DECISION MAKING, TEAM MONITORING & ORGANIZATIONAL PERFORMANCE

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Department Name, Organisation Name, State
• Steve Curnin
• Jared Grunwald
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• Keith Fitzgerald
• All of the participating agencies
• More Complexity
• Longer Duration
• Highly Dynamic
• More Agencies
• Financial Constraints
• Restructuring
RESEARCH STREAMS

• Stream 1 – Cognitive Decision Strategies

• Stream 2 – Team Monitoring Tools

• Stream 3 – Organizational Performance Learning
Stream 1 – Cognitive Decision Strategies

Cognitive support strategies and heuristics that can help people at strategic levels deal with complex, time-pressured and multi-team situations.
Stream 2 – Team Monitoring Tools

Monitoring and tracking tools that provide a way for strategic level managers to monitor the performance of teams.
Stream 3 – Organizational Performance Learning

Process-based organizational performance indicators that can be used to evaluate the effectiveness of emergency management performance so organizations can continue to adapt and learn.
COGNITIVE DECISION STRATEGIES
Figure 1 – Interdependence of human centred design activities (ISO 9241-210:2010(E) p.11)
• Assessment of agency documentation (e.g., SOPs or training documentation.)
• Semi-structured interviews with Level 3 Incident Controllers and Senior staff to explore decision-making approaches (30+ interviews conducted) in NSW SES, CFA, MFB, TFS, QFES.
• Observing simulation events (Operation Headache – QFES) and actual events (G20 – Brisbane).
• Participating in a staff ride in Tasmania, running a focus group in TAS SES.
• Assessment of current literature around decision-making
Emergency events ‘don’t play by the rules’.

Our focus is typically above the IMT and for Level 3 type incidents, however...

All levels of the EM command structure have to make decisions in complex and demanding environments.

The environment is dynamic – a series of decisions are required to achieve a goal; the decisions are not independent; earlier decisions constrain later decisions. The state of the environment continues to change, and decisions need to be made in real time.
WHAT SORT OF DECISIONS ARE WE EXAMINING?

- Decision-making ‘styles’ – creative, analytical, procedural and intuitive.
- Our focus is interaction between ‘Type 1’ decision-making (automatic, heuristic, intuitive) and ‘Type 2’ (conscious, analytical, reasoning and reflective).
- Also focused on the relationship between skills-rules & knowledge in the decision-making.
EM DECISION FRAMEWORK

- Decision-making Models – (e.g., OODA Loop; Operational Decision Model)
- Incident Action Plans
- Dynamic Risk Assess
- Heuristics/Rules of Thumb (e.g., SMEACS)
- Decision Recording Approaches and Training Systems.
- Commander’s intent/Overarching doctrine e.g., TFS 6 priorities

A Decision-Making Framework
FORGET ABOUT DECISIONS & FOCUS ON SKILLS?
CURRENT OPPORTUNITIES

• Opportunities exist to improve decision-making within the ‘framework’ – this might be through the improvement of decision recording approaches

• Two key confounders in this are a lack of role clarity at strategic levels and differences in organisational system maturity.

• Tools need to be supported by training systems that build strategic knowledge and skills about decision-making.

• Is it possible to in parallel or instead enhance skills associated with issues such as divergent thinking and peripheral vision and will this have as large an effect on decision-making as building cognitive tools???
TEAM PERFORMANCE MONITORING
Figure Adapted from Amelberti (2001) and Salmon et al. (2012)
APPROACHES TO TEAM MONITORING

- Monitoring Team Outputs
- Mapping Team Information Flow
- Inspecting Linguistic Correlates
- Examining Team-Based Behavioural Markers
- Assessing Individual Team Members
• 16 Agencies in Australia/New Zealand were visited
• Two main research studies
  – Desktop simulation/semi-structured interview with RCs in 2 agencies
  – Semi-structured interviews with SEMs in 12 agencies
FINDINGS

• One formal method of team performance monitoring
  – Team unity of purpose,
  – Team communication,
  – Team effectiveness
  – Team cohesiveness
FINDINGS

• Prevention
  – Preplanning
  – Culture of Openness

• Identification
  – Monitoring information flow
  – Intuition
  – Non-verbal communication
OPPORTUNITIES AND CHALLENGES
ORGANIZATIONAL PERFORMANCE LEARNING
THE BACKGROUND TO A NEED FOR FOCUSSING AT THE ORGANISATIONAL LEVEL

Informed by earlier survey—“what mechanisms are in place to assess the effectiveness of EM objectives?”

Responses of regional and state level participants – industry survey n=206
CONSULTATION METHODS

• Interviews experienced personnel (N=15)
• Workshop with AFAC AIIMS Steering Group
• Consultation survey to drill down into issues
  • Sponsored by CEO AFAC
  • 36 Fire and emergency services agencies seeking 2 participants
  • 38 participants (54%) of potential sample
CONSULTATION QUESTIONS

• At a strategic level, what constitutes an appropriate set of objectives for out-of-scale events?

