



2022 Australasian Fleet Conference & Exhibition

AND FLEET AWARDS

MAY 3-4

ROSEHILL GARDENS RACECOURSE SYDNEY

DYNAMIC OPTIMISATION VEHICLES, ROUTES & PEOPLE

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Opturion Pty Ltd

Qualifications

- Degree in Mathematics
- Masters in Control Systems (Automation)
- PhD in Business Decision Support Systems

Experience

- Transport
- Manufacturing
- Energy
- Workforce

OPTURION

- Spin out from CSIRO and Monash University
- Optimisation based on Artificial Intelligence
- Next generation
 - Faster
 - Cheaper
 - Better

Optimisation Definition

Making decisions or providing a solution to a problem that:

is Compliant

delivers Customer service

minimises Cost

Optimisation works best if you have:



Choice



Complexity



Change

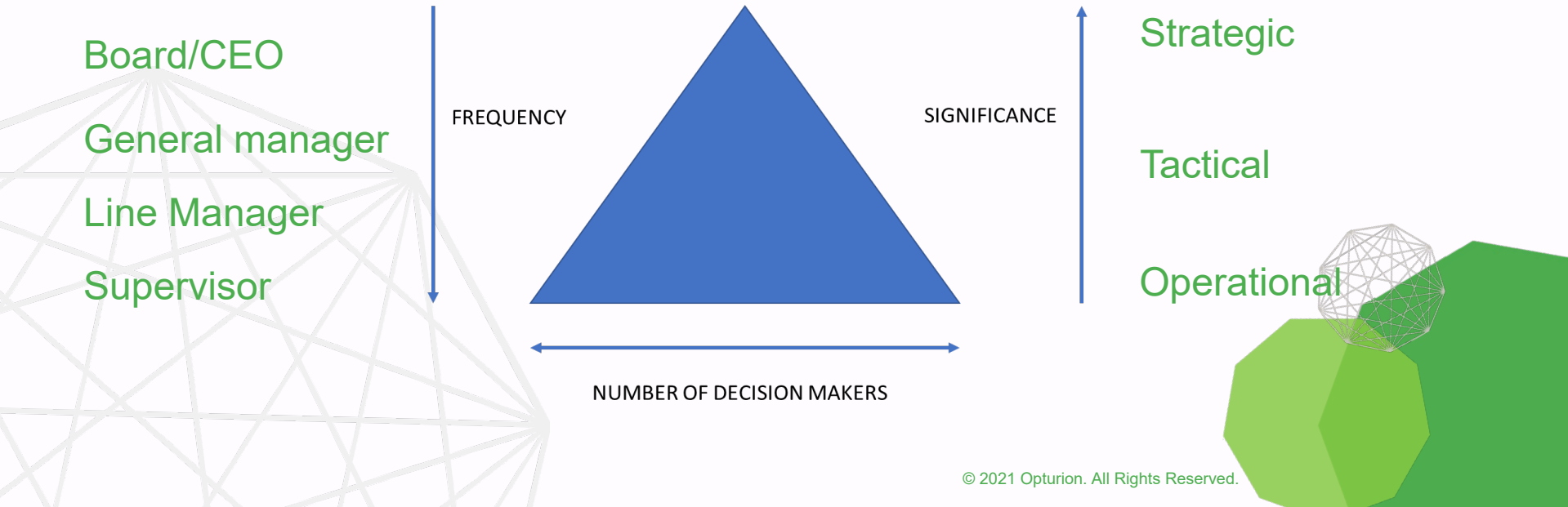
Important consideration:

Fixed
Costs

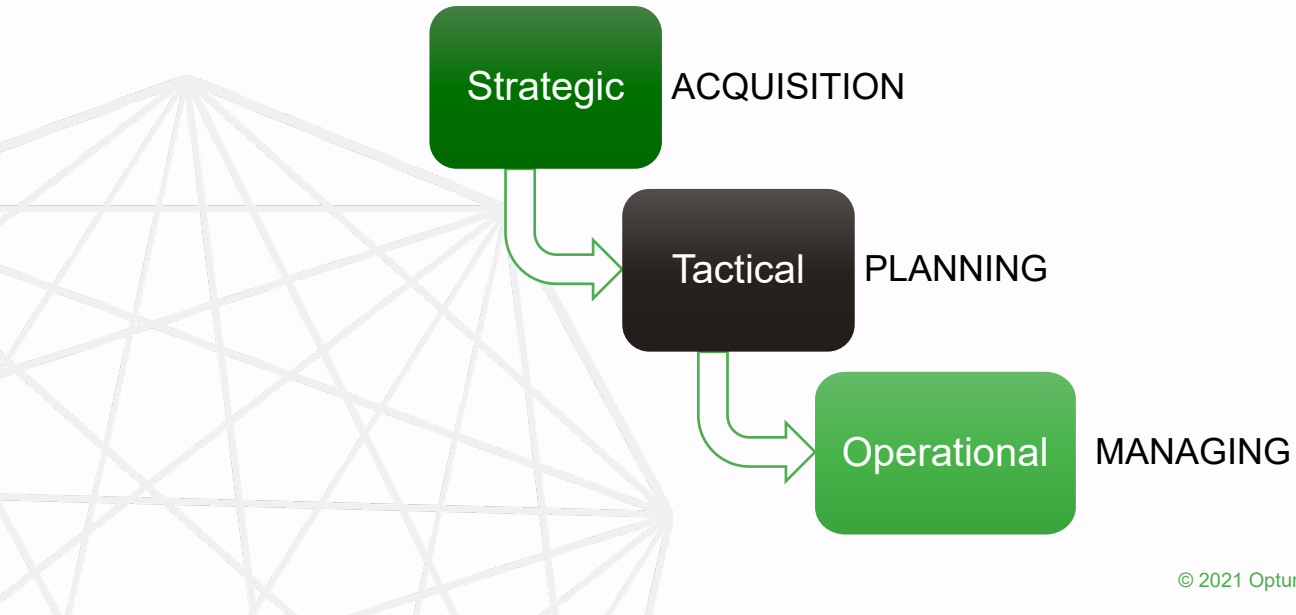
Variable
Costs

Standard
Costs

DECISION MAKING PYRAMID



Optimisation Levels



Strategic

Big decisions that cannot be undone:

- Buying equipment
- Location
- Entering into a contract



Entering into a Contract

- What resources are required: people, vehicles, maintenance, etc?
- Own fleet/own staff versus contractors?
- What is the cost of servicing?
- How does the cost model work?

Purchasing Equipment

- Lifetime cost of ownership
- Customer service
- Utilisation factor

Optimisation Approach



Strategic Optimisation Examples



Challenges

- Cost of ownership is but one factor
- Variation is costly & averages are dangerous
- Don't size for peak nor for low – it depends
- What happens when demand increases, decreases or changes?

Tactical Optimisation

- Resources given (people, staff, contractors)
- Optimisation
 - Allocation/loading
 - Scheduling
 - Routing



Optimisation Approach



Customer Orders
Location
Weight
Volume
Delivery Windows

Resources
Vehicles
People
Depots

Outcomes
Load plans
Schedules
Routes

Tactical Optimisation Examples



Challenges

- Driver absence
- Incomplete/inaccurate information
- Co-ordination – linehaul arrivals/warehouse pick

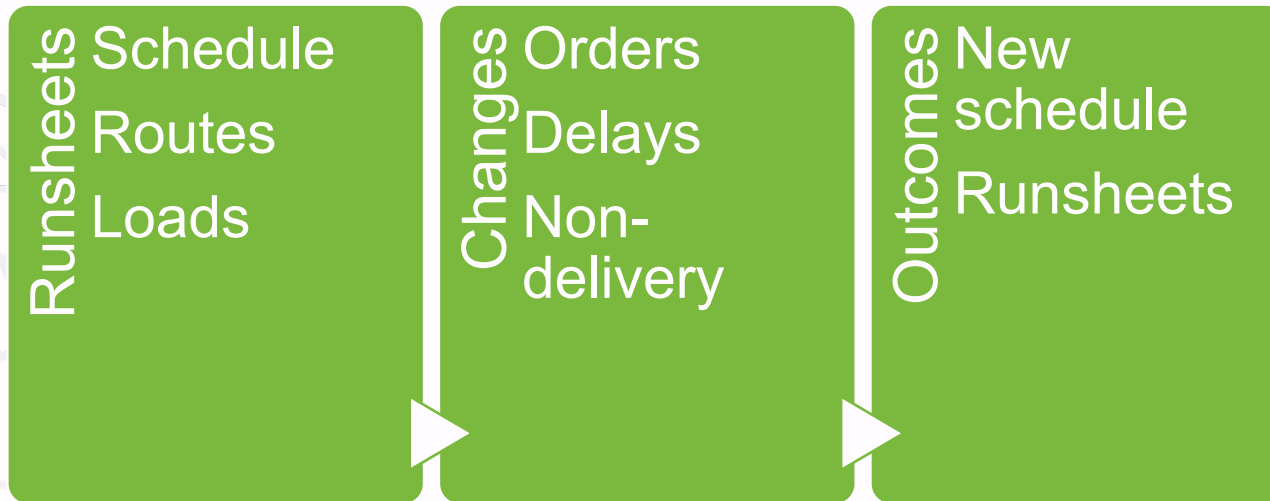


Operational Optimisation

- Changes – new orders/cancelled orders
- Delays
- Non-delivery



Optimisation Approach



Operations Optimisation Examples



Royal Flying Doctor Service



Potential Benefits

- Solid benchmark/baseline
- Plan versus actual
- Guarantee compliance
- Eliminate over servicing
- Reduce cost
- Increase revenue



QUESTIONS

DISCUSSION

OPTURION



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Audience Q&A Session

① Start presenting to display the audience questions on this slide.