Deloitte.

Improving Decision Support in Costing for Services and Programs leveraging International Best Practices

FMI Presentation

November 2019

GRAB YOUR PHONE!

https://www.sli.do/|| Code: PDWeek
Room: Beethoven

SLIDO QUESTION:

What is your level of experience with Costing?

a) None – What is costing?
b) Once or Twice – I'm no expert
c) Several Times – I have used it infrequently
d) Often – It is a fairly regular part of my job
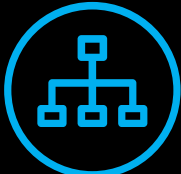e) All the time – I even estimate my own living expenses
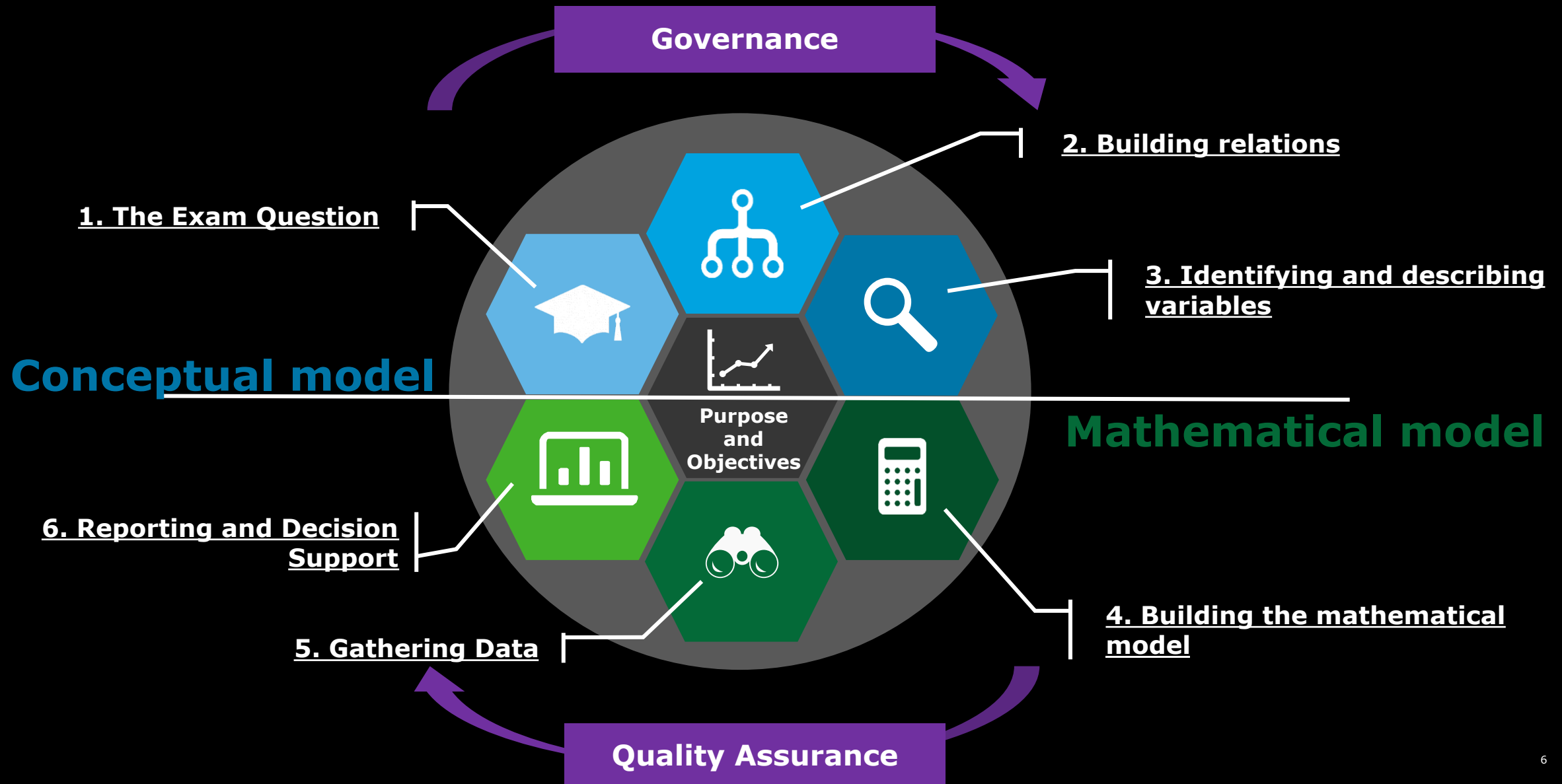
SLIDO QUESTION:

