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DECISION MAKING, TEAM MONITORING & ORGANIZATIONAL PERFORMANCE

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Department Name, Organisation Name, State

An Australian Government Initiative

CRC AUSTRALIA

CQUniversity AUSTRALIA
CELEBRATING 20 YEARS

UTAS

ACKNOWLEDGEMENTS

- Steve Curnin
- Jared Grunwald
- Sophia Rainbird
- Keith Fitzgerald
- All of the participating agencies

- More Complexity
- Longer Duration
- Highly Dynamic
- More Agencies
- Financial Constraints
- Restructuring

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RESEARCH STREAMS

- Stream 1 – Cognitive Decision Strategies
- Stream 2 – Team Monitoring Tools
- Stream 3 –Organizational Performance Learning

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RESEARCH STREAMS

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.

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RESEARCH STREAMS

Stream 2 – Team Monitoring Tools

Monitoring and tracking tools that provide a way for strategic level managers to monitor the performance of teams

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RESEARCH STREAMS

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.

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COGNITIVE DECISION STRATEGIES

THE HUMAN-CENTRED DESIGN PROCESS

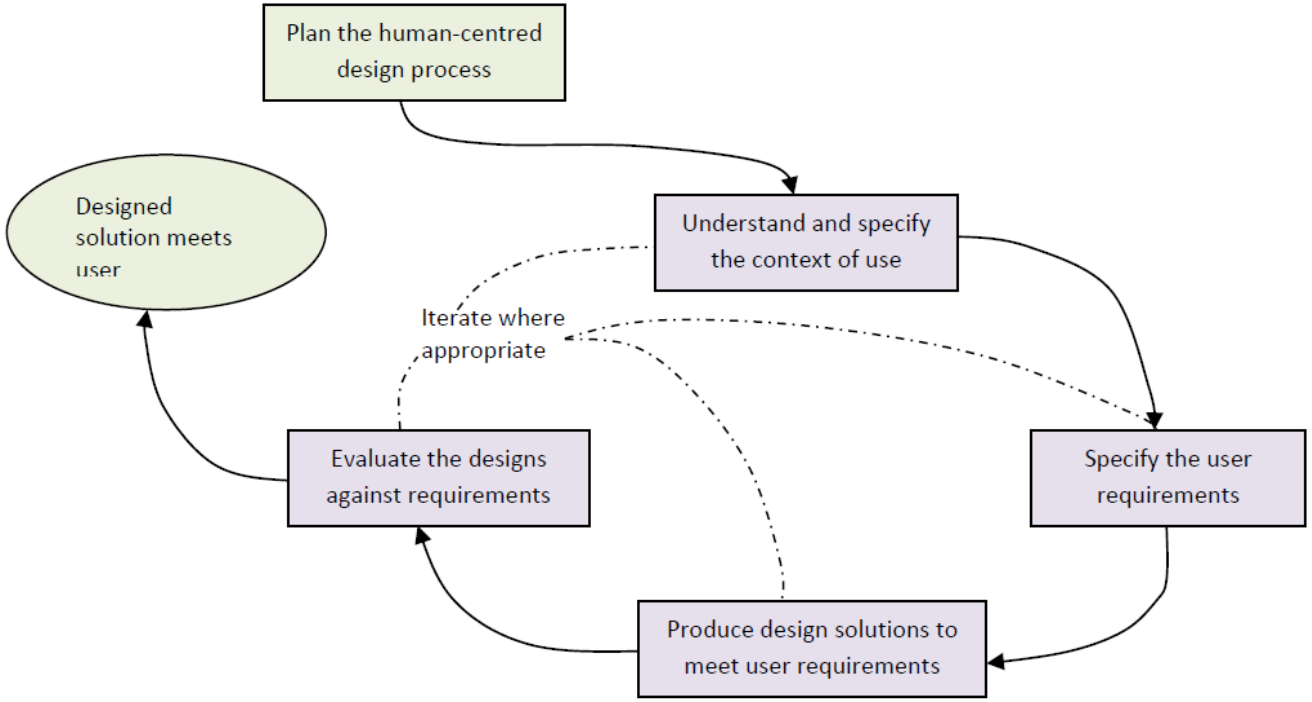

Figure 1 – Interdependence of human centred design activities (ISO 9241-210:2010(E) p.11)

