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# Transforming The Decision-Making Capabilities Of Leaders In Emergency Management

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“Truly successful decision-making relies on a balance between deliberate and instinctive thinking.”

Malcolm Gladwell

*The Tipping Point: How Little Things Can Make a Big Difference* (2000), *Blink: The Power of Thinking Without Thinking* (2005), *Outliers: The Story of Success* (2008)



“Decisions guide the distribution and subsequent deployment of assets, the removal of people from harm’s way, how objectives are established and a myriad of other actions. Decision-making is therefore an important skill for emergency managers permeates every emergency event and every level of disaster management.”

Brooks, et.al (2016) AJEM October *in press*



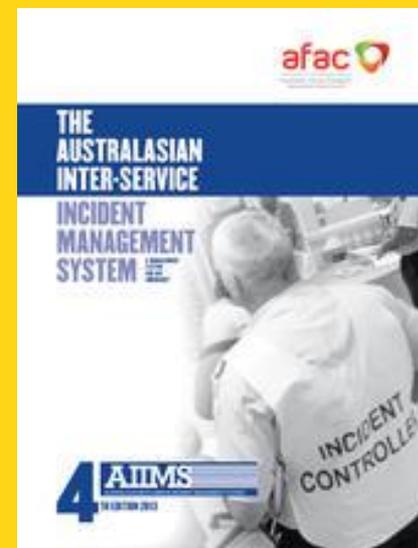
# Decision Making in Context

Emergency events **'don't play by the rules'**.  
Decisions are often **time pressured**.

**Uncertainty.** The timing, accuracy and completeness of the available information is far from optimal.

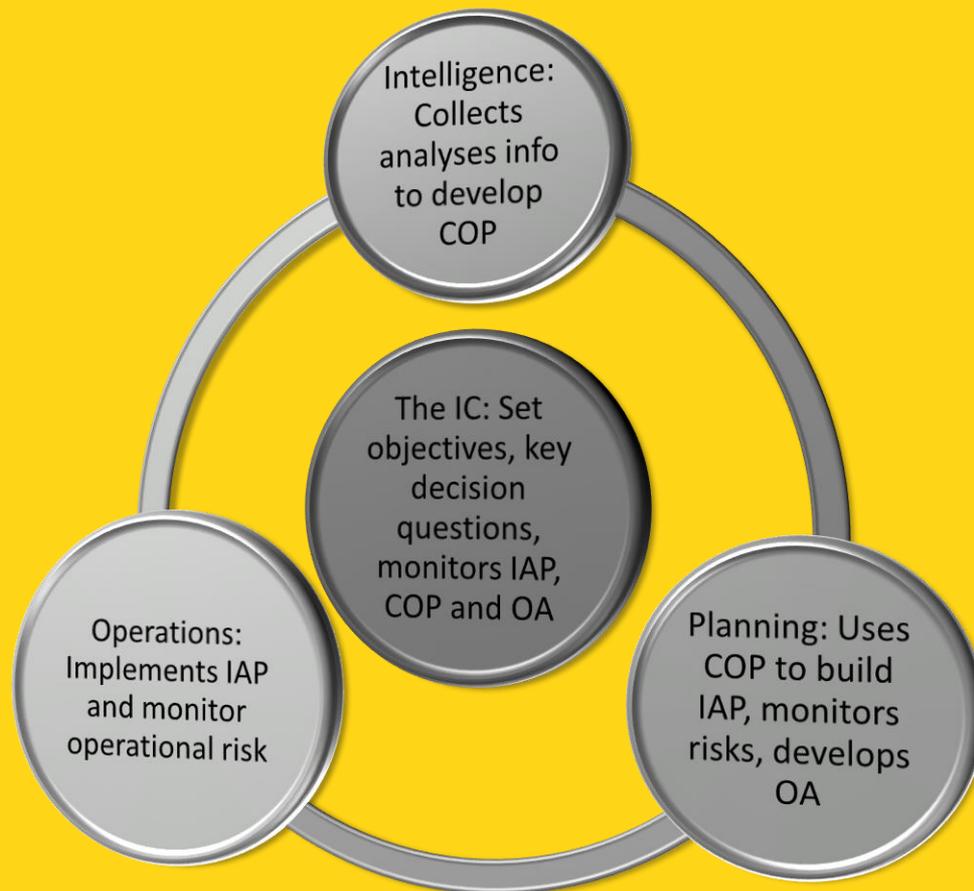
**Constrained** by organisational, political, social and financial/resource factors.

