

MA5840 Data Science and Strategic Decision Making for Business

online.jcu.edu.au

1300 535 919

Cairns
Singapore
Townsville

Getting started

Getting started

- Do you have access to the course materials?
- Can you access the textbook?
- Have you contributed to the online discussions?
- Watch the videos on the case study method in the 'Getting Started' folder

Key Dates

Key dates	Date
Census date	See 2020 Study Period and Census Dates
Last date to withdraw without academic penalty	See 2020 Study Period and Census Dates
Assessment task 1 [assessment type] [25 %]	Due [11:59 PM AEST Sunday of Week 3] Week 1 Release - Strategic Decision Scenario simulation
Assessment task 2 [assessment type] [35 %]	Due [11:59 PM AEST Sunday of Week 5] Week 3 Release Designing a Balance Scorecard
Assessment task 3 [assessment type] [5 %]	Due [Sunday Week 6 11.59pm AEST] Week 1 Release, Reflective review
Assessment task 4 [assessment type] [35 %]	Due [11:59 PM AEST Wednesday of Week 7] Week 4 Release Literature Review

Key Assessments

ASSESSMENT TASK 1: ONLINE STRATEGIC DECISION SIMULATION

Aligned subject learning outcomes	2.2.6, 2.2.7 and 2.2.2
Aligned professional standards/competencies	Individual
Weighting	25%
Date	11:59 PM AEST Sunday of Week 3
Duration	[6] hours

ASSESSMENT TASK 2: BALANCE SCORECARD

Aligned subject learning outcomes	2.2.4, 2.2.5 and 2.27
Aligned professional standards/competencies	n/a
Group or individual	Individual
Weighting	35%
Due date	11:59 PM AEST Sunday of Week 5

ASSESSMENT TASK 3: PROFESSIONAL DEVELOPMENT REFLECTIONS

Aligned subject learning outcomes	2.2.8 ,2.2.3 and 2.2.1
Aligned professional standards/competencies	Individual
Weighting	5%
Date	Sunday Week 6 11.59pm AEST
Duration	[6] hours

ASSESSMENT TASK 4: LITERATURE REVIEW

Aligned subject learning outcomes	2.2.7
Aligned professional standards/competencies	N/A
Group or individual	Individual
Weighting	35%
Due date	11:59 PM AEST Wednesday of Week 7

In order to pass

- Achieve an overall percentage of 50% or more;
- (In order to learn and succeed, participate in the discussions and learn from each other.)

Setting the context.

**Strategic
Decision
Making**

Strategy

A **detailed plan** for **achieving success** in **situations** such as **war**, **politics**, **business**, **industry**, or **sport**, or the **skill** of **planning** for such **situations**.

<https://dictionary.cambridge.org/dictionary/english/strategy?q=Strategy>

A set of guiding principles that, when communicated and adopted in the organization, **generates a desired pattern of decision making**.

Demystifying Strategy: The What, Who, How, and Why
by [Michael D. Watkins](#) HBR September 10, 2007

The science and art of employing the political, economic, psychological, and military forces of a nation or group of nations to afford the maximum support to adopted policies in peace or war

Or

An adaptation or complex of adaptations (as of behavior, metabolism, or structure) **that serves or appears to serve** an **important** function in **achieving evolutionary success**

<https://www.merriam-webster.com/dictionary/strategy>

A plan of action or policy designed to **achieve a major or overall aim**.

Or

The process of planning something or **putting a plan into operation in a skillful way**.

<https://www.lexico.com/en/definition/strategy>

Origin of the word Strategy

Origin

Early 19th century from French *stratégie*, from Greek *stratēgia* ‘generalship’, from *stratēgos*. (see [stratagem](#)).

Definition of stratagem in English:

Stratagem

“A plan or scheme, especially one used to outwit an opponent or achieve an end.”

<https://www.lexico.com/en/definition/stratagem>

Decision making

The action or process of deciding something or of resolving a question.

<https://www.lexico.com/en/definition/decision-making>

“Decision-making involves the selection of a course of action from among two or more possible alternatives in order to arrive at a solution for a given problem”.

Trewartha and Newport, Management Functions and Behaviors

Strategic decision making

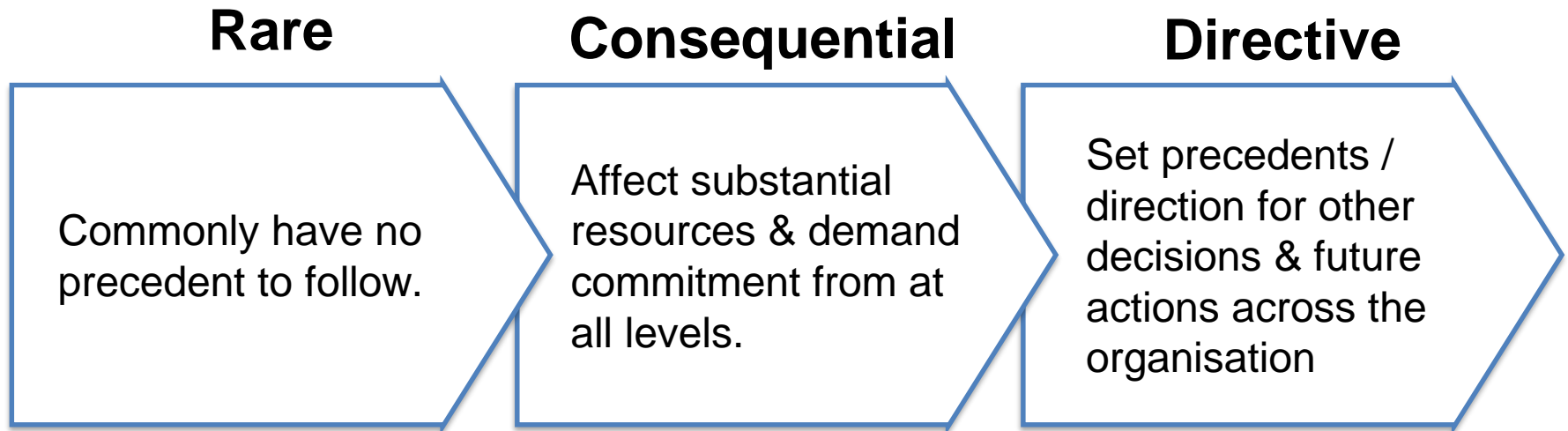
“involves the selection of a course of **actions** from among two or more **possible alternatives** in order to **create** a plan and or scheme, to **outwit** an opponent or achieve an end solution for given problems”

**Why do we care
about strategic
decision making?**

Why do we care?

