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Using HOQ Methodology to Prioritise Organisational Resilience Decisions in Training Establishments

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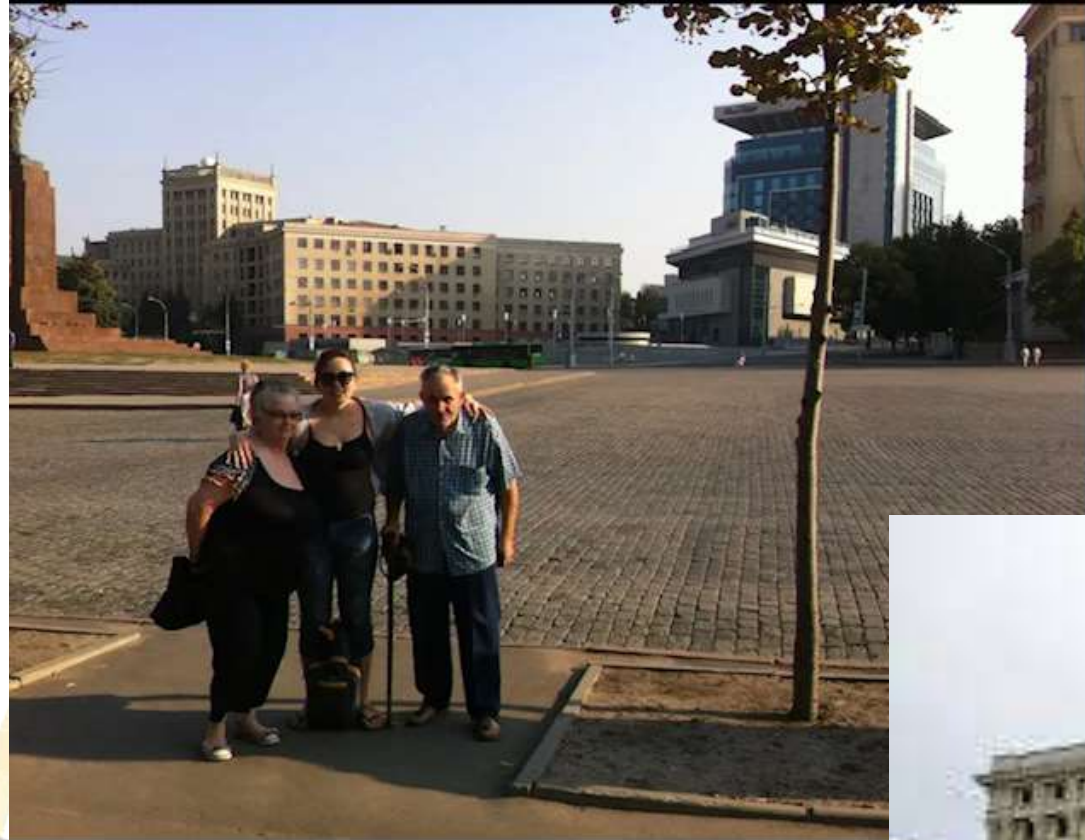
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Content

- Prelude
- Organisational Resilience
- Project's context
- Project's tools: Survey and HOQ
- Contextualising HOQ to prioritise resilience solutions
- HOQ Implementation Example

Prelude



15-20 July - 2023

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Conceptualising Organisational Resilience

RESILIENCE ↔ VULNERABILITY LEVEL

is a complex function of six resilience attributes:

AGILITY

ADAPTIVE CAPACITY

ADAPTABILITY

**RESTORATIVE CAPACITY &
REDUNDANCY**

EFFICIENCY

ROBUSTNESS

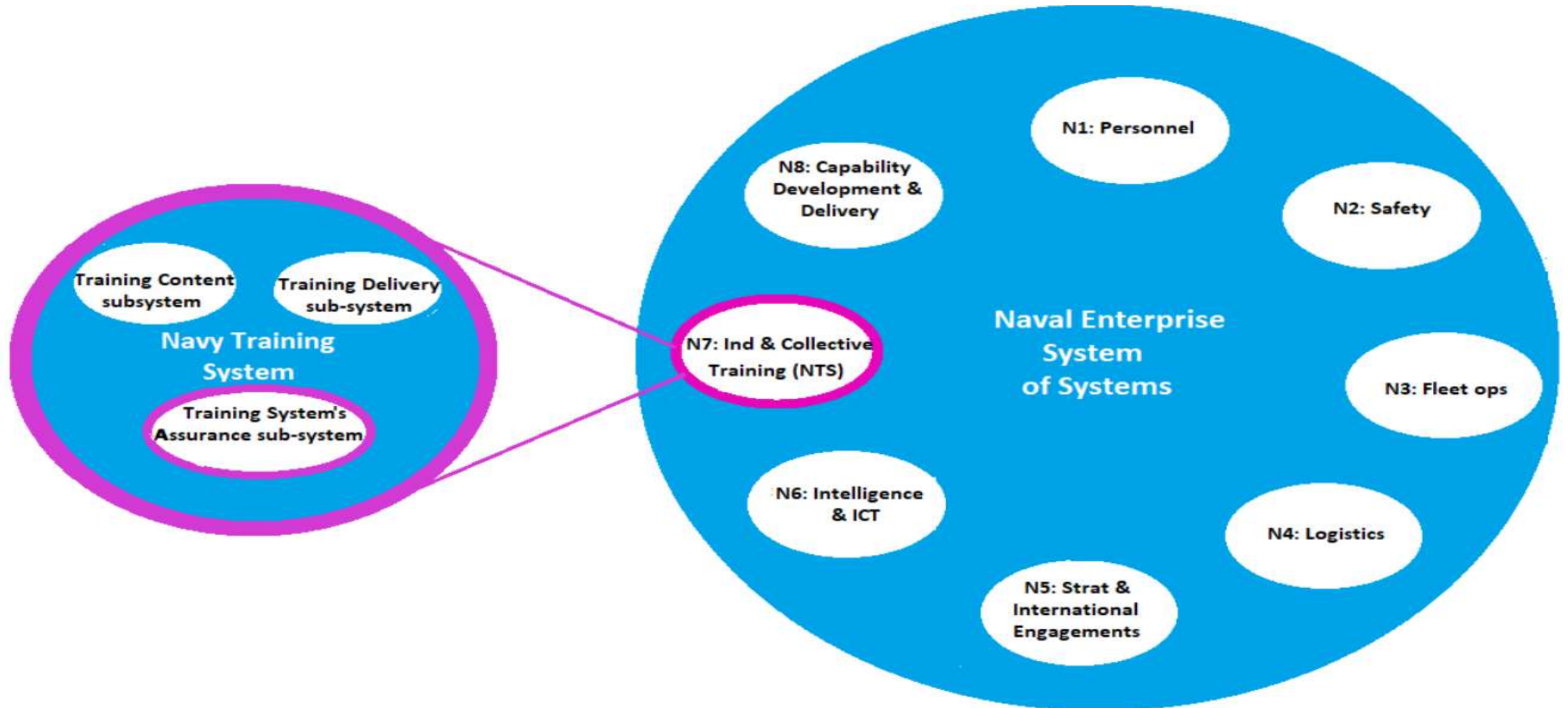
Resilience Attributes [Organisation's Abilities and Capacities]:

- **Agility:** to respond to changes and adversity easily, rapidly, and timely
- **Adaptability:** to re-establish fit in adversity
- **Efficiency:** achieve desired outcomes with minimum effort and resource consumption.
- **Adaptive capacity:** to learn and evolve to re-establish fit in new situations and environments as they arise
- **Restorative capacity:** to get back from damage or functional loss; and **Redundancy:** an extra capacity or resources kept in reserve to be used in adversity to prevent failure or support the functions of failed components
- **Robustness:** to withstand stresses and demands from adversity without suffering any damage