For those that have experience in costing

"What is your comfort level in providing decision support in the costing of projects and services in your current role?"

a)Very high,
b)high,
c) medium,
d) low,
e)Very low

Types of Costing in Projects and Services

Broad Cost Category		Type	Example
Cost Allocation	Current	Apportionment of direct and indirect costs to improve transparency, and performance	
		Activity Based Costing and Process Improvements	
Cost Estimating	Future	Financial Modelling in pricing and risk application	
		Life Cycle Costing in Capital Intensive Industries	

Cost models needs to be built around purpose

Governance

Quality Assurance

1. The Exam Question

2. Building relations

3. Identifying and describing variables

4. Building the mathematical model

5. Gathering Data

6. Reporting and Decision Support

Conceptual model

Mathematical model

Purpose and Objectives

Examples of Tools that have supported Costing

Challenges within Costing	Example software	What you need to know
Vast amounts of unstructured Data	Alteryx	• Standardize costs data capture • Replicates Excel formula • Inbuilt QA Function
Quantification of risk and uncertainty	@Risk	• Excel Add-in • Enables probabilistic costing • Visual outputs
Multiple Scenarios and increased complexity	PowerSim	• Systems Dynamic Software • Simulation of outputs • Visual outputs
Multiple Decision Makers	Tableau	• Innovative presentations • Slice and dice data • Real Time Analysis

Interactions with Program Areas – Case Study

Interactions – in design, development and execution

Six modules which came together to create one overall end to end solution.

Drill down into cost drivers and understand the differences in more detail?
Output: **Visualization**

Confidence that the overall process is accurate?
Output: **QA Report**

| 5. Visualisation |

Pull levers at a different levels to understand the effect on total affordability and performance?
Output: **Options Tool**

| 4. Options Analysis |

Combine a range of data sources accurately and quickly to provide an up-to-date view of total spend?
Output: **Consolidation Model**

| 3. Consolidation |

6. Quality Assurance

Capture Whole Life Costs against requirements and program assumptions
Output: **Costing Templates**

| 2. Costing |

Focus effort to maximise the effectiveness of with limited resources?
Output: Prioritization

| 1. Prioritization |

The Costing and Analytical Architecture

The modelling architecture enabled large amounts of costed data to be collected, consolidated and visualized.