Strategic decisions

Deal with the long-term future of an entire organisation and normally have three key characteristics:



Why do we care?

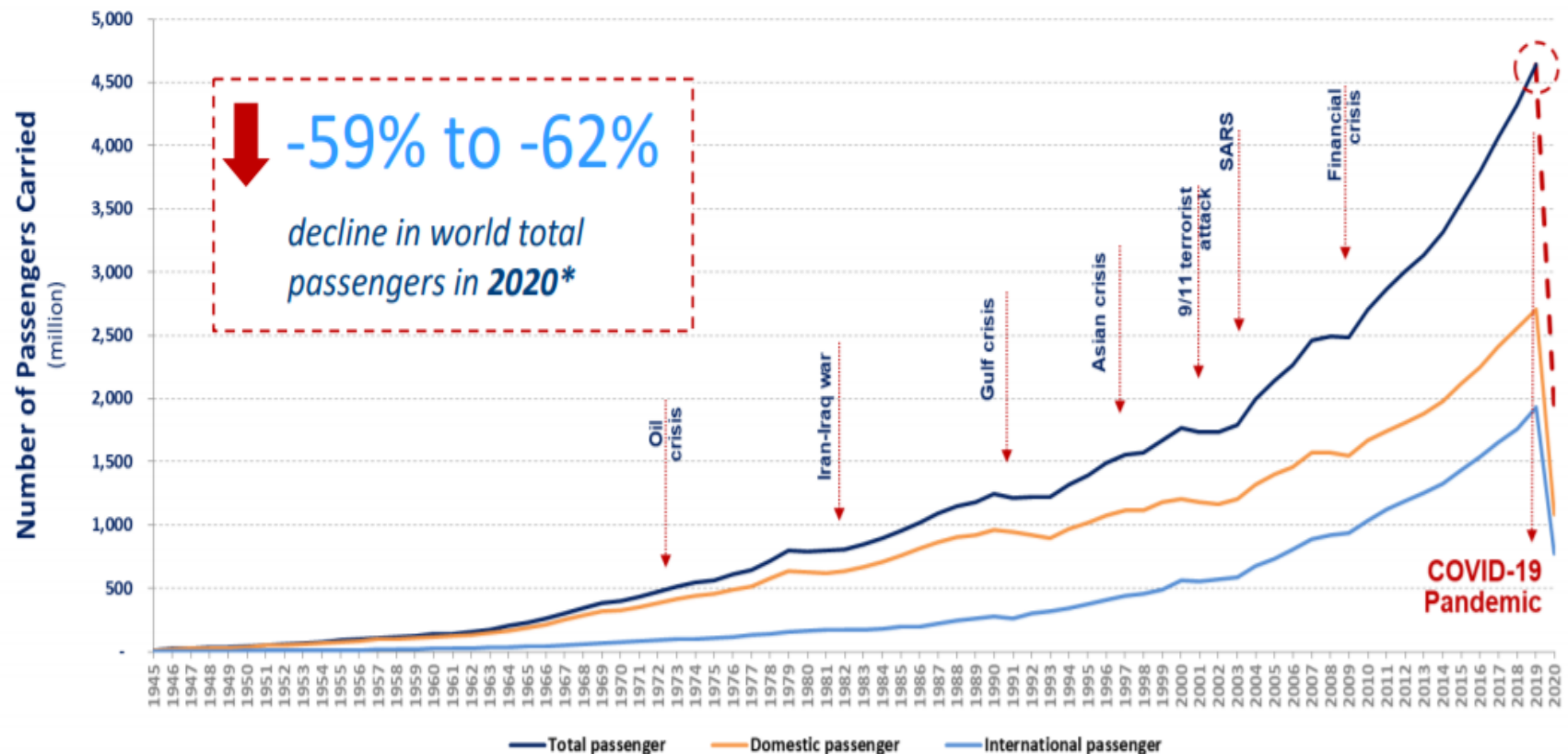
The average age of an S&P 500 company is **under 20 years**, down **from 60 years** in the 1950s, according to Credit Suisse. The Wall Street firm says the trend is accelerating and blames the disruption from technology.

<https://www.cnn.com/2017/08/24/technology-killing-off-corporations-average-lifespan-of-company-under-20-years.html>

