

Welcome to Tcube Community Event!

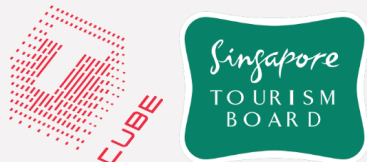
The webinar will start soon...

There is background music playing. Please check that you are able to hear the audio. If you require technical assistance, direct a message to the [All Panelist](#) via the **Q&A feature**.

You may post your questions at anytime during this session, we will consolidate and respond during the Q&A segment at end of today's session.

We greatly value your feedback at the end of the session. A QR code will be shared at the end of the session to register for our 8 November event.

We wish you a fruitful session with us today!



WELCOME TO LIVE WEBINAR

Data Analytics For Tourism Business



Huey Hong Ong
Executive Director
Industry Technology Transformation,
STB



Paul Kent
Partner
Head of Economics & Analytics,
KPMG



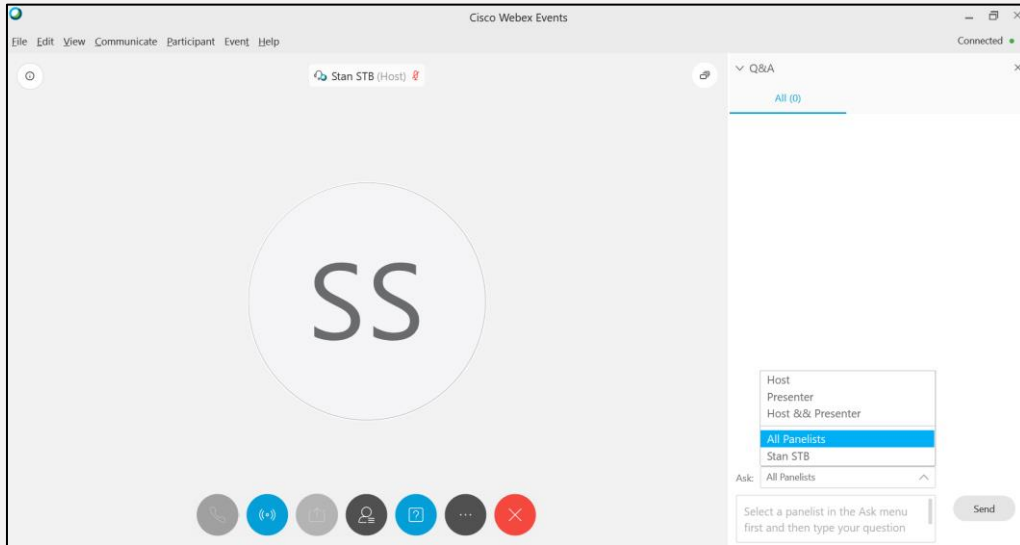
Kelly Yoong
Director
Data Analytics, Corporate Planning
SDC


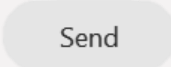
Friday 15th October 2021, 13:00 – 14:00



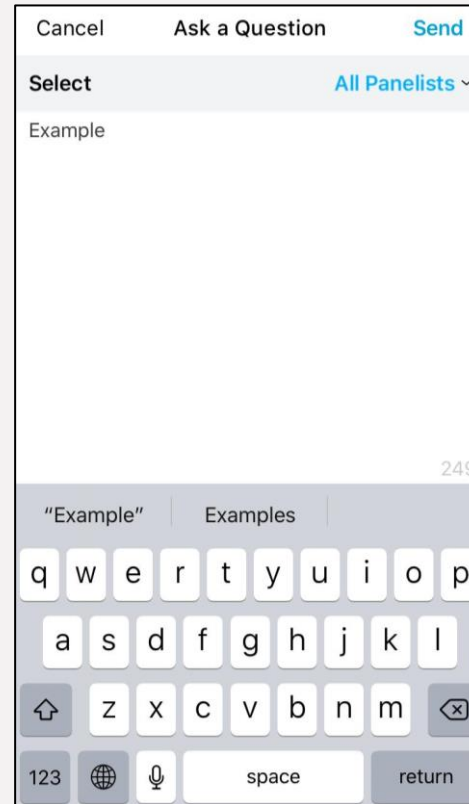
Using WebEx: Submit a Question





Computer User



1. Click 
2. Select All Panelist
3. Type your message & click 

Mobile User



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5. Type your message & click 

Agenda

- The importance of data analytics to your organisation
- Sharing of an industry use case
- Development of data analytics & technology and data governance

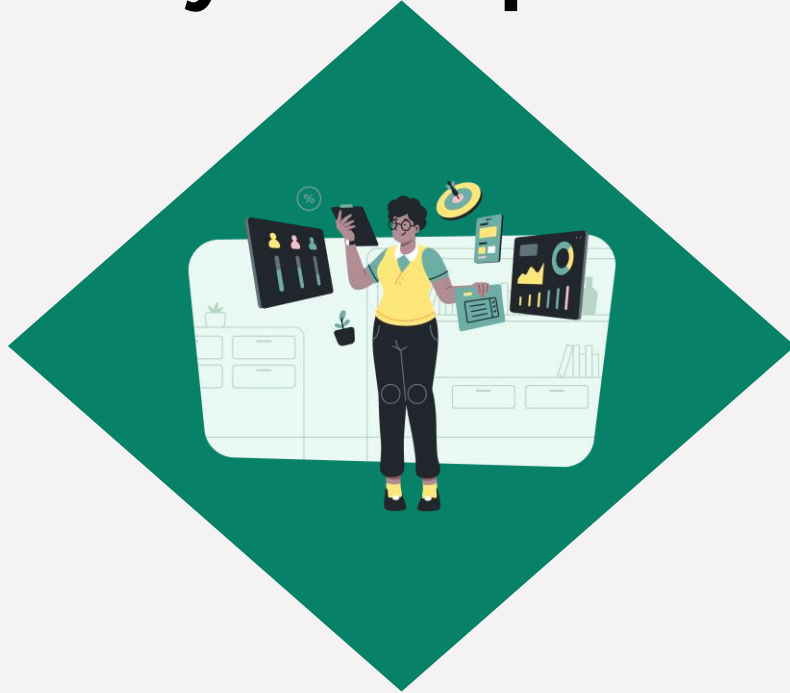


Agenda

- **The importance of data analytics to your organisation**
- Sharing of an industry use case
- Development of data analytics & technology and data governance

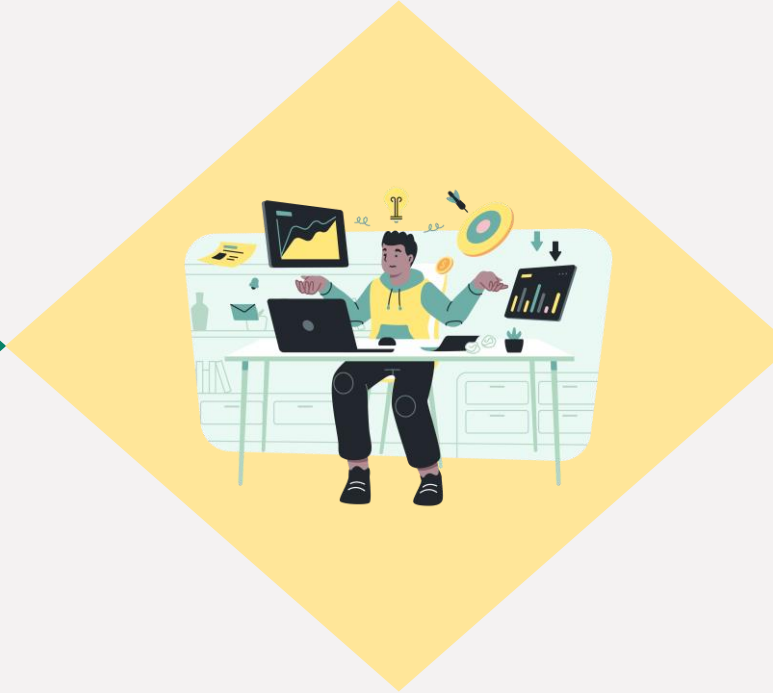


Global industry trends have led to more data or require analytics capabilities



Increasing usage of digital channels

Leverage on search engine optimization and web analytics tools to track the effectiveness and create more targeted marketing initiatives



Better understanding of customer sentiments

Through adoption of Machine learning and AI-powered social listening tools to aggregate them into insightful data formats for businesses



Shaping demand for personalised experiences

Use of customer profiling tools allow businesses to anticipate and shape visitor preferences

Your organisation today collects vast amount of data through the various touch points with your visitors



Data touchpoints



Data Captured

PRE-VISIT



- Online and social ads
- Travel blogs
- 3rd party review sites (e.g. TripAdvisor, Trip.com)
- Own website
- OTAs (Klook, Ctrip)
- Radio & TV ads
- Phone call & email (request)

VISIT EXPERIENCE



- E-tickets
- Mobile application
- Ticket counter
- 3rd party redemption counters
- Visitor service counter
- Retail shop
- F&B outlets
- Audio guides

LEAVE & POST-VISIT



- Social media
- 3rd party review sites (e.g. Tripadvisor, Trip.com)
- Guest feedback forms

- Ticket and membership type
- Booking channel
- Demographics i.e. place of residence
- Date and time of booking
- Visitor contact i.e. email address
- Marketing analytics

- Count of visitors by attraction
- Date and time of visit
- On-site sensors: Location, Count of visitors, Parking (license plate)
- Dwell time though connection access point / zone connected
- Footfall & spend mapped to visitor identifier

- On-site guest satisfaction survey
- No of renewal of memberships
- Online store – product & customer info
- Review data from 3rd party booking platforms

By unlocking your data, you could improve your business performance in 3 key areas

1. Reducing Costs

“How do I reduce the cost of my different market and distribution channels?”