Visuals

Visualization of Outputs — Tableau

Consolidation

Consolidation / Linkage of Data — Alteryx

Baseline — Excel

Mapping — Excel

Standard Templates — Excel

Funding — Excel

Costing

Existing Database

Inputs Projects / People / Initiatives — Excel

4 — Low Value /Low Complex Previous

3 — Low Value / Low Complex New

2 — High Value / Complex Previous

1 — High Value / Complex New

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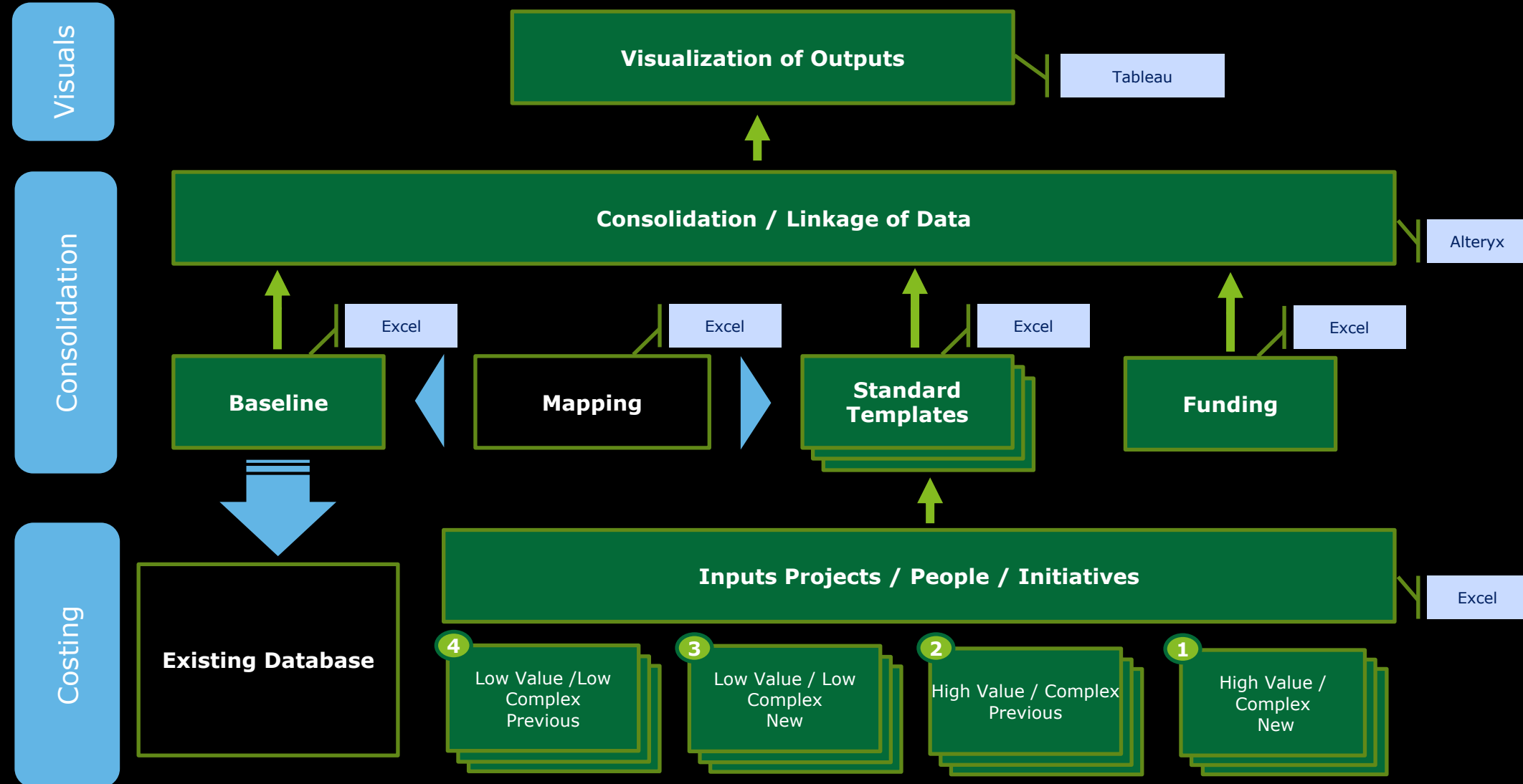
The Outputs

An effective platform to derive highly visual options analysis that enabled the selection of the Canadian Defence Policy Review.

