Mescalina	.2		.2	-	.2	-
	Vista Specialist	.2	-	.2	-	.2	-
Pers. platform	Data Engineers	-	-	-	1	1	1
	Data Architects	-	-	-	1	1	-
	Systems SMEs	-	-	-	-	1	-
	Software Engineer	-	-	1	-	1	1
Pers. engine	Data Scientists	-	2	1	2	2	1
Delivery channels	Channel Owner[1]	-	-	1	-	1	-
	Total	**~2**	**~7**	**~6**	**~10**	**~12**	**~9**

~2-3 increase in HC

~4 increase in HC

1. Campaign analysts will act as email channel owners during initial use cases
Note: Average numbers only, could fluctuate over time based on needs and available resources; Source: BCG Experience

Roadmap and Next Steps

Proposed roadmap sequencing and major stage gates

		Prepare	1. In-market testing of initial use cases				2. Scale & optimize	3. Full scale & roll-out
		July	Aug	Sep	Oct	Nov	~6 months	~12-16 months
Use cases	Frequency Challenges	Design & preparation	MVP 1.0	Build on MVP with new learnings and capabilities				Launch new use cases
	Menu challenges	Design & preparation	MVP 1.0	Build on MVP with new learnings and capabilities				Launch new use cases
	Flash offers	Design & preparation	MVP 1.0	Build on MVP with new learnings and capabilities				Launch new use cases
Enablers	Data	Existing identifiable customer data and external data (e.g. IMDB)					+ Contextual, clickstream, and geolocation data	All previous data sources in real-time
	Analytics	Clean and integrate data	Test-and-learn, cluster, propensity, and look-alike models				Collaborative filtering and Next Best Action models	Models with real-time capabilities
	Channels		Email + POS		Email + POS + push notifs		Email + POS + push notifs + web & app CMS	Cross-channel automation
	Ways of working	Rules-based approvals	Execution with BCG resources and Cinépolis support				Execution with BCG and Cinépolis resources	Execution through personalization lab

We have jointly delivered on objectives of the assessment phase

External and internal assessment

Execution roadmap

Strategic design

- Validated personalization opportunity
- Assessment of customer journey, pain points, and need states
- List of personalization use cases to improve the customer experience, leveraging personalization trends and industry exemplars
- Long term personalization vision

- Identified path to capture personalization opportunity

- Pilot execution experiment design and measurement framework

Tech, data & analytics

- Robust mapping of data flows and technology stack as it relates to marketing and analytics
- Assessment of analytical sophistication as it relates to personalization
- Highlighted gaps between existing capabilities & use case requirements
- High-level roadmap of capabilities required to enable personalization

- Roadmap for enablement: including required tech stack, data structure, and analytical capabilities

- Overall investment case to self-fund the journey

Ways of working

- Map of existing campaign execution process and high priority pain points

- Personalization org. design; including resourcing, RDs, and governance
- Principles of agile marketing as a personalization enabler

What we need from Cinépolis for an August start

To maintain momentum, make a decision on the go/no-go by first week of August

Define rules / guidelines to provide more flexibility to personalization team during execution
- Assigned loyalty points' budget
- Eligible products for offers and acceptable discount depth
- Studios' marketing calendar restrictions

Provide personalization sandbox CC members for initial use cases
- Isolated from other BAU activities

Approve/appoint proposed Cinépolis resources to support execution

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