“What type of application processes are best suited for automation and self-service?”

2. Driving Growth

“How do I understand my market better so I can increase my business?”

“How can our industry collectively pool information to better understand, identify and capitalise on opportunities?”

3. Enhancing Experience

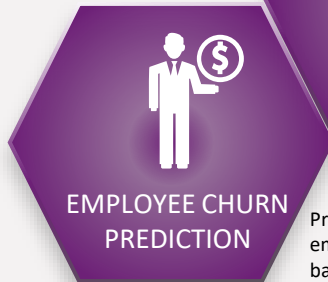
“How can I improve efficiencies and reduce waiting time for my visitors or passengers?”

“How can I tailor information and products according to the preferences of my customers?”

Examples

Data-POC and tools

Spending benchmarking against other companies in the industry and recommend potential areas to be improved ([Benchmarking](#))



Predict who and when an employee will leave the firm based on demographics, performance, number of customers, historical promotions, etc... This is to help companies in designing better employee retention plans and improving employee satisfaction. ([Predictive Modelling](#))



Customer segmentation according to a wide range of factors, e.g. demographic, geographic, behavioural, customer journey to understand their preferences and interested to build target marketing strategies and useful recommendations ([Unsupervised Modelling](#))



Develop a predictive model to predict customer churn, identify cross-selling and upselling opportunities based on customer micro segmentation, historical purchase records, etc., ([Predictive Modelling](#))



Identify the best opportunities for new businesses based on customer's feedback and requirements, their expenditure outside, etc. ([Unsupervised Modelling](#), [Natural Language Processing](#))



Based on past user bookings and comparing against other similar users, recommend suitable tour packages, hotels, etc... ([Collaborative Filtering](#), [Content-Based Filtering](#), [Hybrid Recommendation Systems](#))



Based on visitor profile and interest to create personalised visitor experience, for example,

- a personalised tour package minimizes travel costs, travelling time and improves customer satisfaction.
- a personalised guide to the venue with relevant vendors or sessions marked
- trigger notifications based on location data if a relevant seminar is about to open, etc. ([Optimization](#), [Smart Data Transformation](#))



Poll #1

Do you think implementing data analytics in an organization is costly and time consuming?



Myths about data analytics debunked



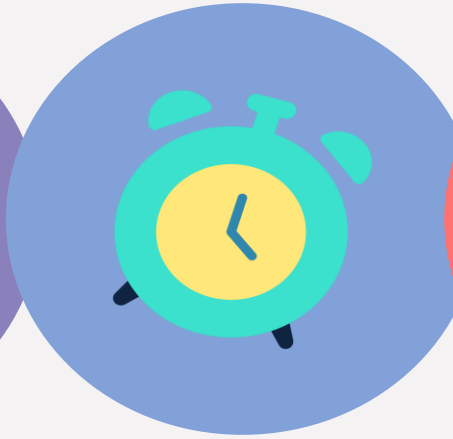
Implementing data analytics is expensive

- Tailored pricing to organisations and offer a “Startup” or SME plan making getting started significantly cheaper



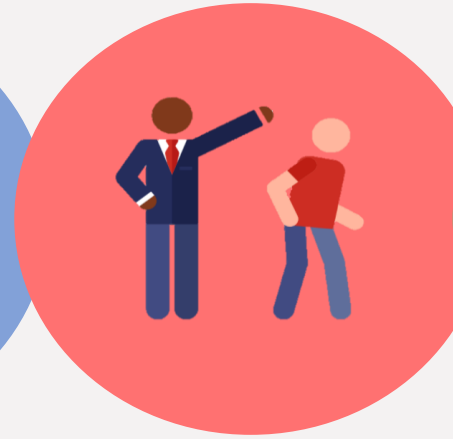
Implementing data analytics is challenging

- Easily able to import existing data and generate immediate insights
- Trainings are easy & available for staff to pick up relevant skills



Making use of data analytics is very time intensive

- Can be set up within minutes
- Enhanced over time to generate more insights such as business intelligence tools



Data analytics will cause people to lose their jobs

- Data is merely an enabler to ease employees of tedious manual tasks and in turn help business to make better decisions



Data analytics is the holy grail and will drive the business

- Data analytics is only powerful if it is used as an enabler, make critical business decisions, uncover new insights and acted upon and properly executed

Poll #2

Why do you think many companies fail to embark on data transformation journey?



Why do you think many companies fail to embark on data transformation journey?



Implementing data analytics without a plan or purpose



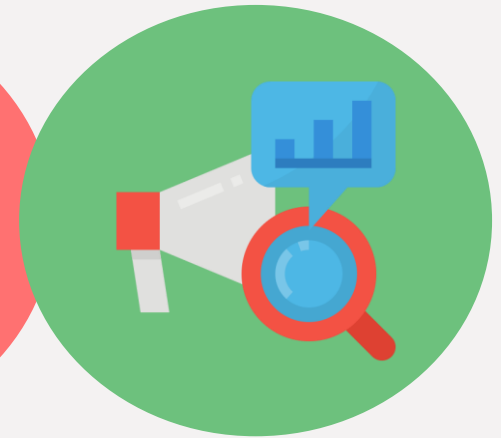
Overcomplicating analyses unnecessarily



Not tailoring visualizations of data for different stakeholders



Confusing correlation & causation with data insights



Looking at data only, without considering other factors

Common Pitfalls - What NOT to do on your data analytics journey



Implementing data analytics without a plan or purpose

Resources spent doing analyses that are not useful to the company can be costly in terms of manpower and hours



Overcomplicating analyses unnecessarily

Building complicated data models that is not necessary results in a waste of resources and may impact stakeholders business decisions



Not tailoring visualizations of data for different stakeholders

Needs to be understandable and allow the actual utilization of data analytics to make important business decisions through ease of understanding and ease of usability of data



Confusing correlation & causation with data insights

Just because two things correlate in terms of data, does not necessarily mean that one causes the other



Looking at data only, without considering other factors

Looking at data only without applying common sense and logic can be deceiving

How could I start my data transformation journey?



Poll #3

Have you done the Tourism Transformation Index (TXI)?



Tourism Transformation Index (TXI)

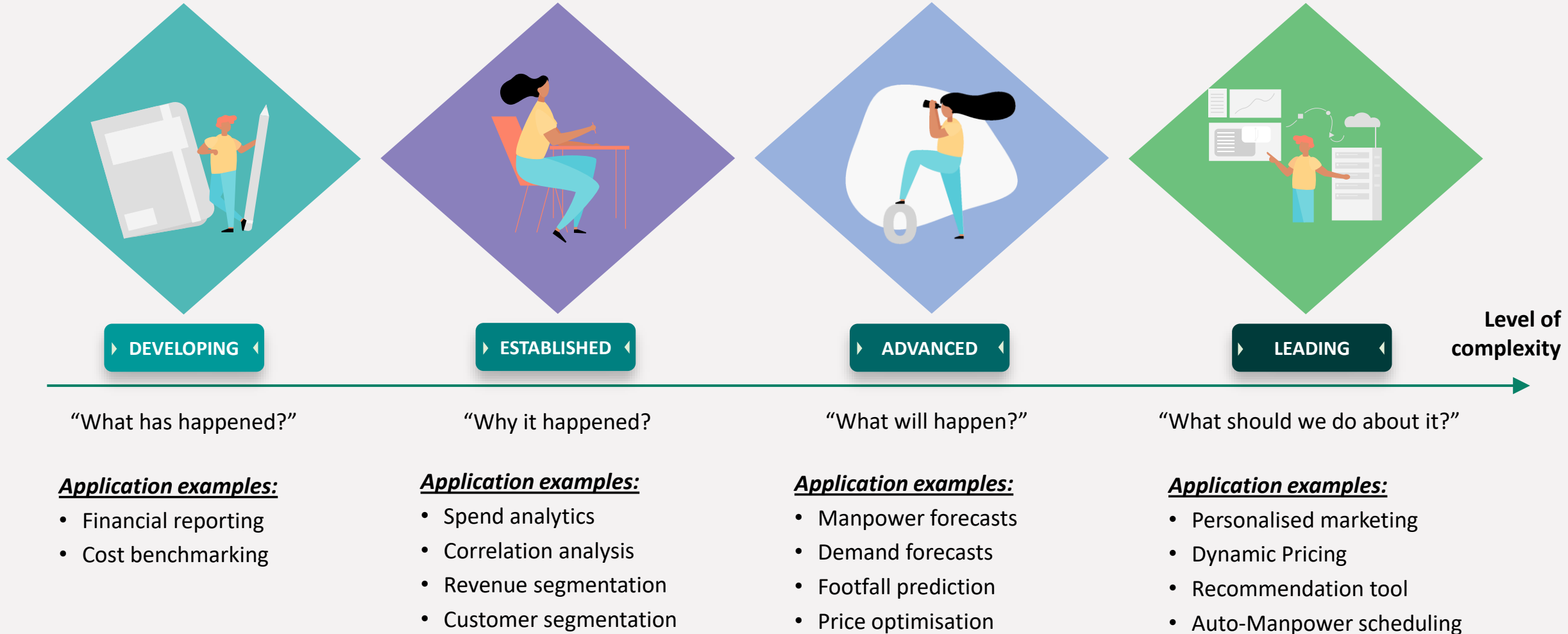
TXI is a self-assessment tool designed to guide Singapore tourism organisations regardless of size and industries, to future proof businesses by providing a holistic diagnosis of the current state of transformation, information about where the business stands among industry peers and recommendations to stay relevant and thrive.