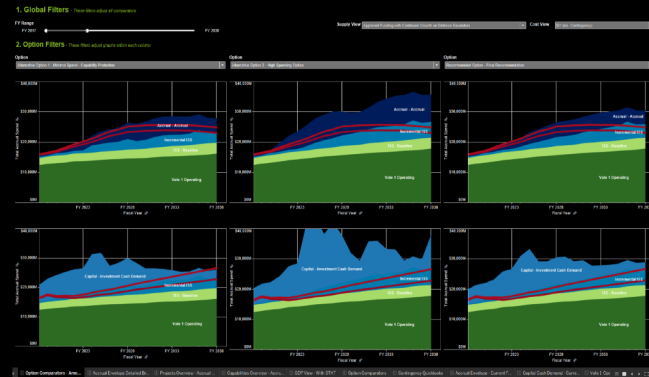**Option Definition**

Project Levers		Portfolio Levers		People Levers	Financial Levers	
Number	Type	Cancel Project	Delay Project	Adjust Headcounts	Inflation	Currency
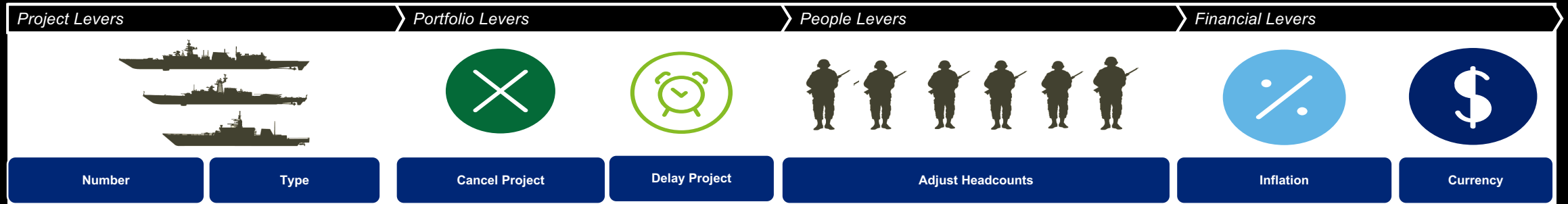
Option Analysis

Cost

High-Level Option Comparators

Performance

Capability availability

Time

• Meeting Affordability

• Meeting Objectives

• Delivery Capacity
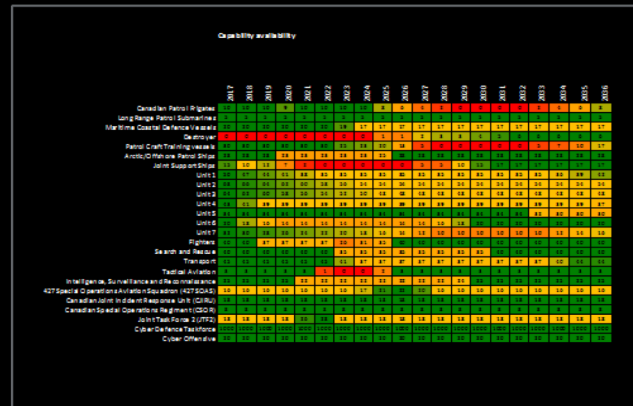
Lessons Learned – based on case study

Challenges common with costing of services and programs

Challenge	Issue	How Overcome
	3 months	Prioritization and weekly reporting
	300+ projects	Scale level of effort based on materiality
	Designed for Treasury Board Submissions	Redesigned focus on key metrics and existing best practice
	No leakage of government policy	Secure work environment
	Required inputs and feedback from several stakeholders	Senior intervention and swift resolution
	Not been done before	Multiple Quality Assurance
	Some projects immature limited knowledge available	Development of contingency matrix

GRAB YOUR PHONE AGAIN!

SLIDO Quiz
Which data representation is better?

	Year	Canada	USA	UK	France
Cost	2019	$ 151,473,489	$ 757,367,445	$ 454,420,467	$ 302,946,978
Cost	2020	$ 163,572,065	$ 755,422,748	$ 465,810,302	$ 320,196,771
Cost	2021	$ 174,120,709	$ 778,595,780	$ 490,405,321	$ 338,417,603
Cost	2022	$ 175,059,460	$ 791,011,905	$ 502,142,525	$ 357,215,238
	Year	Canada	USA	UK	France
FTE	2019	21	93	62	46
FTE	2020	41	70	92	58
FTE	2021	49	88	162	44
FTE	2022	54	145	139	68

SLIDO QUESTION:

Which Country had the most FTES in 2019?

a) Canada

b) France

c) UK

d) USA

SLIDO QUESTION:

How many countries had an increase in cost from 2019-2020?

a) 0

b) 1

c) 2

d) 3

e) 4

SLIDO Quiz
Which data representation is better?