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UNDERSTANDING THE CONTEXT OF USE

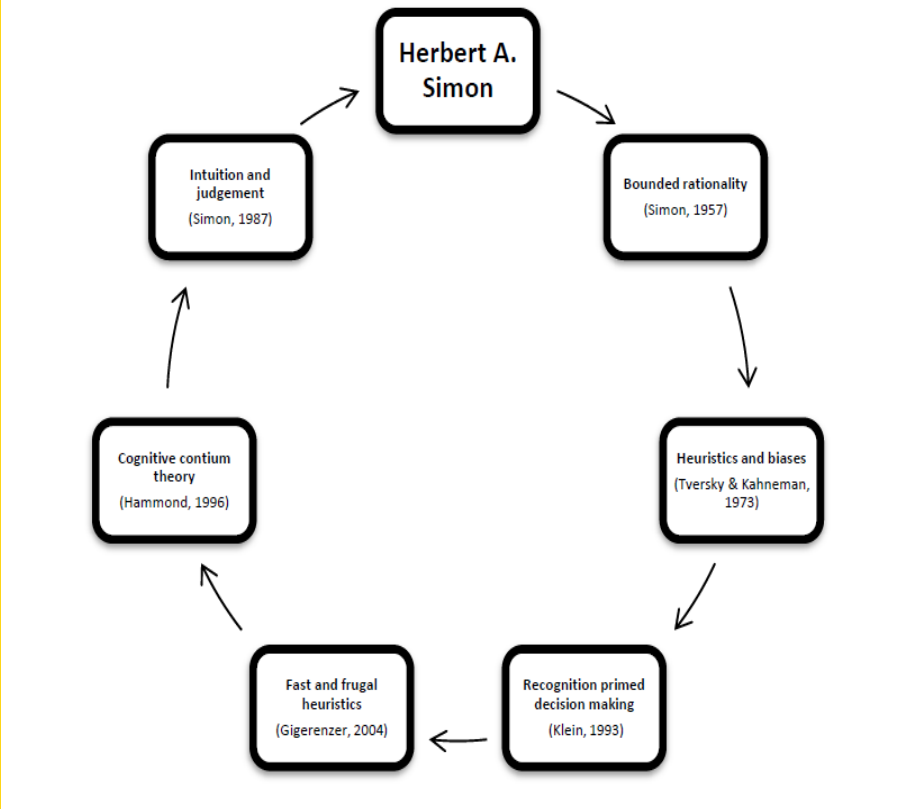
- Assessment of agency documentation (e.g., SOPs or training documentation.)
- Semi-structured interviews with Level 3 Incident Controllers and Senior staff to explore decision-making approaches (30+ interviews conducted) in NSW SES, CFA, MFB, TFS, QFES.
- Observing simulation events (Operation Headache – 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

WHAT SORT OF DECISIONS ARE WE EXAMINING?