• At local, regional or state levels, what are the indicators of "trouble" that may signal movement toward vulnerability in emergency response and its management?

• How would we know that major/out-of-scale events had been well-managed?

Sample:

Years in industry: 24 (m)
Years in agency: 13 (m)
All types of ESOs incl
- Rural (n=10)
- Urban (n=7)
- LMAs (n=9)
- All hazards (n=12)
QUESTION 1 - EFFECTIVE EMERGENCY MANAGEMENT OBJECTIVES

“The critical issues must evolve around community safety” [#27]

“there are clear strategic plans in place to manage both the event and consequences” [35]

[response means] “we have failed to manage risks” [#31]
QUESTION 2 – WHAT ARE INDICATORS OF TROUBLE?

“incident escalates faster than escalation of effort”

“incident managers narrow their focus[#28]

“inaccurate or non-timely information to the community” [#21]

“plans or priorities between stakeholders are in conflict” [#6].
QUESTION 3 – WHAT ARE INDICATORS OF SUCCESSFUL MANAGEMENT?

“At all times each ESO should have no problems articulating the following: Exactly who

- from the agency is involved in every level of the response?
- where are they at any moment in time during the response?
- what are they doing in relation to the IAP and who is supervising them?

- If these questions can't be answered in exact detail, the strategic level is not even connected to the rest of the organisation and operating with these unknowns = vulnerability” [#13].
QUESTION 3 – WHAT ARE INDICATORS OF SUCCESSFUL MANAGEMENT?

“The level of community recovery - a comparative analysis of the capacity of a community before and after the event. Can it do/provide what it did before the event -- or has there been a change in that. [#10].

“we need to be able to create a learning environment where triumphs and mistakes can be shared in blame free environment for future benefit” [#3].
### THEMATIC ANALYSIS OF COMMENTS

<table>
<thead>
<tr>
<th>Themes found in data</th>
<th>Data extracts coded to theme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1: Approp objectives? Q2: Indicators of trouble? Q3: Well managed?</td>
</tr>
<tr>
<td>1 To be prepared and ready</td>
<td>9 (4%) 13 (5%) 2 (1%)</td>
</tr>
<tr>
<td>2 To ensure that the incident control system is maintained appropriately (achieving objectives, managing risks)</td>
<td>111 (48%) 117 (48%) 78 (44%)</td>
</tr>
<tr>
<td>3 To coordinate with other stakeholders</td>
<td>24 (10%) 16 (6%) 3 (2%)</td>
</tr>
<tr>
<td>4 To maintain the confidence of the affected and general public and its elected leaders</td>
<td>85 (37%) 85 (35%) 90 (52%)</td>
</tr>
<tr>
<td>5 To support whole of government strategic decision making for consequence management</td>
<td>1 (0.5%) 14 (6%) 3 (2%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>230 (100%) 245 (100%) 176 (100%)</td>
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THEMATIC ANALYSIS OF COMMENTS

Most concern for

- To ensure internal layers within the response working properly
- To maintain confidence of citizens and elected leaders

N=651 comments in total
<table>
<thead>
<tr>
<th>Themes of concern</th>
<th>Values</th>
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</thead>
<tbody>
<tr>
<td>To be prepared and ready</td>
<td>A healthy, capable, resilient workforce</td>
</tr>
<tr>
<td>To ensure that the incident control system is maintained appropriately (achieving objectives, managing risks)</td>
<td>Safety of personnel, trust and empowerment</td>
</tr>
<tr>
<td>To coordinate with other stakeholders</td>
<td>Respect and integrity</td>
</tr>
<tr>
<td>To maintain the confidence of the affected and general public and its elected leaders</td>
<td>Primacy of life and public service</td>
</tr>
<tr>
<td>To support whole of government strategic decision making for consequence management</td>
<td>Support and service contribution</td>
</tr>
</tbody>
</table>
## Complexity Governing Performance Measurement

<table>
<thead>
<tr>
<th>Themes</th>
<th>Complexity</th>
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<tbody>
<tr>
<td>To be prepared and ready</td>
<td>Workforce restructuring</td>
</tr>
<tr>
<td>To ensure that the incident control system is maintained appropriately</td>
<td>Technological interoperability and limitations</td>
</tr>
<tr>
<td>(achieving objectives, managing risks)</td>
<td></td>
</tr>
<tr>
<td>To coordinate with other stakeholders</td>
<td>Legislative frameworks; government policy</td>
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<tr>
<td>To maintain the confidence of the affected and general public and its</td>
<td>Demographic shifts</td>
</tr>
<tr>
<td>elected leaders</td>
<td></td>
</tr>
<tr>
<td>To support whole of government strategic decision making for</td>
<td>Regional economies indirect economic effects</td>
</tr>
<tr>
<td>consequence management</td>
<td></td>
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</tbody>
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RESEARCH STREAMS

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• End-User Feedback via RAF, report on initial findings, fieldwork during June (Wollongong) and July (Brisbane).

• Development of ‘prototypes’/tools.

• Testing of tools

• Feedback and iterative design