**Why is strategy and
decision making
hard?**

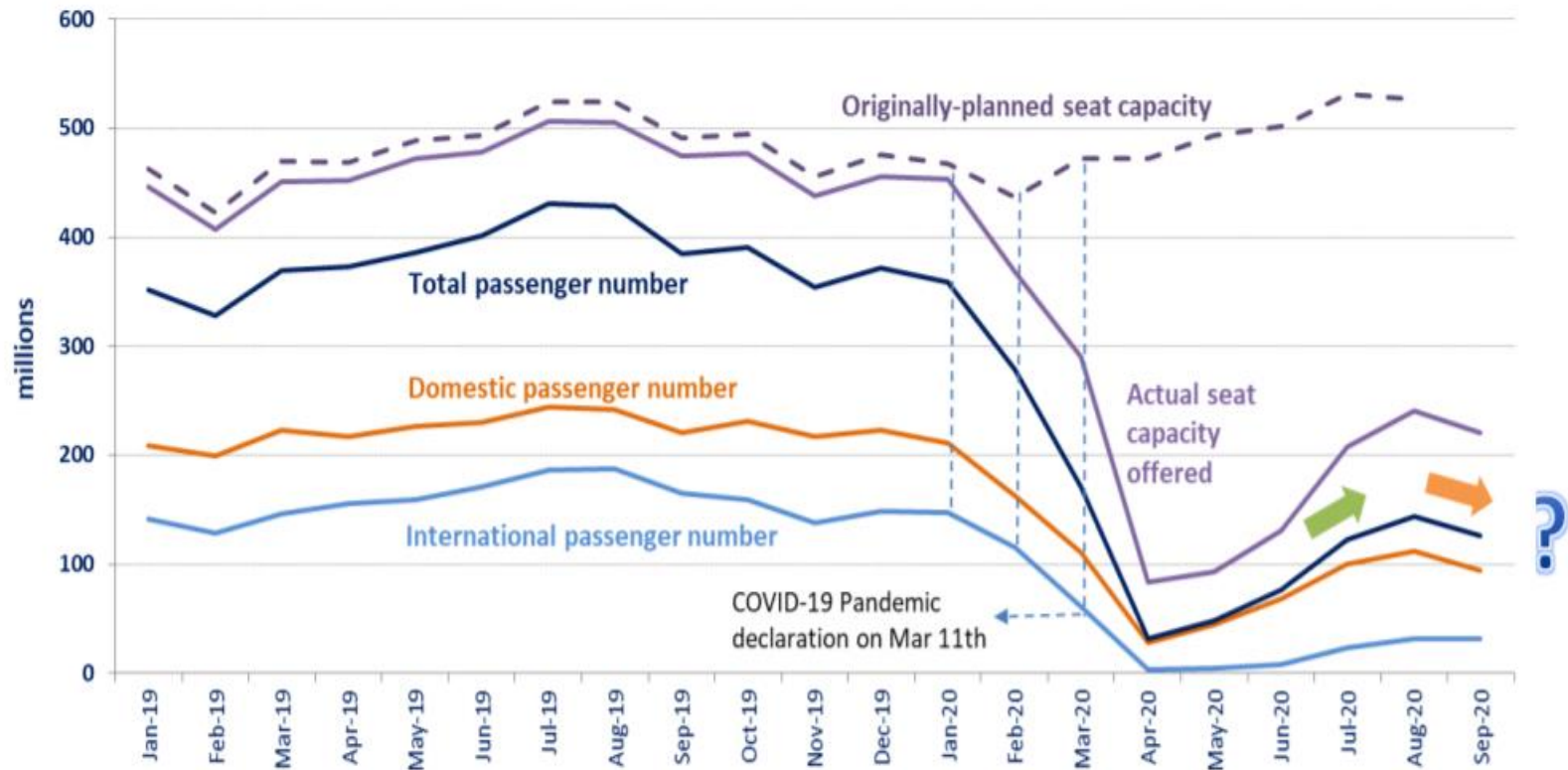
Air Travel in the time of Covid - 19

World passenger traffic evolution 1945 – 2020*



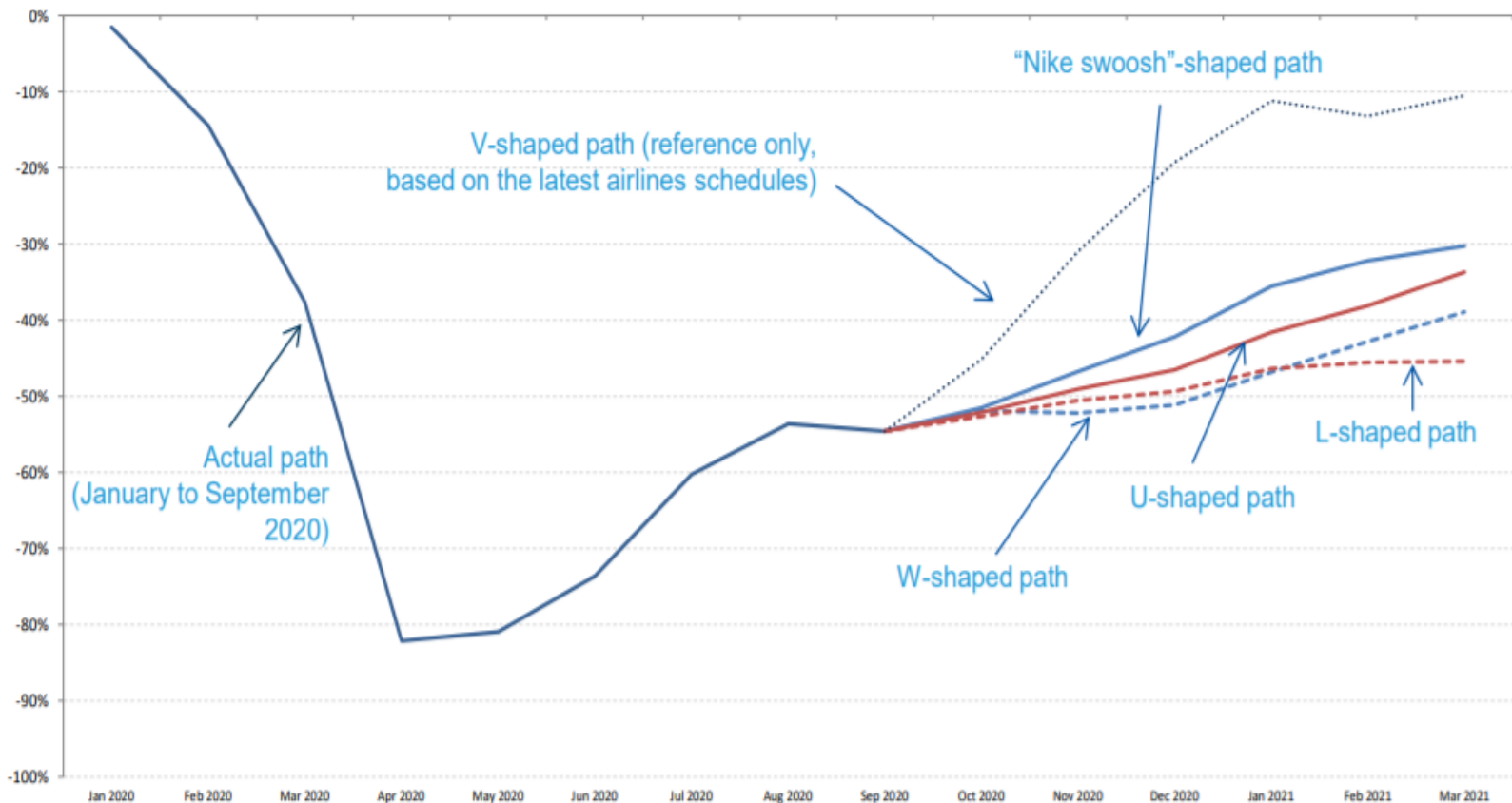
Air Travel in the time of Covid - 19

Comparison of passenger numbers and capacity (Domestic travel is leading the recovery)



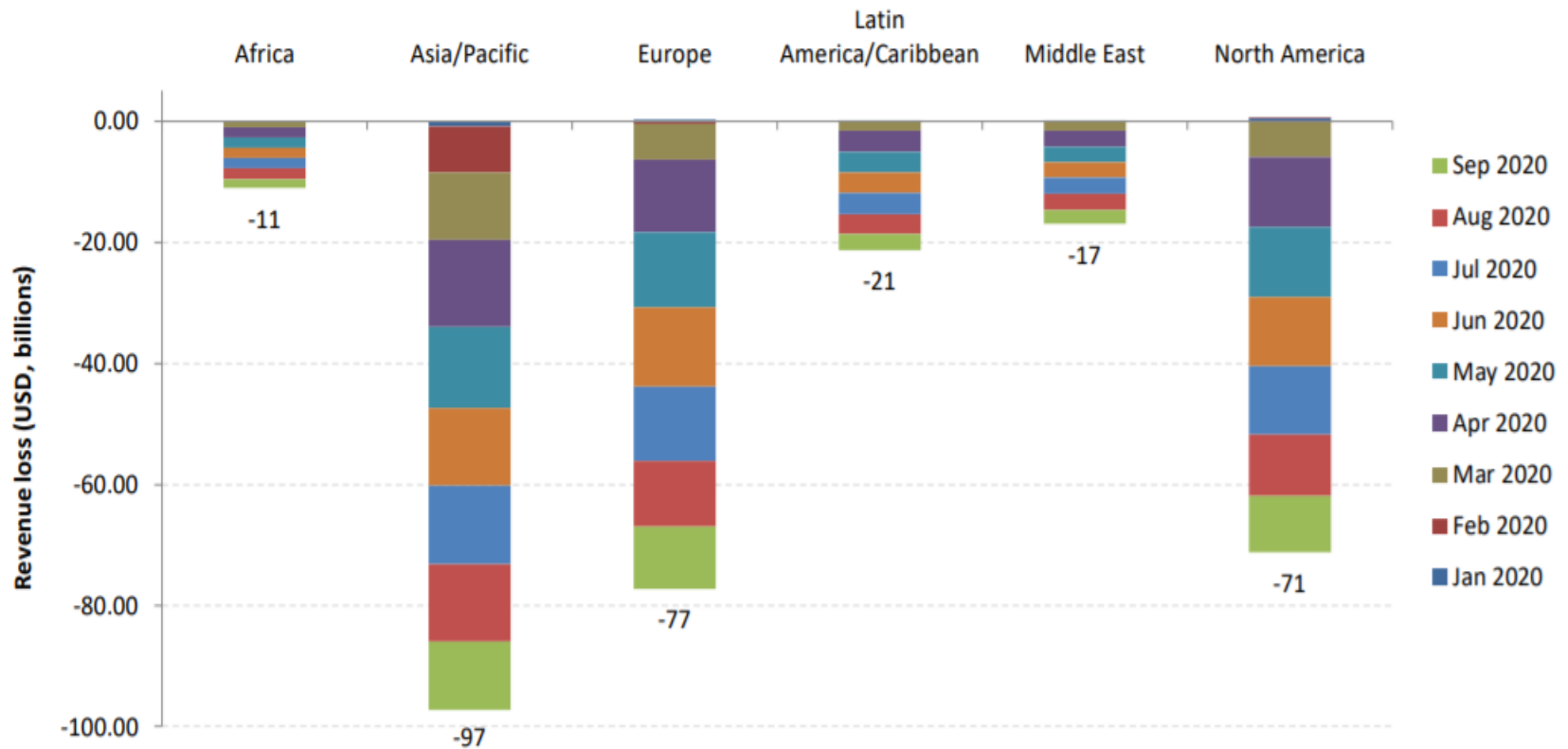
Air Travel in the time of Covid - 19

Scenarios for passenger seat capacity compared to Baseline (business as usual)



Source: ICAO estimates

Air Travel in the time of Covid - 19



Note: Compared to Baseline (business as usual, originally-planned)

Air Travel in the time of Covid - 19

International passenger traffic for 2020 compared to Baseline

- Overall reduction ranging from **65% to 66% of seats offered by airlines**
- Overall reduction of **1,426 to 1,462 million passengers**
- Approx. **USD 257 to 264 billion potential loss** of gross operating revenues of airlines

Domestic passenger traffic for 2020 compared to Baseline

- Overall reduction ranging from **40% to 41% of seats offered by airlines**
- Overall reduction of **1,468 to 1,518 million passengers**
- Approx. **USD 131 to 136 billion potential loss** of gross operating revenues of airlines