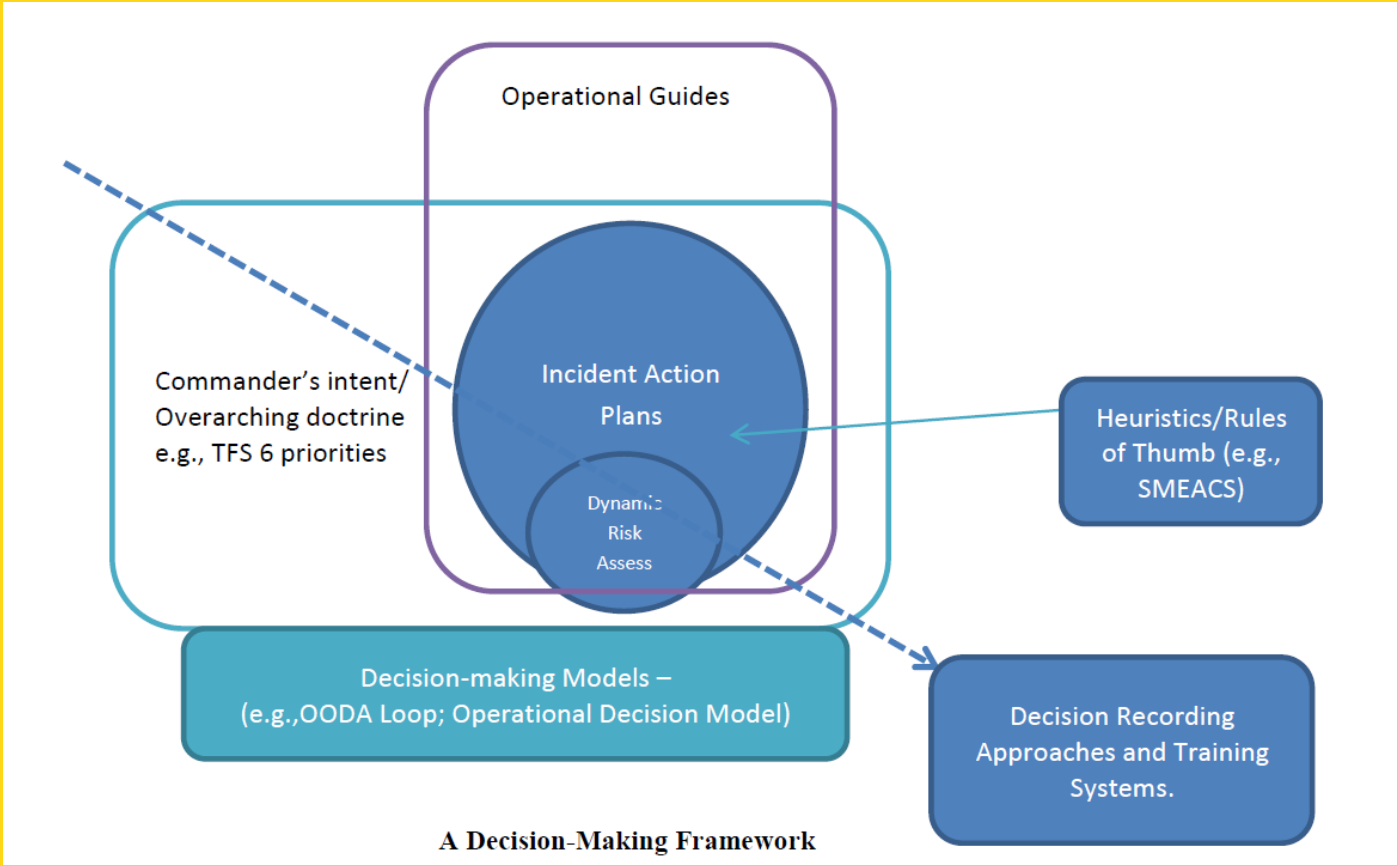
- Emergency events ‘don’t play by the rules’.
- Our focus is typically above the IMT and for Level 3 type incidents, however…
- All levels of the EM command structure have to make decisions in complex and demanding environments.
- The environment is dynamic – a series of decisions are required to achieve 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



A Decision-Making Framework

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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???