Kick off your data journey, start with assessing your organisation's current capabilities and define where you want to be in the future

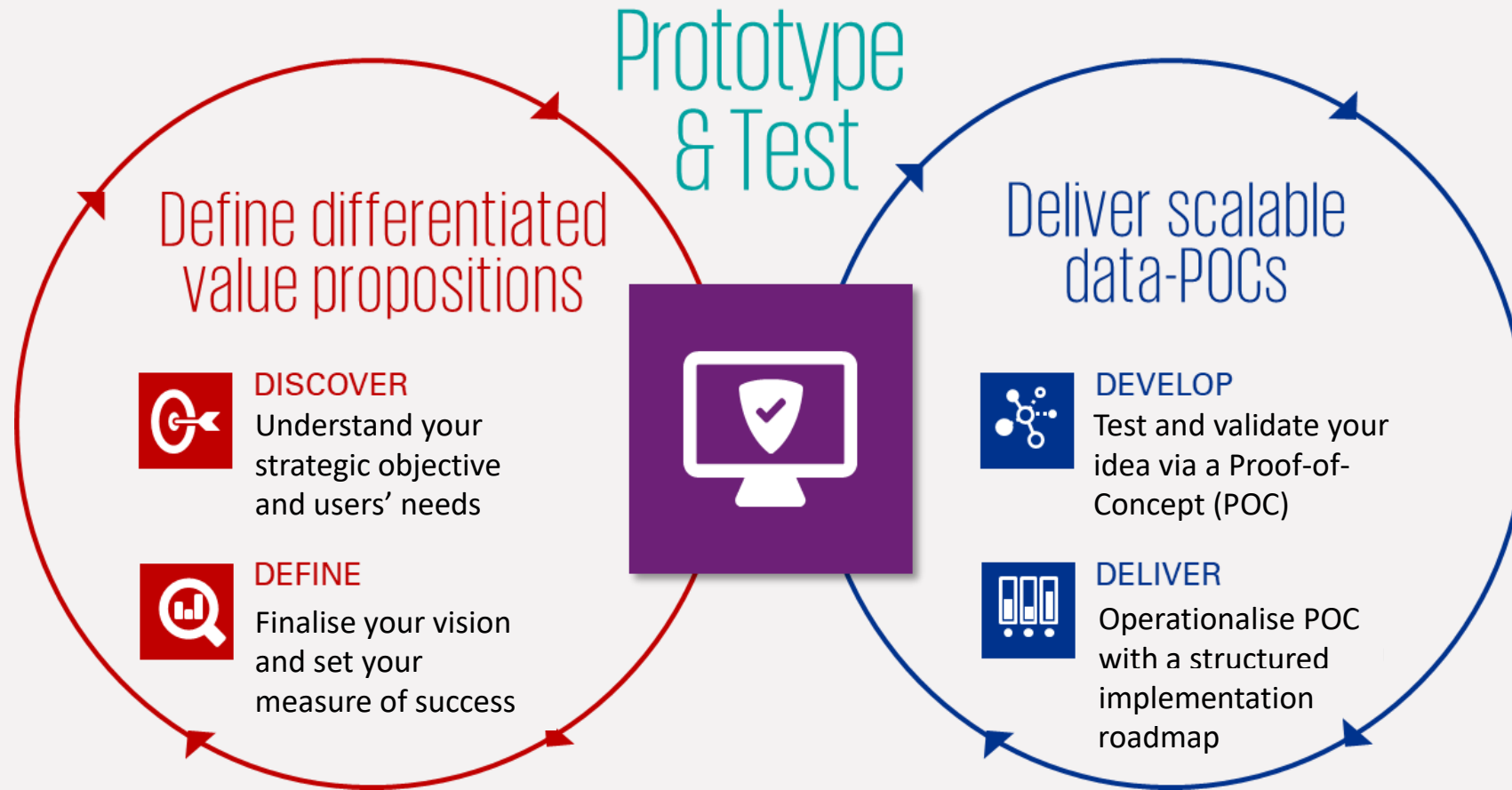


Register your interest: stan.stb.gov.sg

Measure your data analytics maturity with TXI and identify your strategic objectives



Applying user centered design approach to define relevant data solutions for your organisation

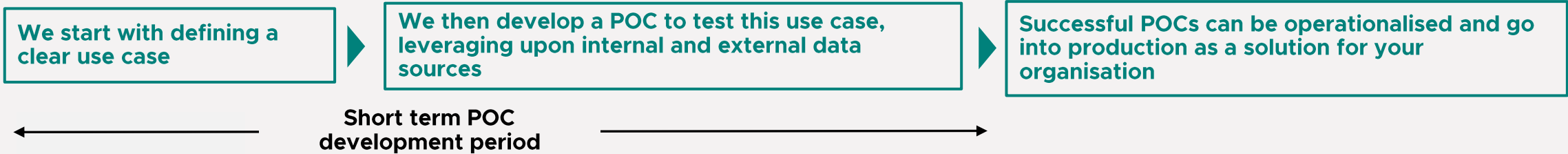


Join our next event on
8th Nov at 1pm
to learn more about
user centered design
approach in data
analytics



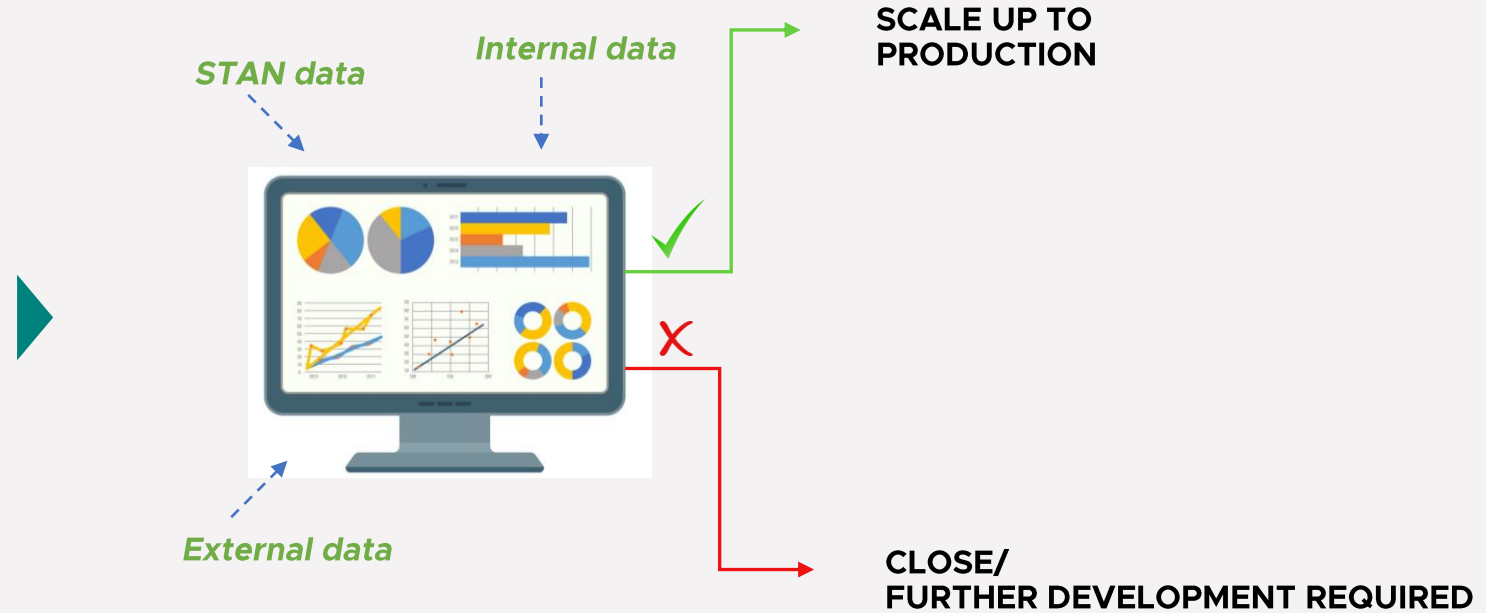
What is a POC?

A POC (Proof Of Concept) is an experiment with the **objective to assess the value, relevance and feasibility of a solution** before spending the effort in full development.



Example Use case:

“Using CRM data to perform guest segmentation and predictive analytics to offer personalised promotions and marketing strategies”



**Illustrative data sources*

Agenda

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- Development of data analytics & technology and data governance



“How might we create a data-centric loyalty proposition to bridge data gaps and drive spend at our Partners?”