**Challenged** by fatigue, workload, stress and cognitive errors.





# Decision-making Schematic



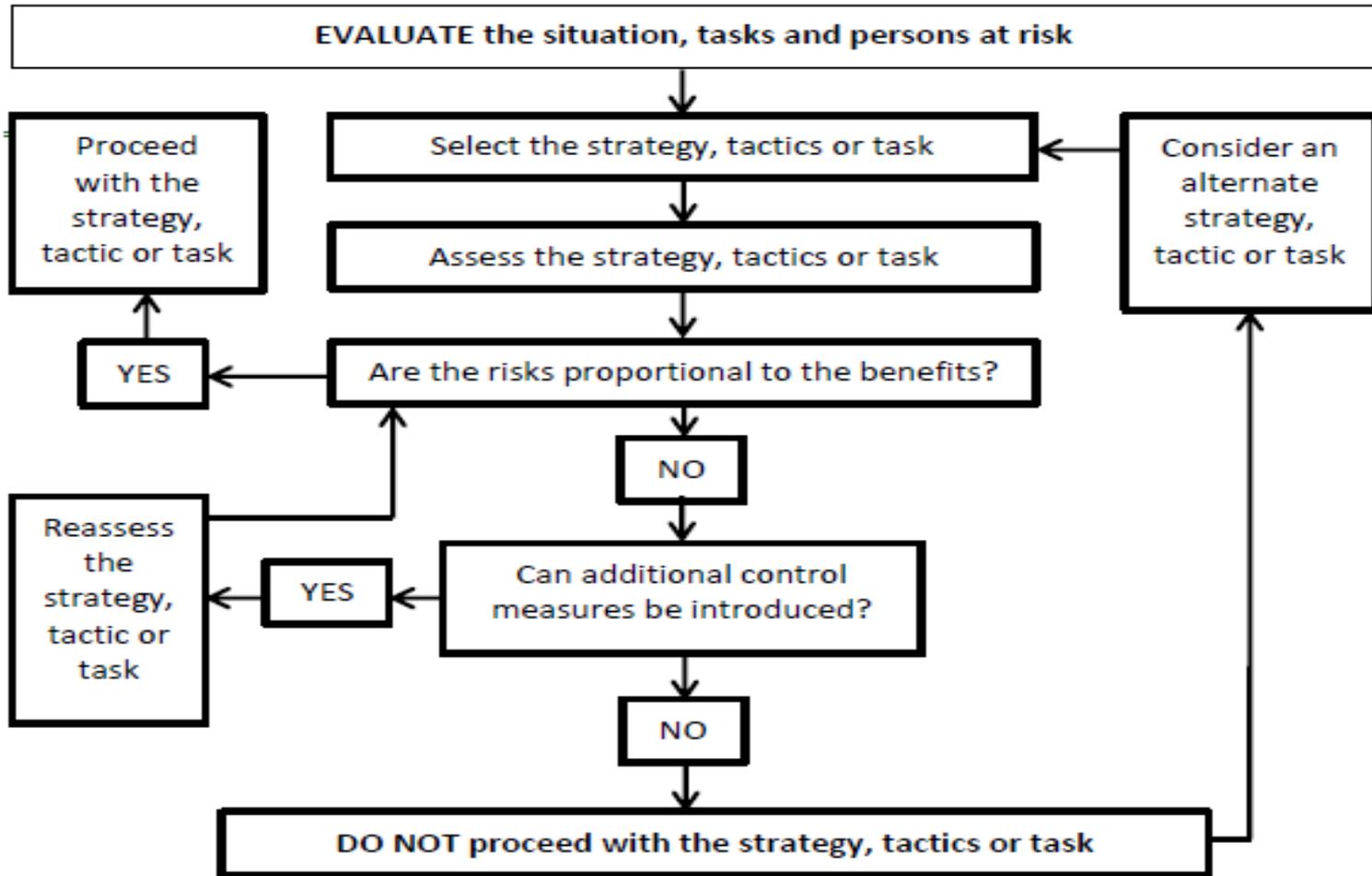


# Decision hypothetical

During the deployment of a USAR team the team leader needed to manage their response to four key risks associated with after-shocks, tsunamis, extreme cold and radiation exposure.