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TEAM PERFORMANCE MONITORING

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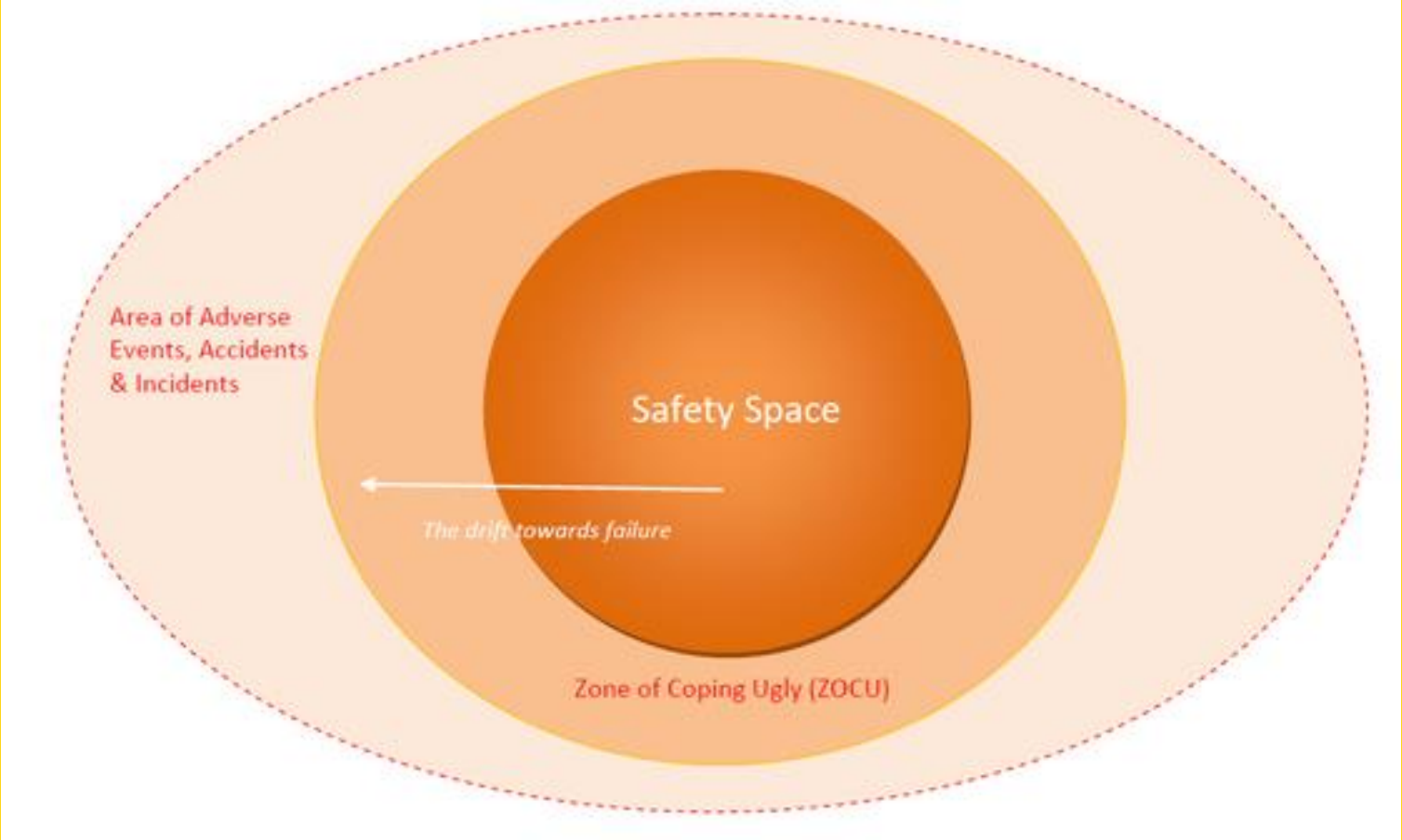

Figure Adapted from Amelberti (2001) and Salmon et al. (2012)

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APPROACHES TO TEAM MONITORING

- Monitoring Team Outputs
- Mapping Team Information Flow
- Inspecting Linguistic Correlates
- Examining Team-Based Behavioural Markers
- Assessing Individual Team Members

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METHODS/INDUSTRY ENGAGEMENT

- 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

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FINDINGS

- One formal method of team performance monitoring
  - Team unity of purpose,
  - Team communication,
  - Team effectiveness
  - Team cohesiveness

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FINDINGS

- Prevention
  - Preplanning
  - Culture of Openness
- Identification
  - Monitoring information flow
  - Intuition
  - Non-verbal communication

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OPPORTUNITIES AND CHALLENGES

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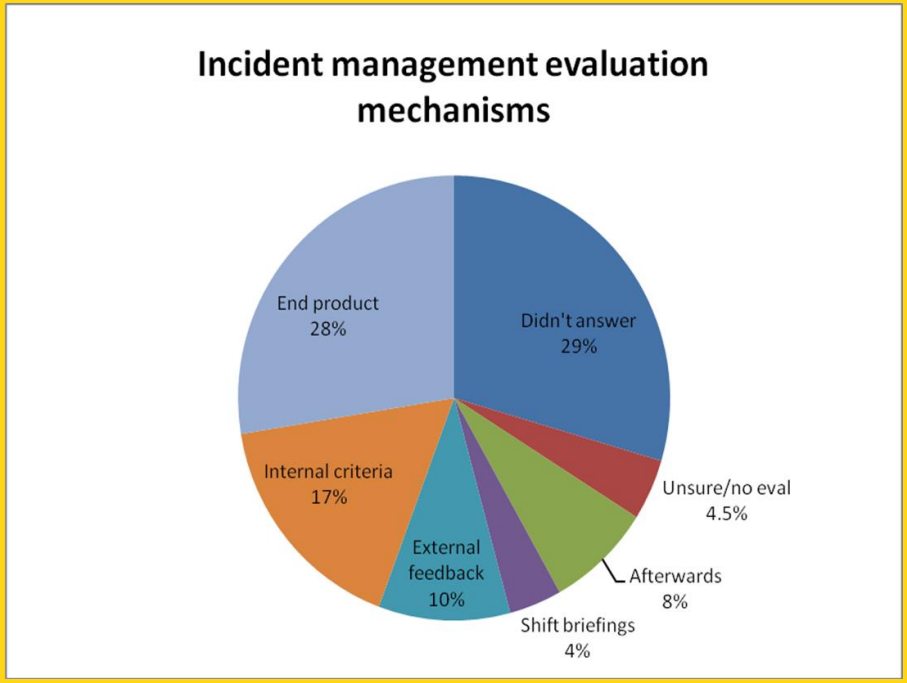
ORGANIZATIONAL PERFORMANCE LEARNING