Compared to Baseline	Seat capacity (%)			Passenger number (million)			Passenger revenue (USD, billion)		
	Total	International	Domestic	Total	International	Domestic	Total	International	Domestic
1Q 2020	-18%	-20%	-17%	-287	-111	-176	-35	-20	-15
2Q 2020	-79%	-92%	-69%	-1,044	-488	-556	-136	-86	-50
3Q 2020	-56%	-75%	-42%	-894	-476	-418	-123	-86	-37
4Q 2020	-47% to -52%	-66% to -73%	-34% to -37%	-669 to -756	-350 to -386	-319 to -369	-94 to -105	-66 to -72	-28 to -33
Total 2020	-51% to -52%	-65% to -66%	-40% to -41%	-2,894 to -2,981	-1,426 to -1,462	-1,468 to -1,518	-388 to -400	-257 to -264	-131 to -136
1Q 2021	-34% to -47%	-51% to -67%	-23% to -34%	-504 to -681	-275 to -348	-230 to -333	-72 to -96	-52 to -66	-20 to -30

Why this is hard

- Do we have data?
- Can we collect the right data?
- Is the data we have good/accurate enough?
- Is there parallel industry data?
- Are we interpreting data in the right context?
- What are the right insights to gain from this information?
- Are we drawing the wrong conclusions?
- How do we communicate the insights?
- How do we set the right course?
- Ambiguity

“Information consumes the
attention of its recipients.
A wealth of information
creates a poverty of attention”

Herbert A. Simon

(1971!)

The Eisenhower Decision Matrix

“What is important is seldom urgent. What is urgent is seldom important.”



Strategic Decision Making

Strategic decision making

Strategic decisions:

- Are significant
- Are forward-looking
- Are complex
- Are not routine
- Are at the highest-level

Operational decisions:

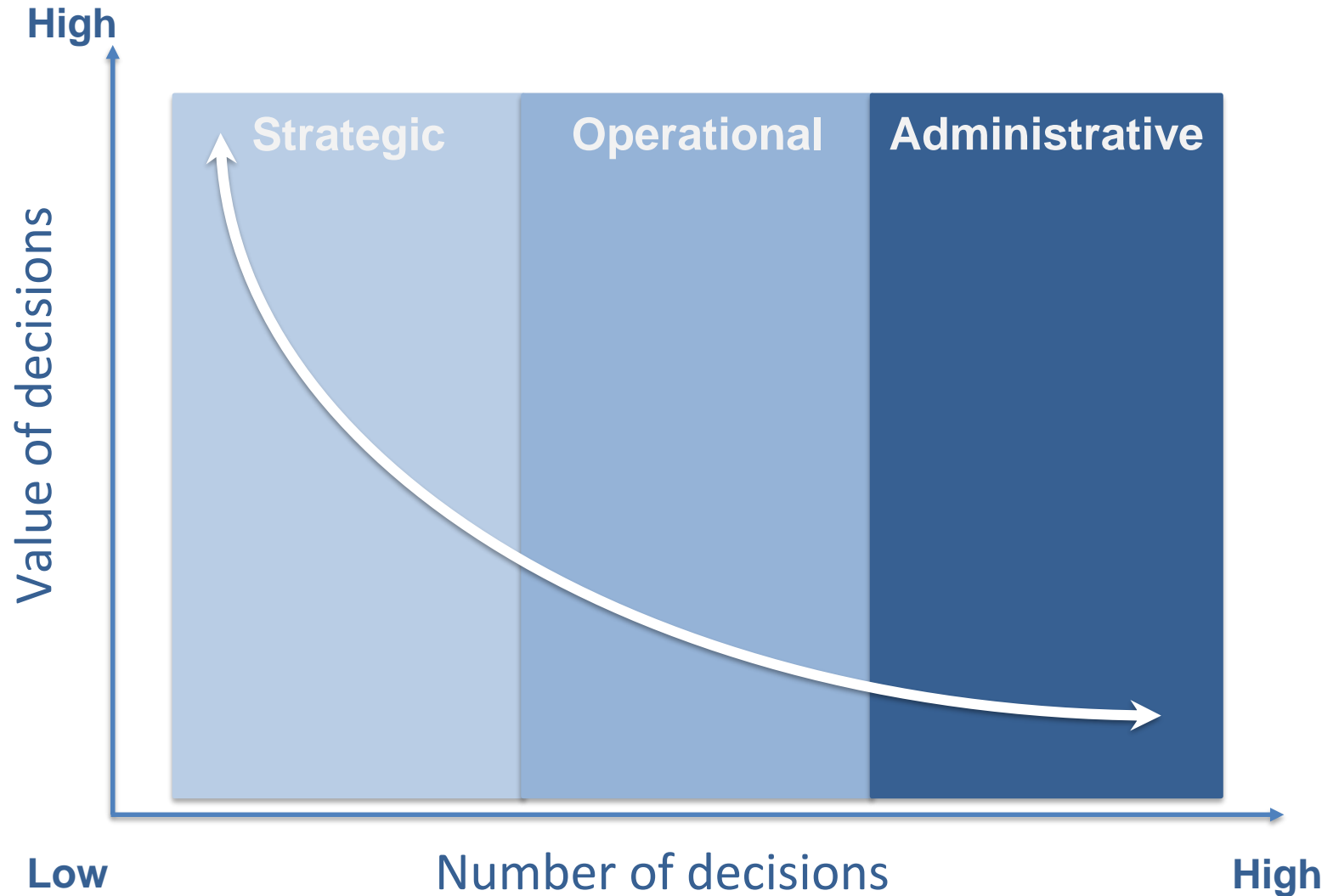
technical decisions which help execution of administrative and strategic decisions.

Administrative decisions :

routine decisions which help or rather facilitate strategic decisions or operational decisions.