The trends of sum of Cost and sum of Cost for Year. Color shows details about Country. For pane Sum of Cost: Size shows sum of FTE. The data is filtered on Type, which keeps Cost, FTE and Salary.
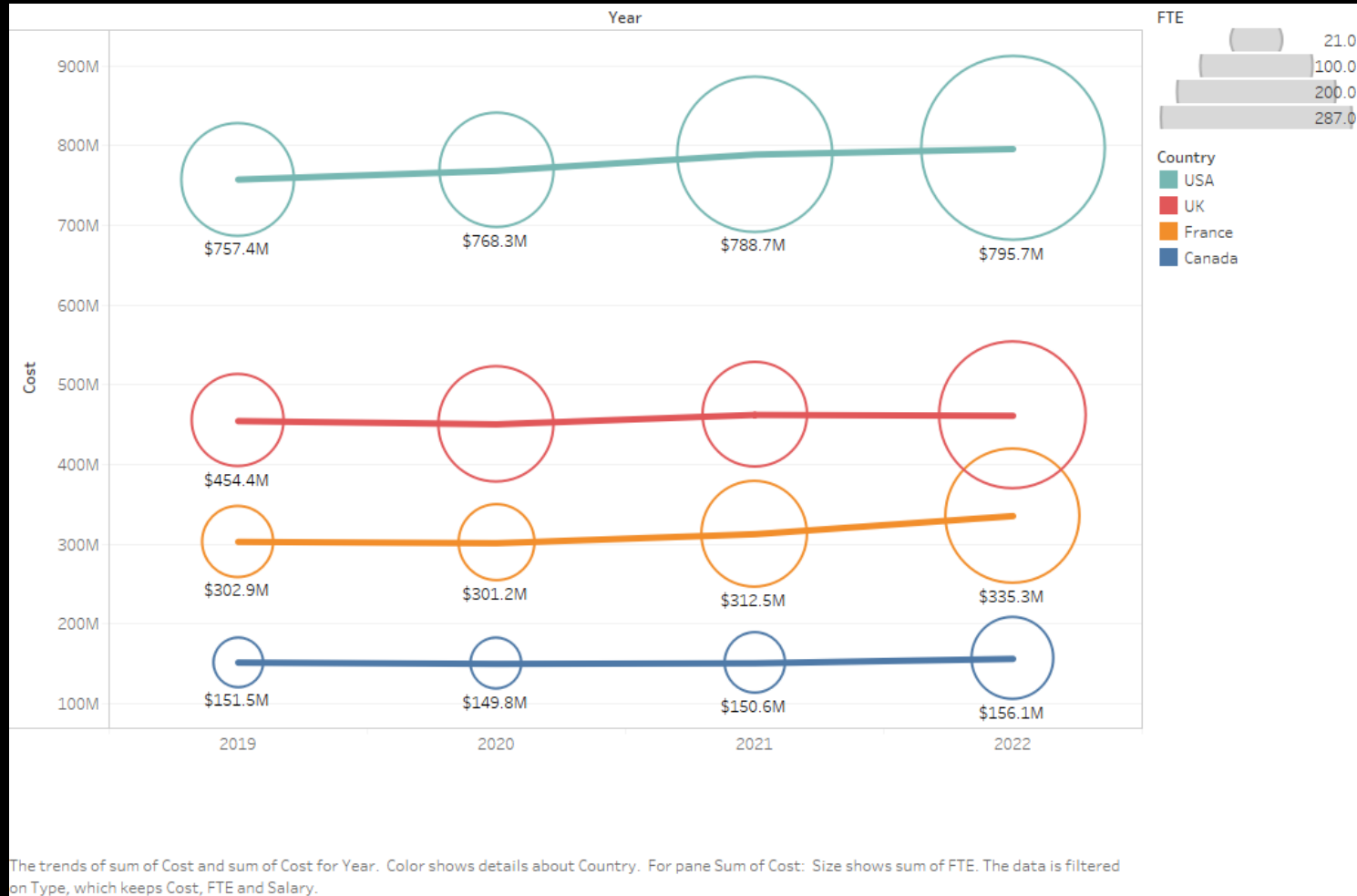
SLIDO QUESTION:

Which country saw the highest growth in cost from 2021 to 2022?

a) Canada

b) France

c) UK

d) USA

SLIDO QUESTION:

Which country had the second most cost in 2022?
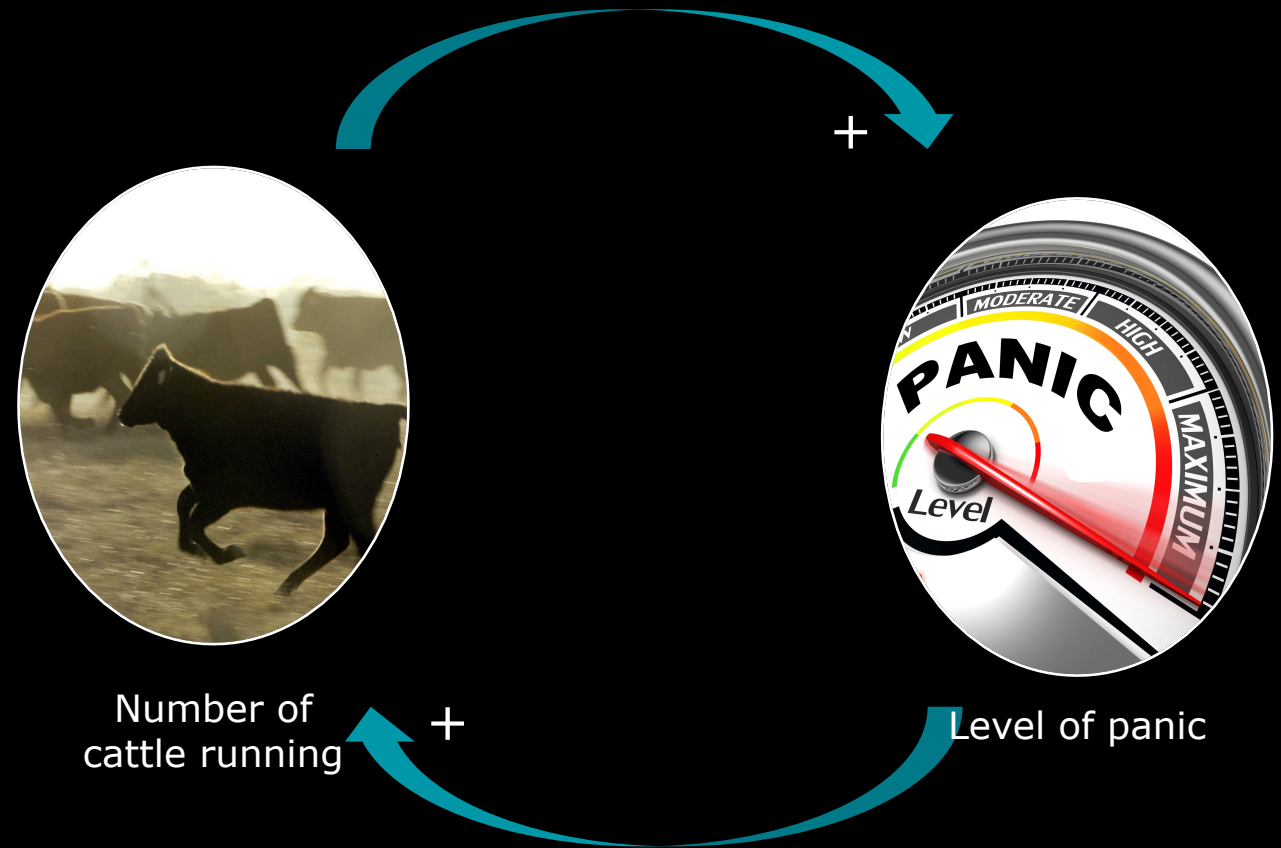
a) Canada