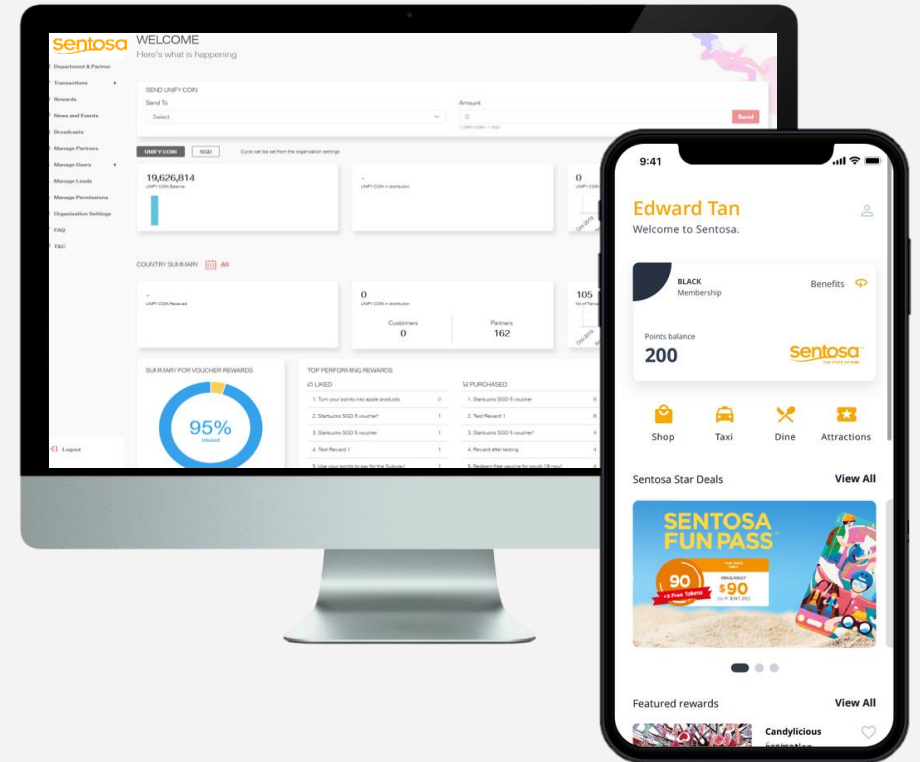
SDC's data pilot journey

Sharing by:
Kelly Yoong

Director

Data Analytics, Corporate Planning

SDC



Use case

“How might we create a data-centric loyalty proposition to bridge data gaps and drive spend at our Partners?”



Challenges

SDC is currently not able to capture transactional and behavioural data:

- MySentosa App lacks a compelling proposition to become a data source for consumer spending, movement and visitorship
- No clear incentives for visitors to maintain relationship and return to Sentosa



Solution

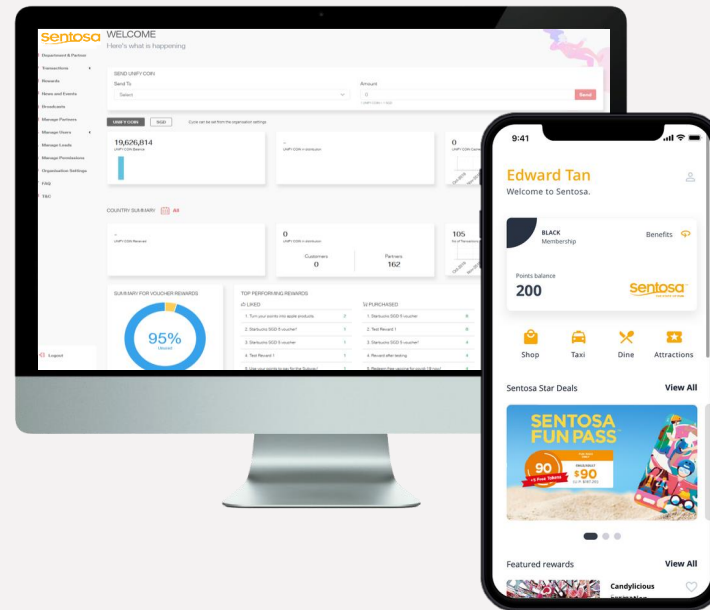
Sentosa Rewards [BETA] is a loyalty-centric proposition for richer data capture and insights

Visitor proposition:

- Earn loyalty points through gamification
- Purchases at Island Partners using loyalty points
- Redeem loyalty points for rewards and offers to use at Island Partners

Island Partner proposition:

- Capture visitor demographic and behavioural data
- Track usage of the app and key performance metrics
- Create and track the performance of new reward initiatives



Benefits

- Increase engagement with visitors to drive frequency of visits and spend
- Increased data capture capabilities (demographic and behavioural)
- Ability to use data to target visitor segments effectively
- New marketing channel for Island Partners
- Platform to unite Island Partners and wider ecosystem partners in the future

We adopted a Learn-Test-Build Approach and defined the measures of success for the POC

POC objectives

Measured metrics

1 **Assess proposition ability to drive footfall and spend on the island**

- # of user registrations
- # of weekly active users (e.g. defined as any type of action taken at least 1x/week)
- Total # of transactions (earn/buy) made
- % of users that reach Silver and Gold
- Revenue to cost ratio

2 **Assess Island Partners' willingness to become part of Sentosa Rewards ecosystem**

- # of Island Partners onboarded

3 **Validate SDC's ability to collect demographic data**

- Country of residence
- Contact Information
- Gender, Age
- Areas of interests



Setting the Measures of Success

The targets enabled a cross-matrix team consisting Marketing, IT and Data Analytics to work towards the goal and adopt an Agile approach in Design and Testing as we evaluated the progress with data collected on a weekly basis.

Bringing it to Life- Sentosa Rewards [MVP]