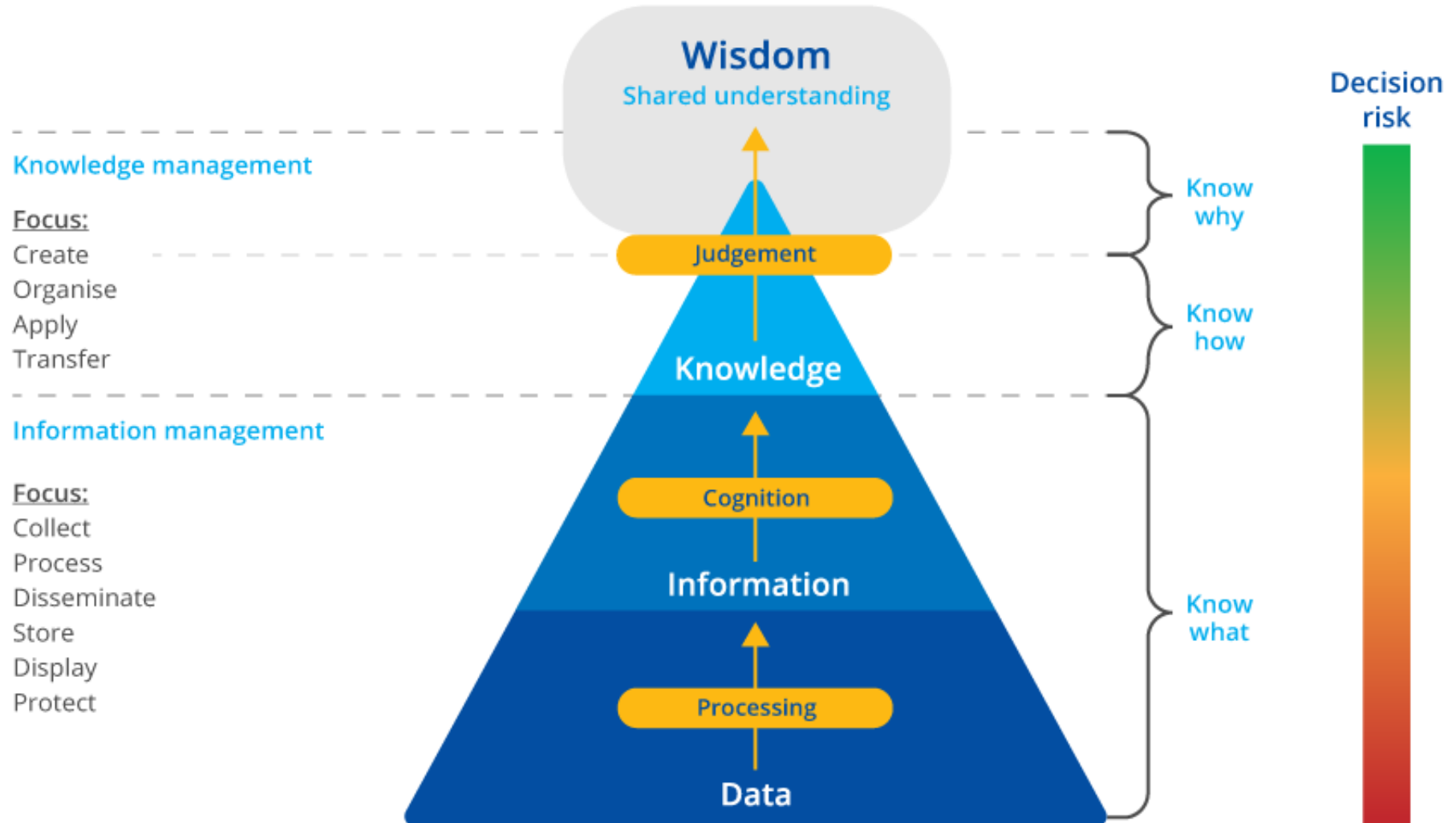


Strategic decision making



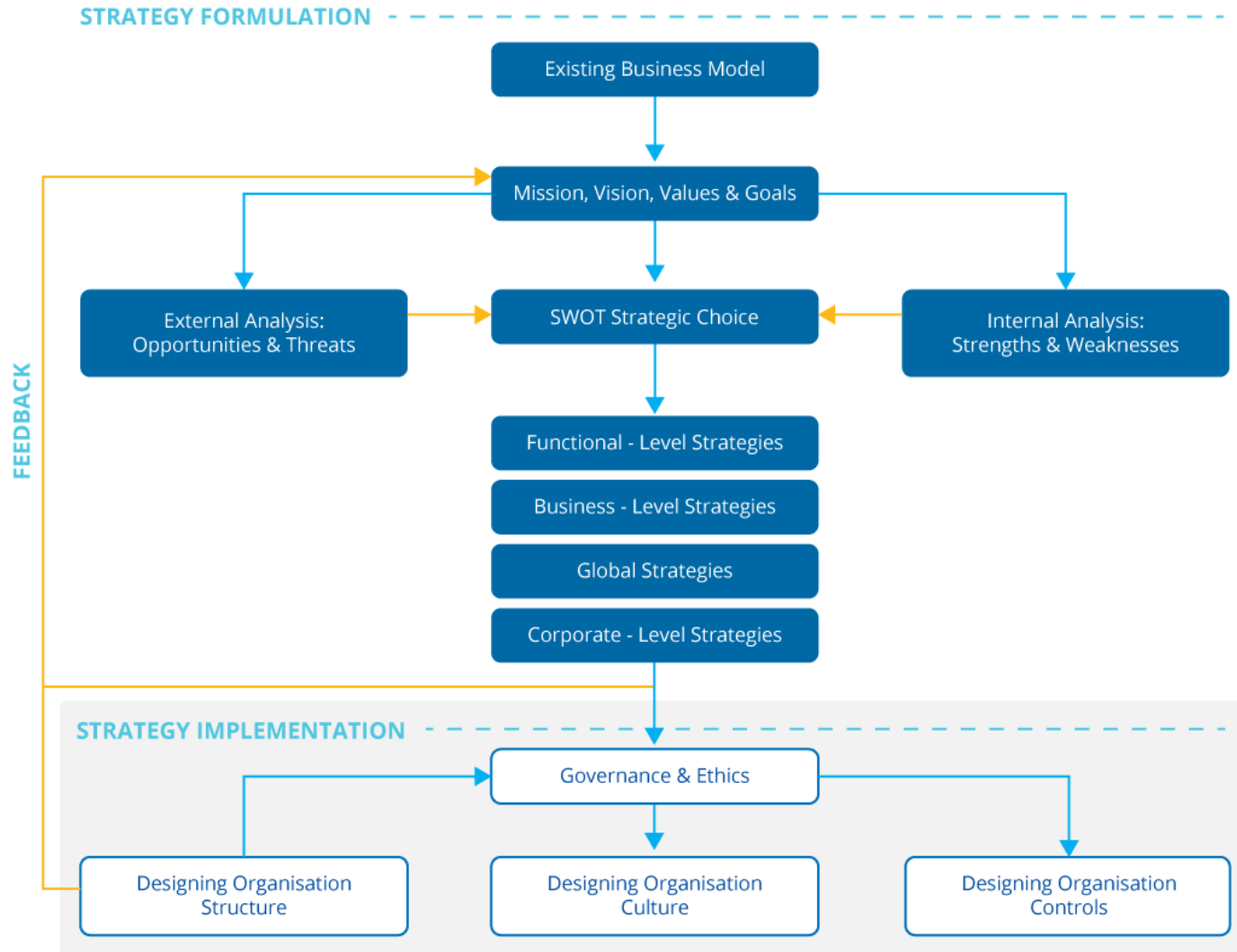
Strategic decision making

KNOWLEDGE MANAGEMENT COGNITIVE PYRAMID