He needed to manage these risks while meeting the objectives of the deployment and where to locate the Base of Operations (BOO).

1. Locate the BOO on high ground, away from buildings in tents on a baseball pitch.
2. Locate BOO on low ground, using buildings for shelter.



**Factor in uncertainty, time pressure, constraints...**



# Stage #1 Evidence

<b>Decision concept</b>	<b>Coverage in surveyed organisations</b>
<b>Decision styles: awareness of and an ability to work across the spectrum from intuitive to classically rational decision approaches</b>	Less than 15%
<b>Monitoring themselves and their teams for evidence of bias or decision errors.</b>	Less than 15%
<b>Sense-making: interpreting ongoing emergency, addressing contextual, uncertain, resource-constrained nature.</b>	50%
<b>Record-keeping: balancing the need to record decisions with the effect recording has in creating bias in decision-making.</b>	Less than 15%
<b>Creating psychologically safe decision environments that build and maintain trust in teams.</b>	50%



## Stage #2 – Data Collection

Resilient organisations...have developed their approaches to the management of risk to the point that they have an almost organic capacity to respond to, and even capitalise upon, change whenever it occurs.



# DECISION-MAKING & ORG RESILIENCE



# Organisational Resilience

## Attributes and Indicators





## Post exercise decision-making survey

The following page contains twenty-one statements about the decisions made during this exercise. Please rate how much you personally agree or disagree with these statements by placing an **X** in the appropriate column.

Statement	Column				
	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
The CMT made appropriate decisions based on available information					
The CMT verified the authenticity of important intelligence					
The CMT built and maintained a common operating picture throughout the exercise					
The CMT maintained a clear chain of command during the exercise					
The CMT was flexible and adaptive in its response to the crisis					
The CMT displayed rapid and adaptive behaviour to solve problems and encourage solutions					



# Preliminary Results

## Positives:

- Clear chain of command
- Flexible/adaptive responses
- Teams drawing on relevant knowledge/experience
- Consideration of organisational values during decision-making

## Negatives:

- Difficulties in use of IT systems to support teams
- Lack of effort to manage error/bias during decision-making
- Not identifying information that might change decisions
- Poor recording of options analysis



# OPPORTUNITIES

<b>Decision concept</b>	<b>Tool being tested or approach taken</b>
<b>Awareness of and an ability to work across the spectrum from intuitive to classically rational decision approaches as the context requires them to.</b>	Training course to understand decision styles linked with several tools – including anticipatory thinking; meta-cognitive loop; coping ugly heuristic.
<b>Balancing the need to record decisions for future reference with the effect recording has in creating bias in decision-making.</b>	Modified decision-logs to record decisions that map uncertainties and trigger change decisions.
<b>Monitoring themselves and their teams for evidence of bias or decision errors.</b>	Checklist for biases and decision errors.
<b>Creating psychologically safe decision environments that build and maintain trust between teams.</b>	Training course and a simple tool to apply the steps of psychological safety identified by Edmondson (1999).



# RESEARCH UTILISATION

- Checklists for Aides- Memoire
- Alternate decision-log
- Training course
- Validated cognitive decision aids

The screenshot shows the mobile application interface for the AIDES-MÉMOIRE INCIDENT MANAGEMENT SYSTEM. At the top, the status bar displays 'Telstra 4G', '2:01 PM', and '51%' battery. Below the status bar is a blue header with a menu icon and the text 'AIDES-MÉMOIRE INCIDENT MANAGEMENT SYSTEM'. The main content area is titled 'IC INCIDENT CONTROLLER AIDE-MÉMOIRE' and contains a list of items:

- The Incident Control function includes: ▼
- Incident Controller Responsibilities ▼
- Incident Controller Checklist ▲

Below the list, there are four unchecked checkboxes with corresponding text:

- Establish and take control of the incident and available resources
- Establish procedures to permit control to be exercised and establish a control facility
- Assess the situation, identify risks and actions to mitigate the risk
- Provide advice and/or issue warnings to communities that may be affected by the incident, so that they can make informed decisions about actions that they may take to prepare themselves or evacuate the affected area



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