Duration of
40
days

42
Deals &
Promotions

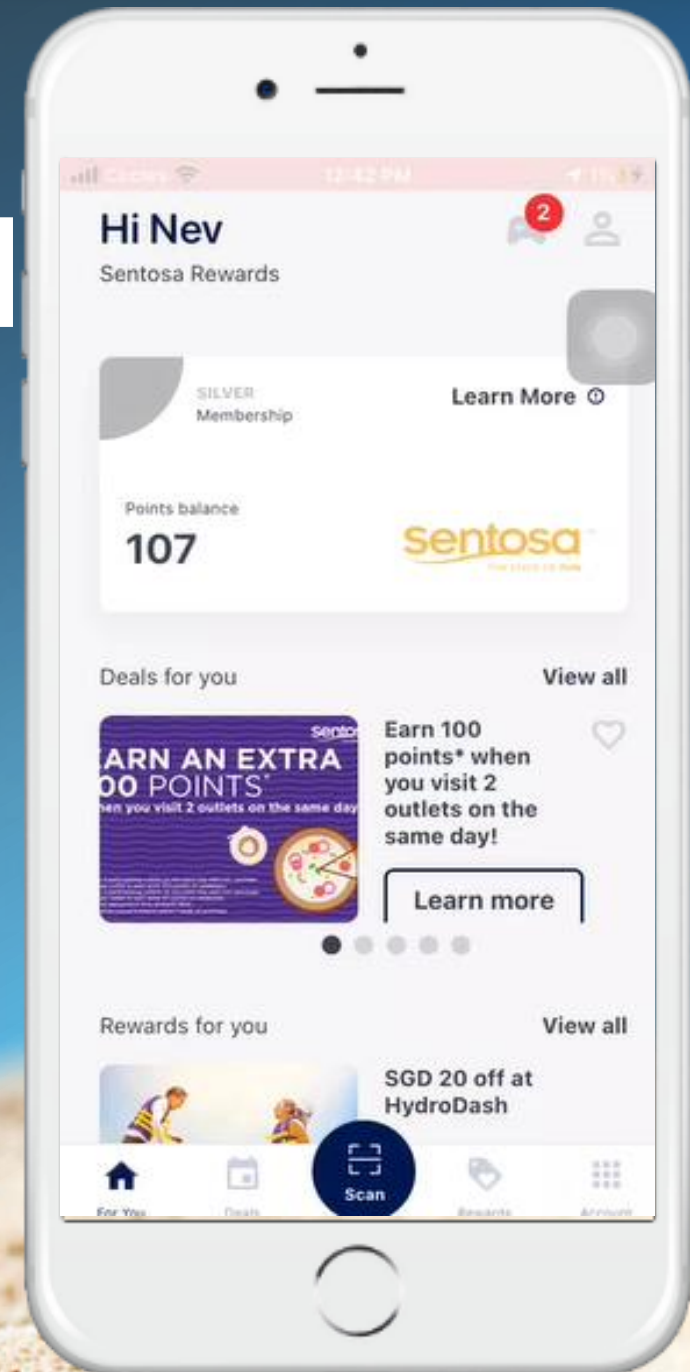
3
Types of
rewards

2x increase in footfall

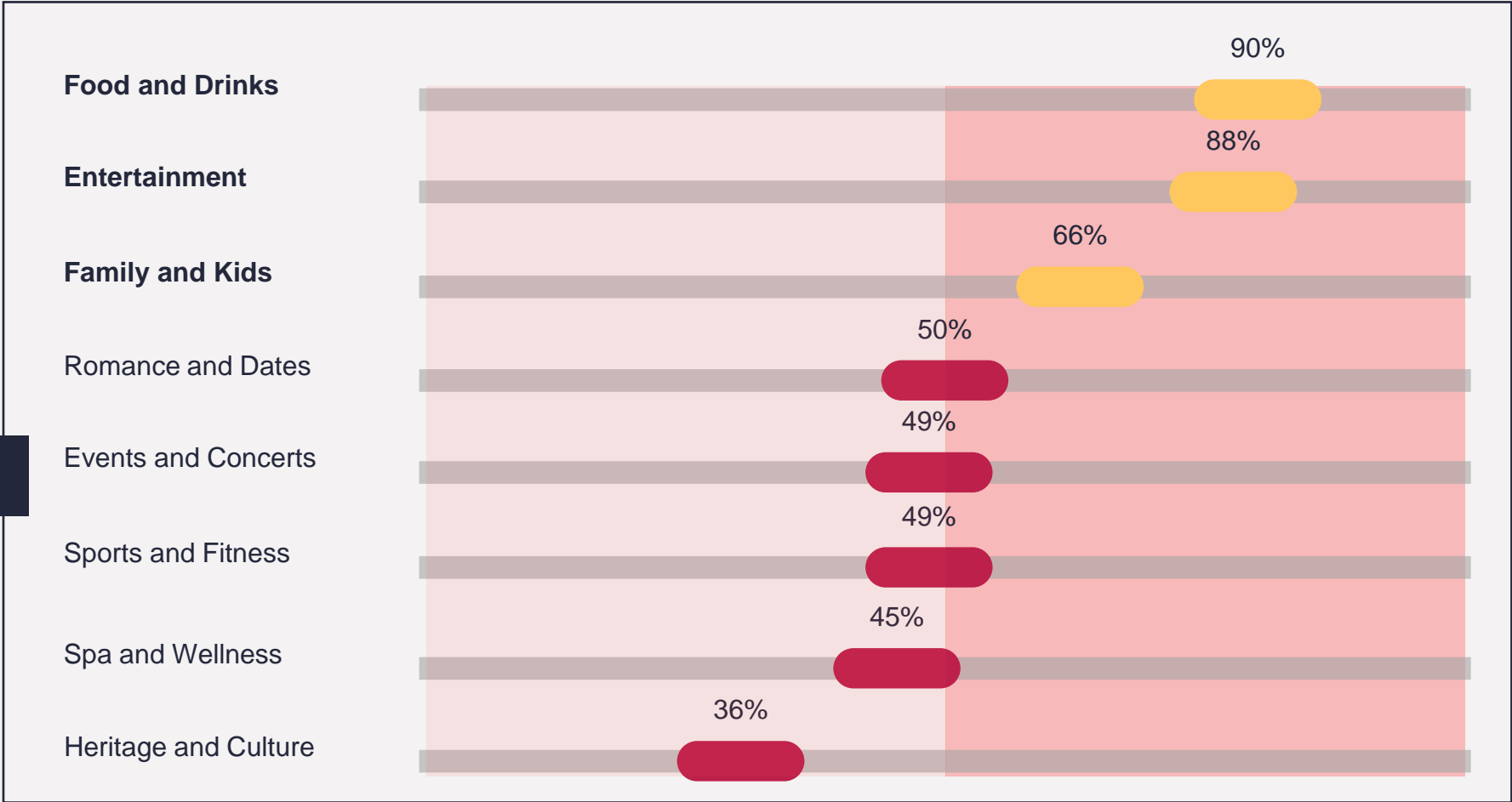
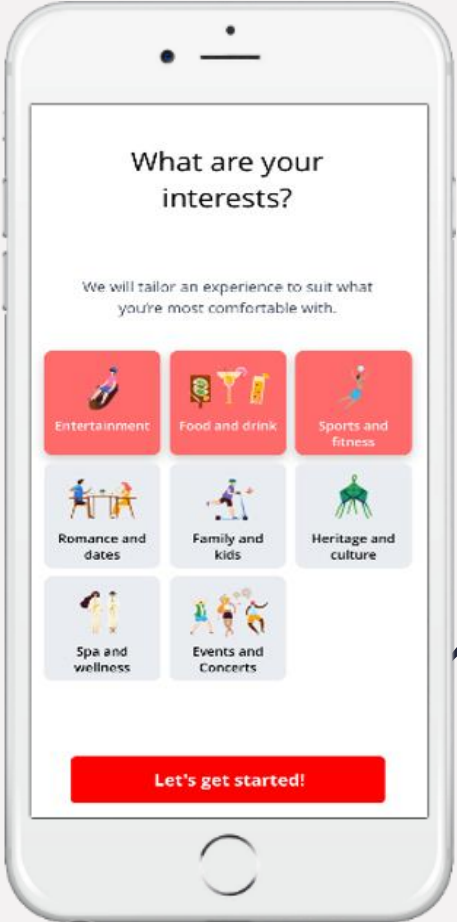
4x increase spend per user

100% of partners indicated
interest to be part of a
loyalty ecosystem

97% of users submitted
demographic data



Majority indicated interest in F&B, Entertainment and Family & Kids related activities when visiting Sentosa



Strong correlation was noticed between visitors' indicated interests and partners' offering – Partners to consider new offering to capture unmet interests

Island Partners	% of Food and Drinks	% of Entertainment	% of Family and Kids	% of Romance and Dates	% of Sports and Fitness	% of Events and Concerts	% of Spa and Wellness	% of Heritage and Culture
Attraction 1 [Sport]	100	0	0	50	100	0	0	0
F&B 1	94	78	61	44	72	44	39	39
F&B 2	100	94	63	56	50	56	56	44
Luxury Hotel 1	86	93	50	36	43	43	36	29
F&B 3	100	100	67	67	100	67	67	100
F&B 4	100	100	100	0	0	0	0	0
Luxury Hotel 2	100	100	50	50	50	50	50	50
Attraction 2 [Entertainment]	100	100	75	0	25	75	0	25
Retail 1	96	83	74	22	39	35	26	22
F&B 5	100	100	50	50	50	100	0	100
F&B 6	100	83	67	50	83	33	50	33
Retail 2	50	50	100	0	0	0	0	0

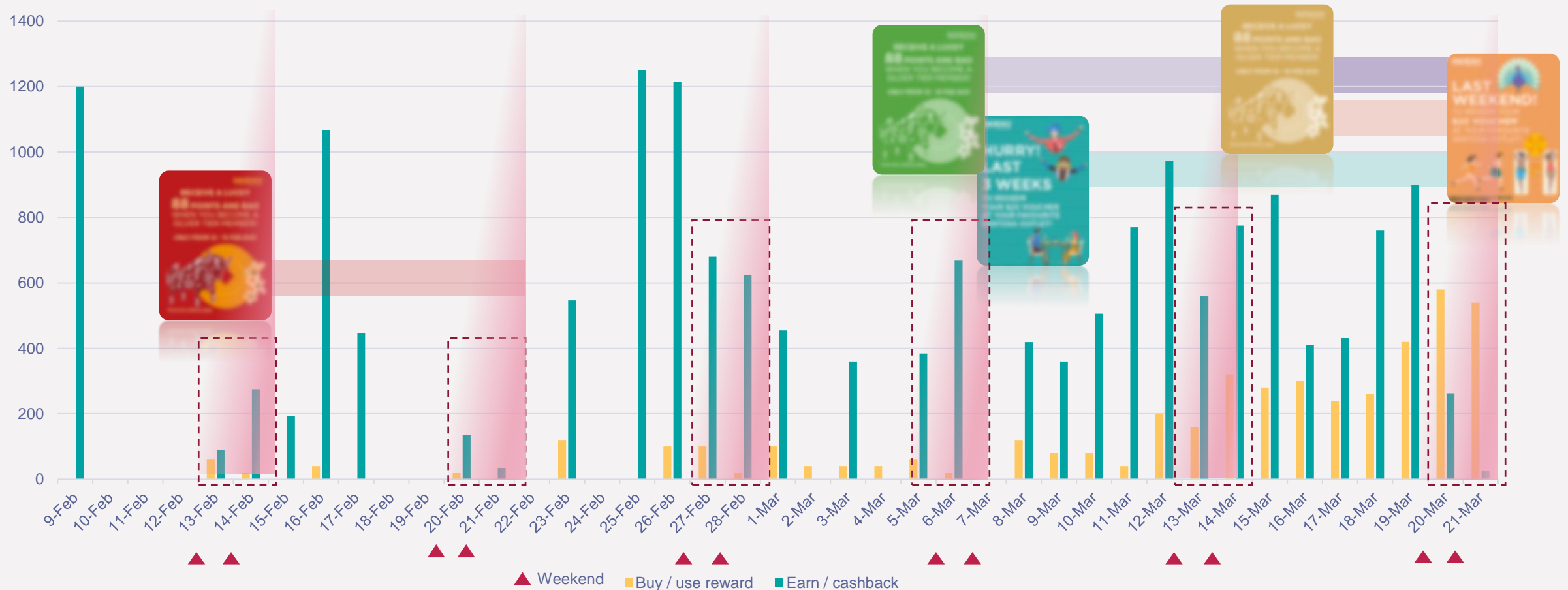
Correlation with:
partner's core offerings