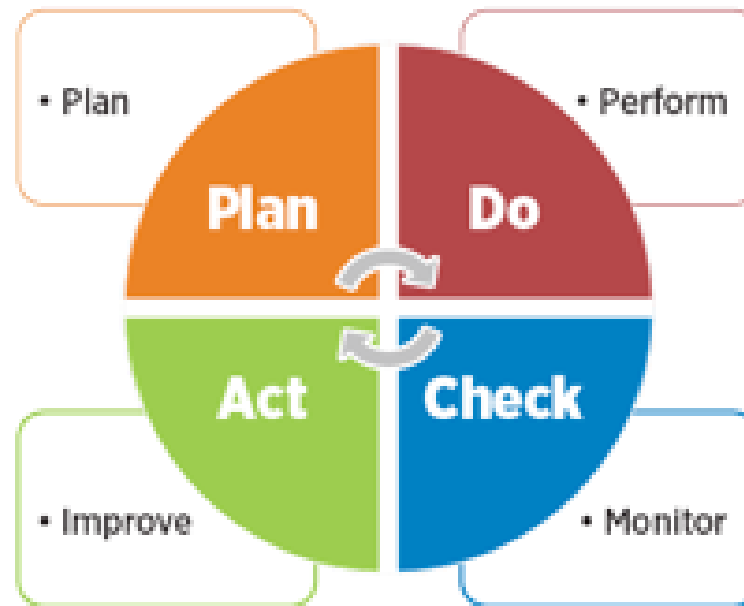
Strategic Management

Strategic management process



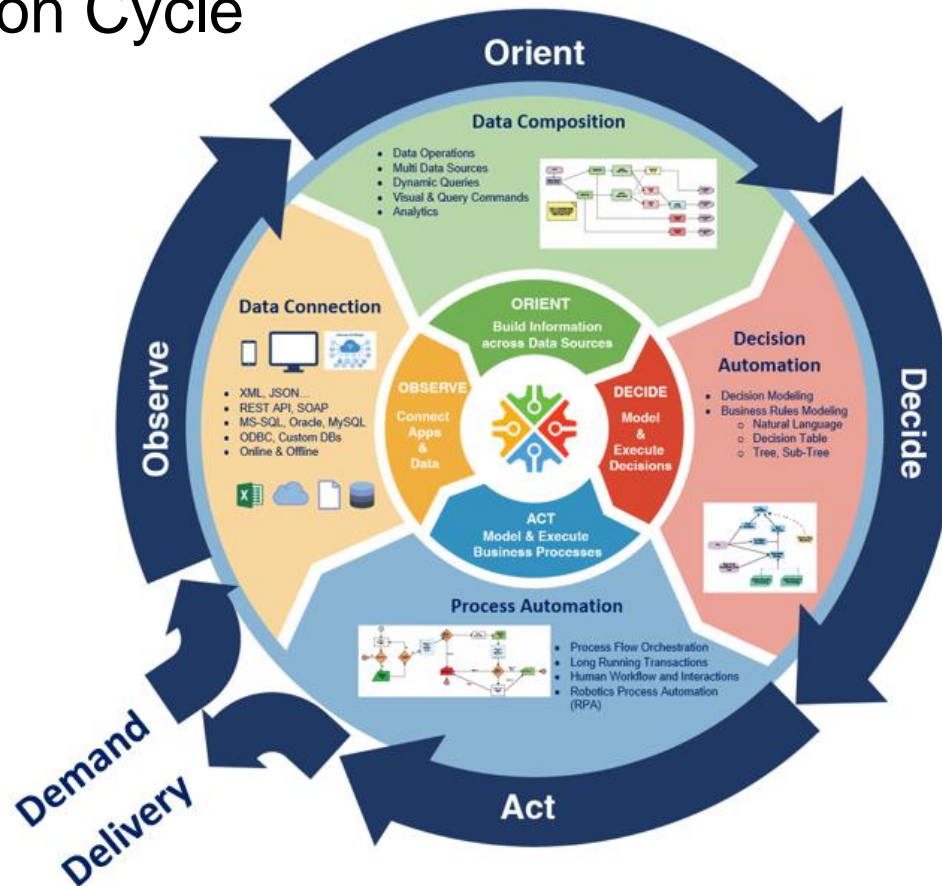
Other useful models...