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

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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

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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)**

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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]

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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].

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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].

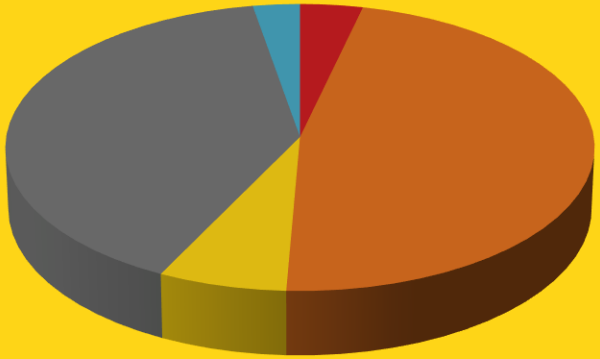
THEMATIC ANALYSIS OF COMMENTS

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

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

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VALUES GOVERNING PERFORMANCE MEASUREMENT

Themes of concern	Values
To be prepared and ready	A healthy, capable, resilient workforce
To ensure that the incident control system is maintained appropriately (achieving objectives, managing risks)	Safety of personnel, trust and empowerment
To coordinate with other stakeholders	Respect and integrity
To maintain the confidence of the affected and general public and its elected leaders	Primacy of life and public service
To support whole of government strategic decision making for consequence management	Support and service contribution

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COMPLEXITY GOVERNING PERFORMANCE MEASUREMENT

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

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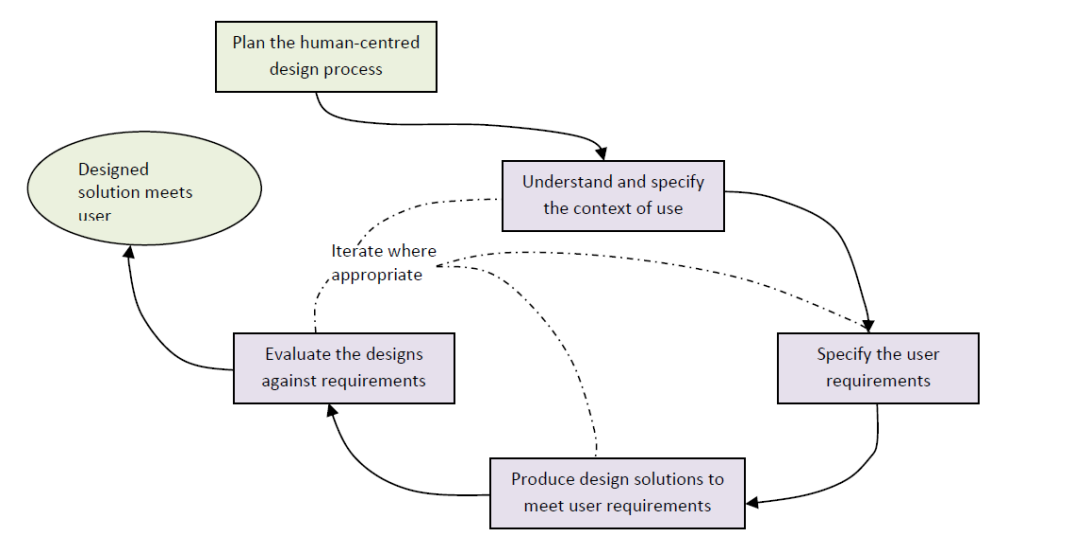
NEXT STAGES

- 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



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