New offering or Product
Bundling Potential



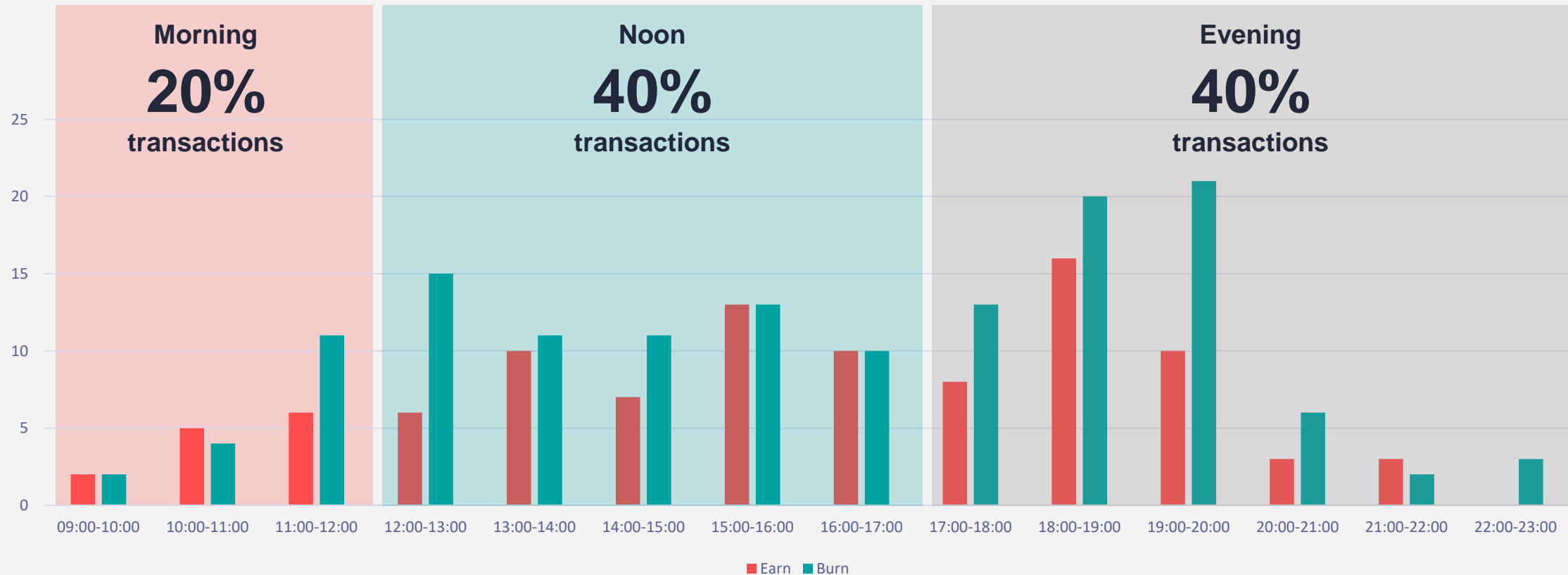
Higher peaks of on-island transactions occurred during the weekends and the March Holidays, indicating need for more weekdays campaigns

Earn and redeem transactions per day [SGD]

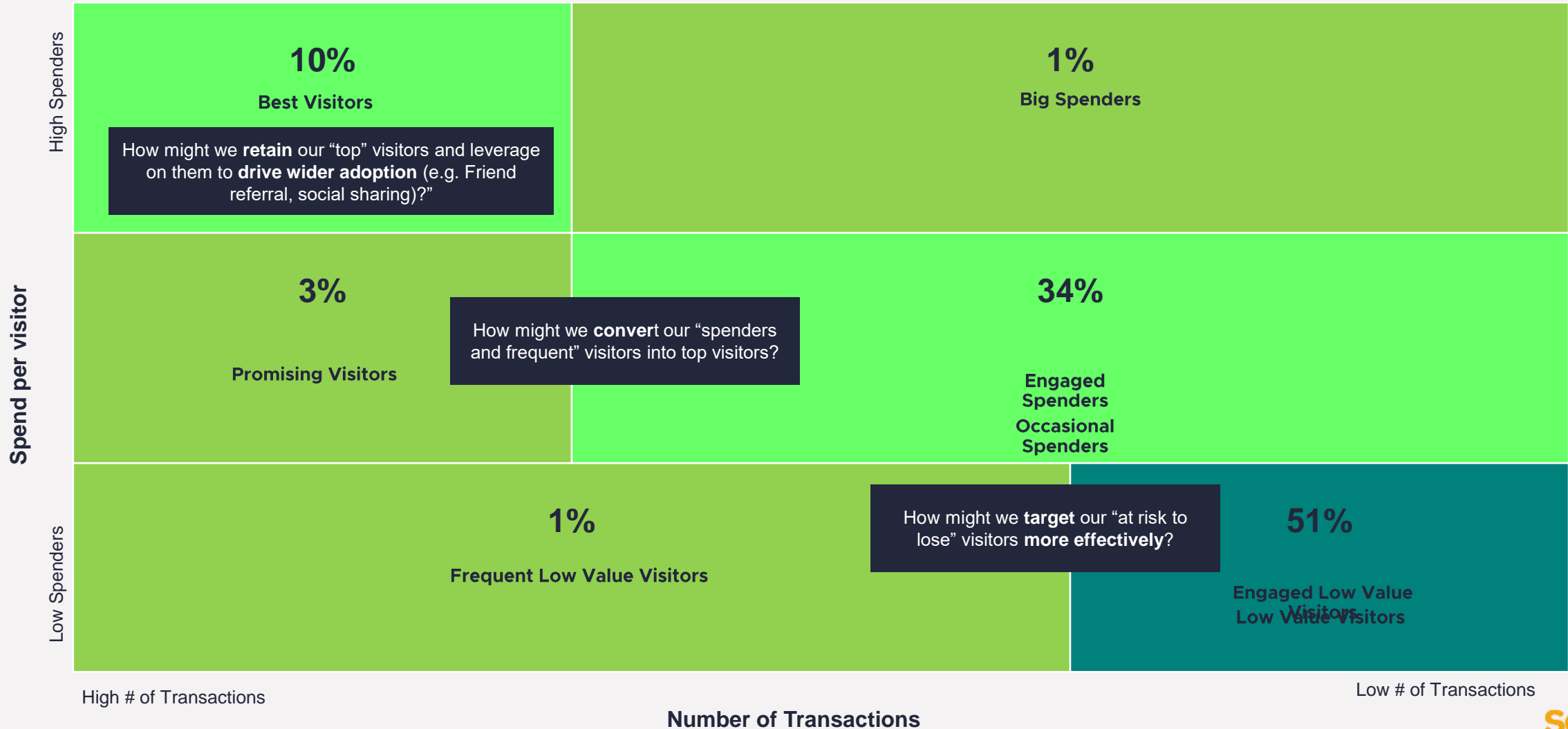


Moreover, ability to track transaction time per visitor was helpful to define new campaigns during off-peak periods

Count of earn and redeem transactions per hour [#]

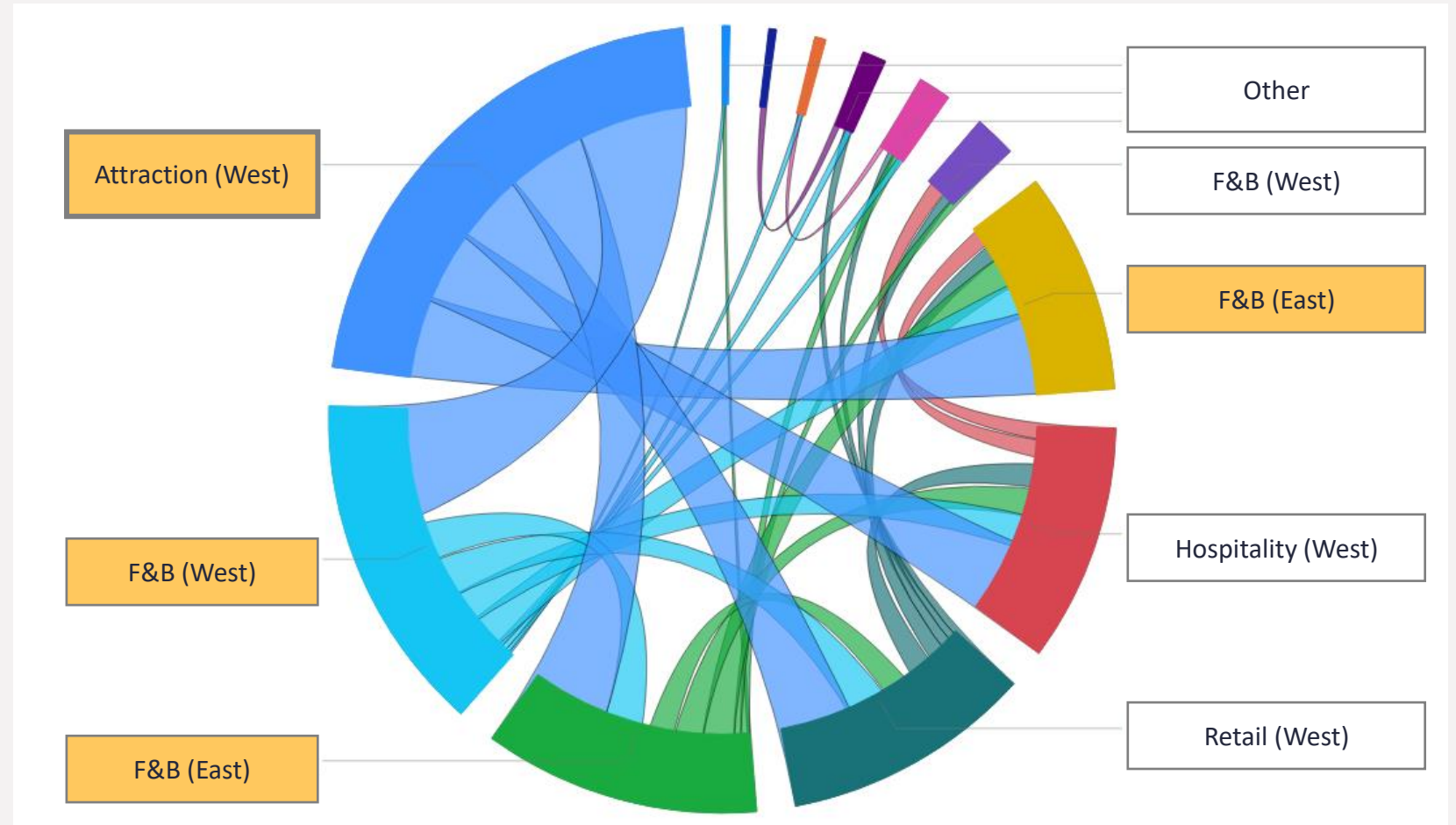


Combining transactional data with visit frequency enabled SDC to drive customer segmentation for more target campaigns