PDCA Cycle



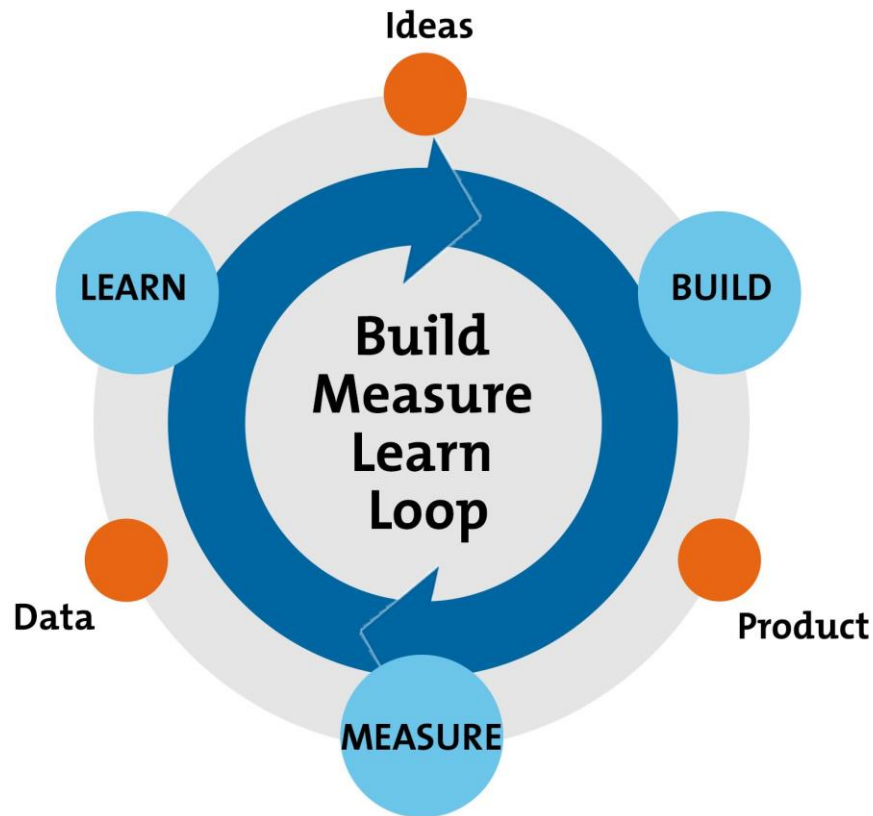
Another useful models...

OODA Decision Cycle

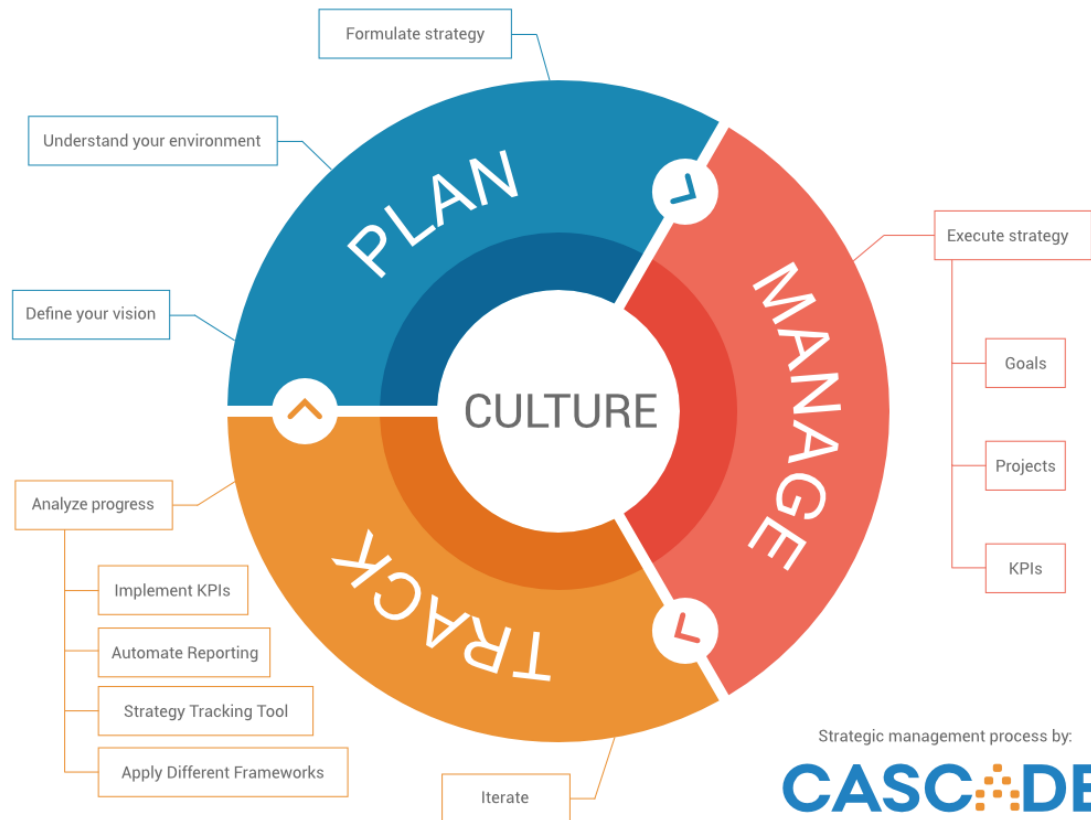


Another useful models...

Build-Measure-Learn (i.e. Lean Startup Model)



Another



The tools I like to use

- SWOT
- Porter's Value Chain
- The Strategy Canvas
- The Business Model Canvas
- PESTEL
- McKinsey 7S
- Porter's 5 Forces
- BCG Matrix
- Scenario Analysis

Thank you.