b) France

c) UK

d) USA

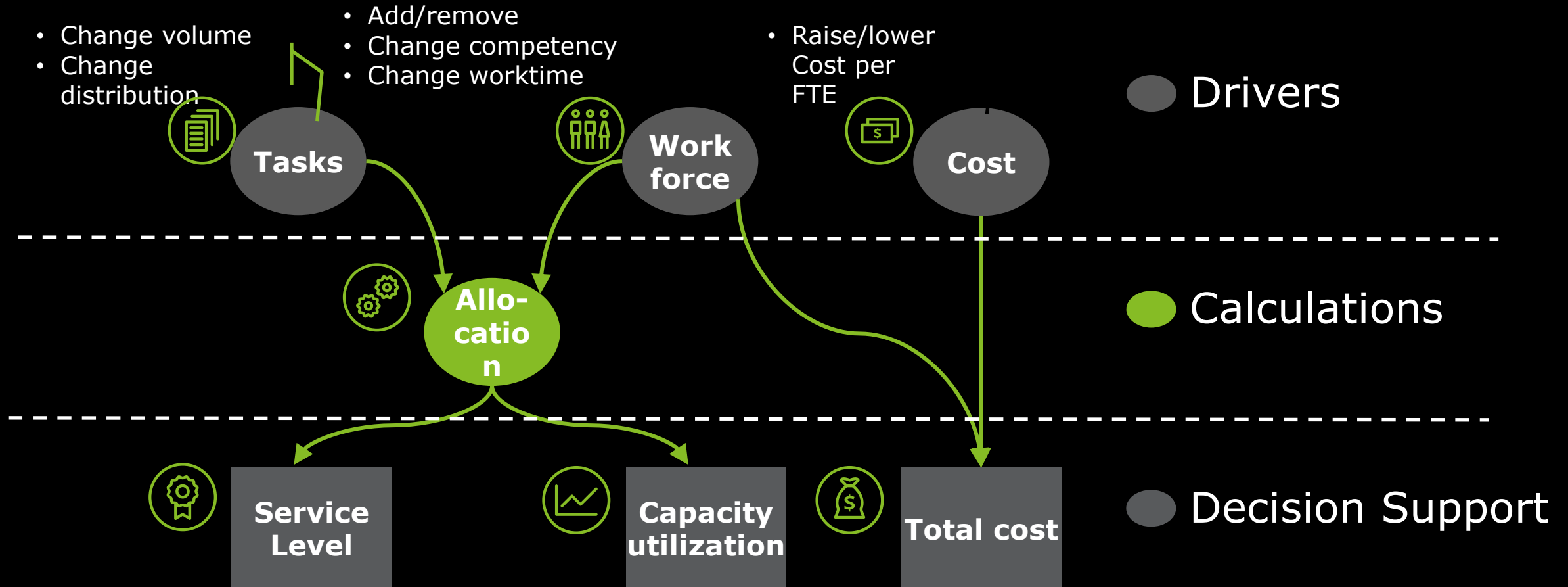# Challenges in Communication - removing the black box

Key Advantages:

- Recognizing the cost drivers

- More Visual

- More Flexible

- Able to analyze risk and uncertainty more effectively

Number of
cattle running

+

Level of panic

+

"You're out of beer? On a Friday night?!"

How to make sure how to keep the draft flowing.

- Change volume
- Change distribution

- Add/remove
- Change competency
- Change worktime

- Raise/lower Cost per FTE

Tasks

Work force

Cost

● Drivers

Allo-cation

● Calculations

Service Level

Capacity utilization

Total cost

● Decision Support

Demonstration

What makes effective costing
Summary

1	Knowing the Question that you are trying to answer
2	Involvement of key stakeholders with you throughout the process
3	Having clear ground rules and assumptions
4	Leveraging and utilizing the most appropriate tool set
5	Consistent and continuous quality assurance
6	Being able to explain the outputs including variation / sensitivities
7	Increased visualization to 'tell the story'