By looking at the number of visits by partner, SDC was able to identify a strong correlation between specific segments forming a basis for future bundle deals and partnerships

Strong correlation was noticeable in cross-visits between attractions and F&Bs



Going beyond the POC – Sentosa Rewards



- Through the POC, SDC was able to better understand visitors' interests, visitation patterns and zonal performance not able to be captured today
- Additionally, the POC proposition has successfully increased average spend per visit and overall level of visitor engagement and allowed testing of campaign mechanics
- The POC has shown encouraging results to move to pilot

- Enhance loyalty proposition with new features and enhancements based on POC Learnings
- SDC to expand scale from POC
- Data captured will help to further validate loyalty proposition and validate campaign mechanics and enable better product curation

- Continue to enhance loyalty propositions with new features and mechanics to drive value
- Integration with other operational systems

Some Thoughts on Data Analytics Journey

Find your sponsor

Starting on the right footing with Data is crucial

- Be clear of the impact and outcome of the data analytics project. Start small but have scalability in mind.
- Avoid vanity projects, adoption of new technologies as a showcase without underlying business objectives.

Data Analytics is a Journey

Embarking on Data Analytics is also embarking on a change management journey

- For sustained adoption, buy-in and support at every level of the organisation is needed.
- Quick wins and success stories helps to fuel the journey and culture building in the organisation.

Leverage external resources

Finding collaborators or leverage available resources

- In the current volatile situation, resources can be a constraint. Leverage potential collaborations that could help to advance the project to MVP and incremental builds
- Leverage resources available to advance prototypes (STB has various initiatives for companies to tap on)

Manage scope and start small

Scope analytics projects that will deliver insights that the business have levers to effect change in the business

- Avoid complex models or data projects. Adopt the principle of parsimony (choose the simplest model that is easiest to deploy)
- Ensure that there are associated business levers to leverage to deliver outcomes back to the business



Learn from Industry Practices

There are numerous guides in how to start a data science or analytics project that will drive value including best practices available online, including pitfalls to avoid



**Great Things Are Not Done by
Impulse, but by a Series of
Small Things brought
together.**

----- Vincent Van Gogh -----

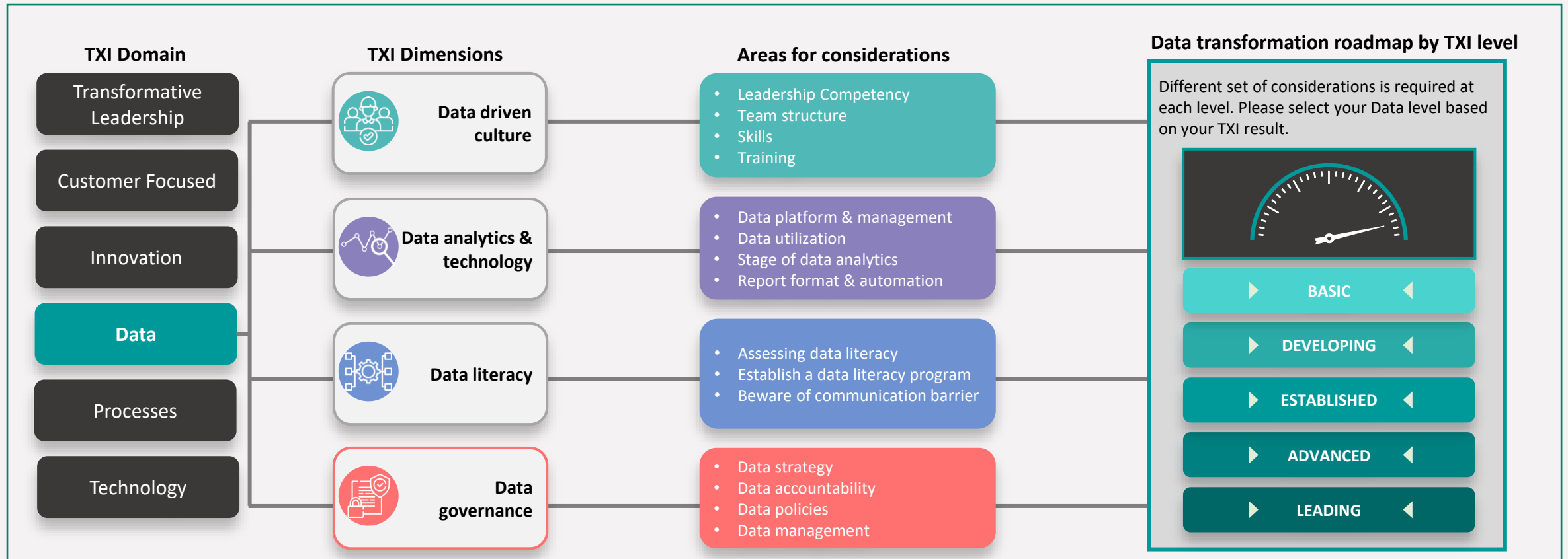
Thank You

Agenda

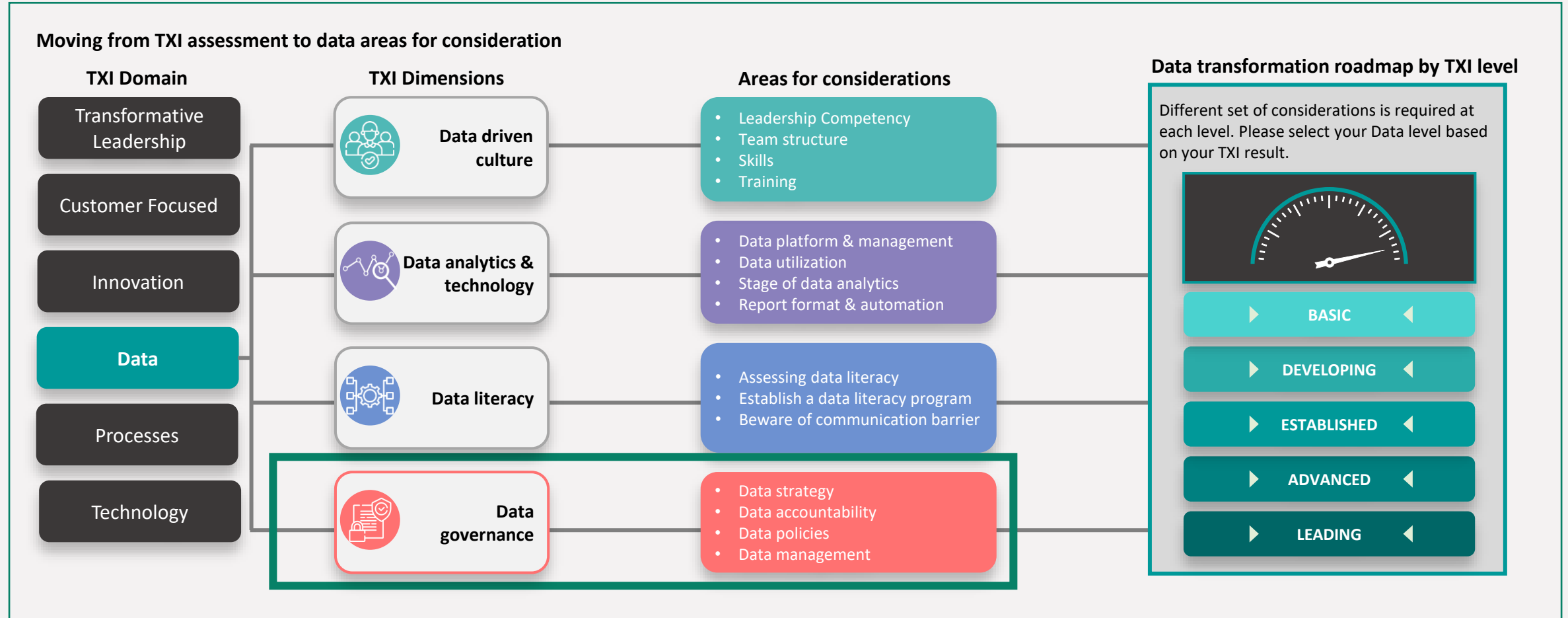
- The importance of data analytics to your organisation
- Sharing of an industry use case
- **Development of data analytics & technology and data governance**



Moving from Tourism Transformation Index (TXI) assessment to data areas for consideration



Focusing on data analytics & technology



Poll #4

Have you heard about the
STB Data Governance and
Management Playbook?



Key considerations of data governance



Data strategy

Data accountability and ownership

Data policies and governance

Data management

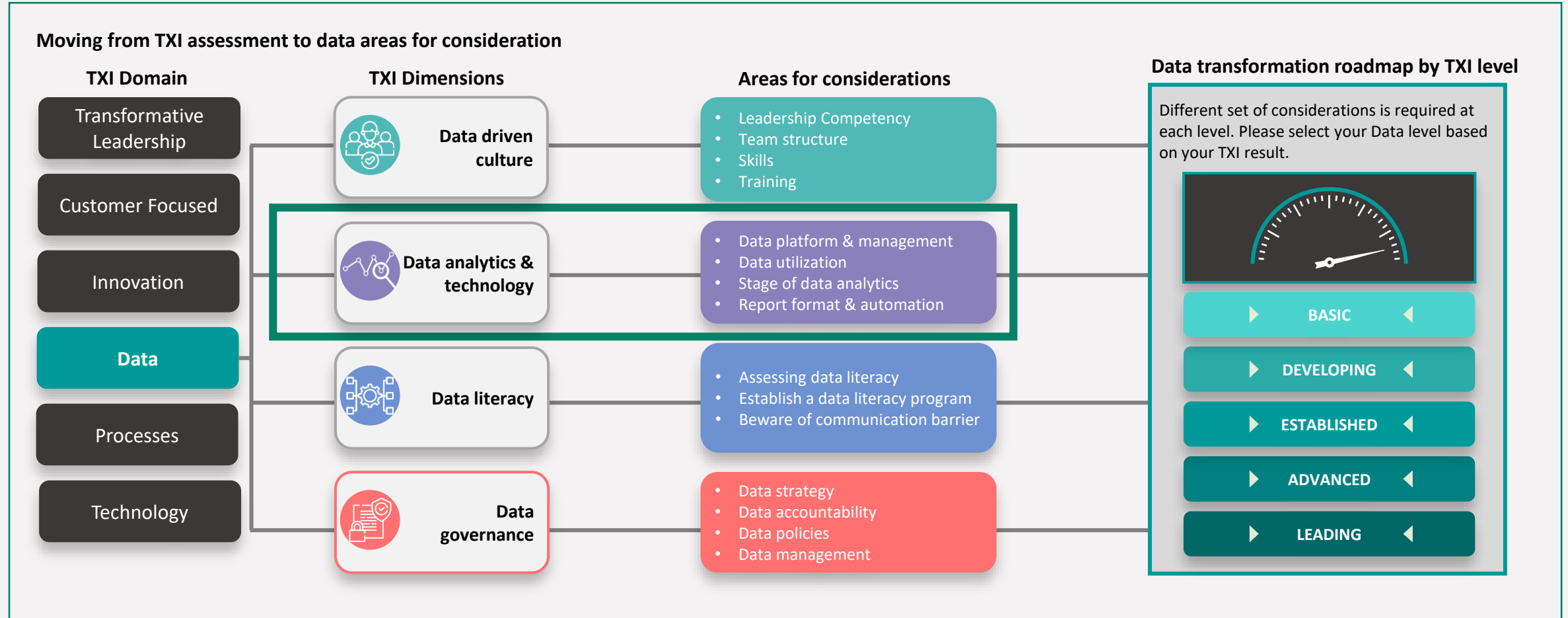


Learn more about data governance from STB's Data Governance and Management Playbook



<https://go.gov.sg/dataplaybook>

Focusing on data analytics & technology



Data Warehouse ... Bringing it to life



“How can I increase data quality and data standards within the organisations and analyse data to make business decision?”



BACKGROUND

A university indicated a challenge that they are facing is around profiling their students and analysing their performance. This was due to gaps in data governance, inconsistent data standards and poor data quality.



BENEFIT TO CLIENT

- **Wider data capture from multiple excel files and few IT systems** to help on profiling
- **Better visibility** on the issues of data capture (e.g. inconsistency) and gaps in data governance
- **Better visibility** at student performance



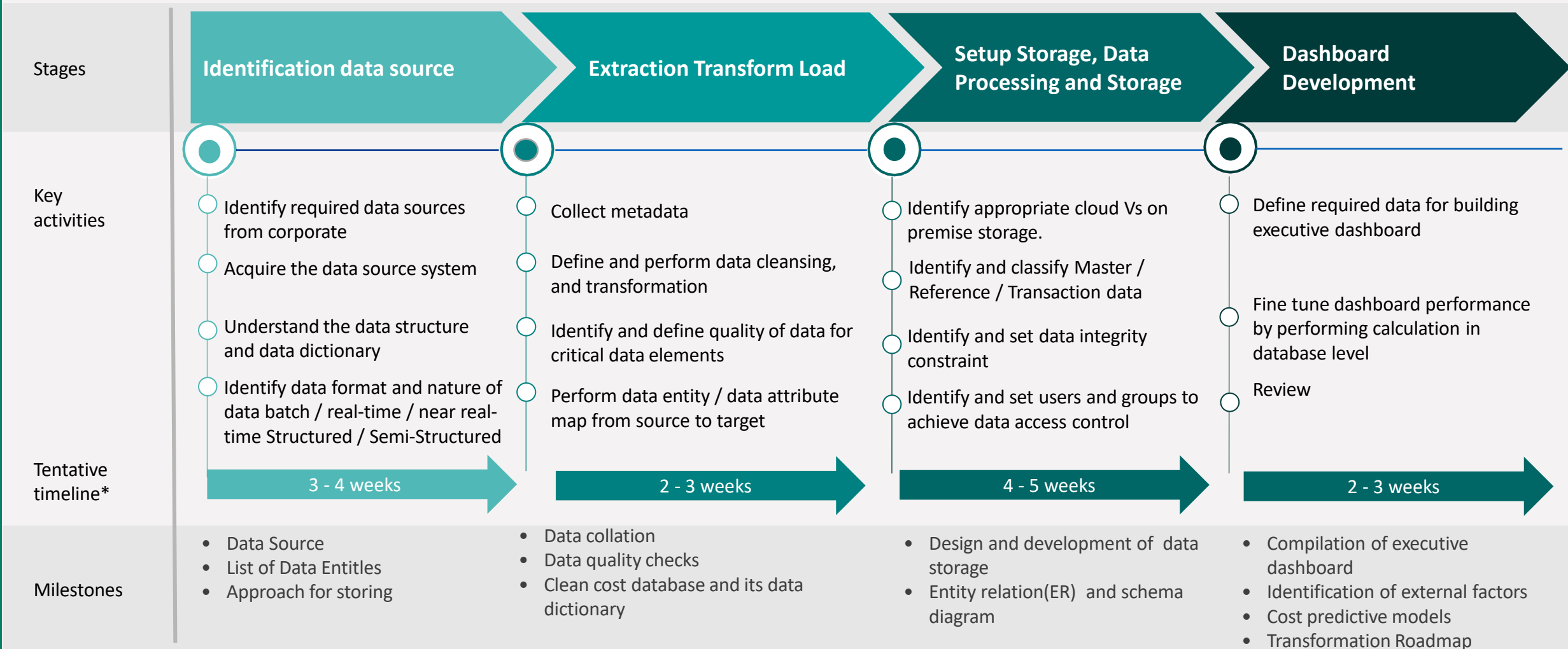
WHAT WE DID

We collected and consolidated data and created a profiling tool that visualized key information:

- **Consolidated data** from different systems
- **Processed data** to ensure data are cleaned and standardised
- **Profiled the students** based on their performance data, demographics, module scores & achievements
- **Built life cycle dashboard** that show the entire journey of a student starting from admission through to graduation



Approach for Data Warehouse Implementation



There are many benefits of a data warehouse



Enhances Business Intelligence



Faster Decision Making Process



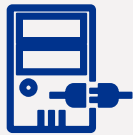
Improves Confidence in Data



Streamlines Information Flow



Provides a Competitive Advantage



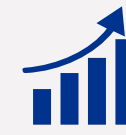
Built to Scale



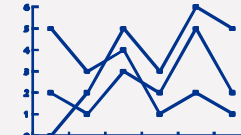
Ensures Data Security



Improves Data Accessibility



Increases Data Quality



Enables Historical Insight

Hear from our industry stakeholders who are applying these data analytics learnings to better improve their business operations

"I cannot thank you enough for this gift! We feel very supported and are **excited to put this tool to great use and accelerate our transformation**. The team and I will periodically post you updates on the outcomes and value generated by this tool. We are thinking through the **next steps of building a further journey with this tool where we combine AI and Marketing Automation** to better serve our industry. "

- Mel Shah, Vice-President, Dmg APAC

dmg :: events

"The completed and tested POC has a **great potential to be deployed for our day-to-day work** and we believe the **3-year roadmap will be very useful to guide us**".

- Ringo Leung, Straco Leisure



"The DASH programme allowed participants to quickly grasp the concept and utility of data and data analytics. The modules were broken down into manageable bite sizes and it **increased the data literacy of our entire team**. We are now **implementing data driven strategies which will help our organisation for years to come**."

- Zishan Amir, Forest Adventures

"STB's Data Transformation Programme (DTP) helps us to **answer critical business questions and generate actionable insights**. The skills, subject matter expertise and knowledge transfer provided during DTP have **expedited the technical development work and enabled business users to self-serve**. This **analytics-driven approach** become the **foundation of greater customer experience** as the world returns to a new kind of normal."

- Rizwan Hazarika, Chief Digital Officer, Constellar, formerly Singex-Sphere Holdings



Quick Feedback





POWERED BY

SINGAPORE
TOURISM
BOARD

How to cultivate a data-driven culture in the tourism sector

1. Learn tips and tricks to cultivate a data-driven culture
2. Hear our partners share their change management experience to elevate their organisations into more data-ready organisations



Join Us!

8 November 2021, 1 – 2 PM



<https://go.gov.sg/tcube081121>

Register now!

THANK YOU