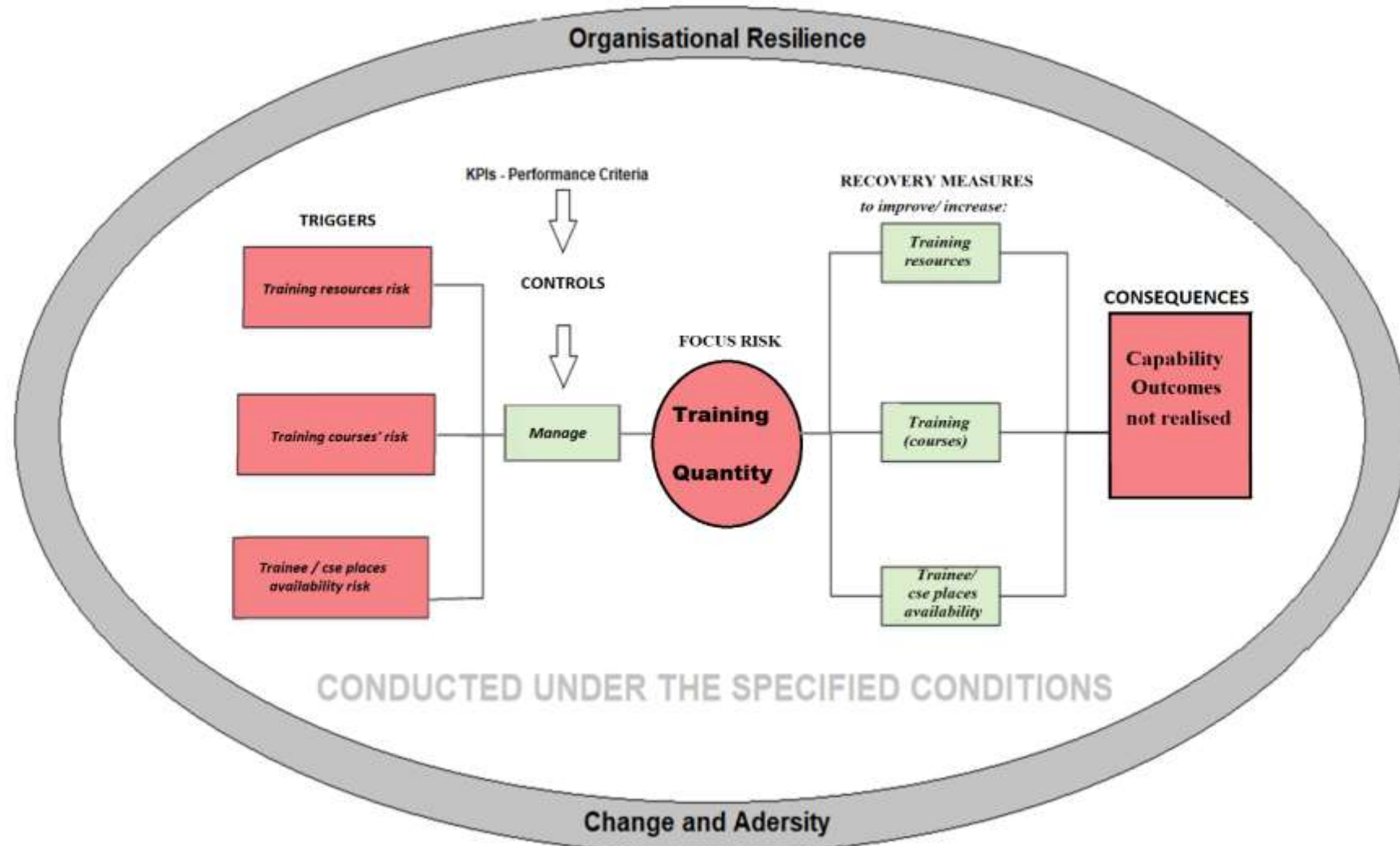
Working Definition of Organisational Resilience

Organisational resilience is a complex function of organisational adaptability, agility, efficiency, robustness, recovery & redundancy, and adaptive capacity that enables organisational ability (within organisational capacity) to sustain change and adversity and continue functioning and delivering its required outputs in uncertain and changing operational environments; which is performed by resilience mechanisms of avoidance, withstanding, recovery and evolution’.

Case Study's Context



Resilience and Organisational Performance Management (example)



Key Resilience Performance Management Challenge

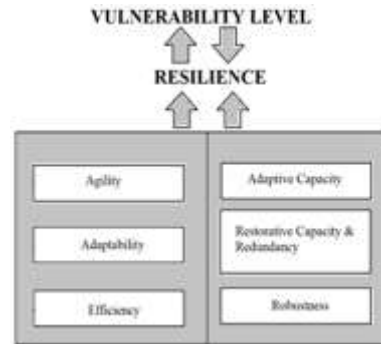
Resilience manifests as a response to adverse events or changes that are uncertain and only partially predictable.

Challenge: How to Measure **Resilience Potential** of a complex and continuously evolving organisation?

Dealing with Resilience Challenge

Hypothesis

Resilience Framework



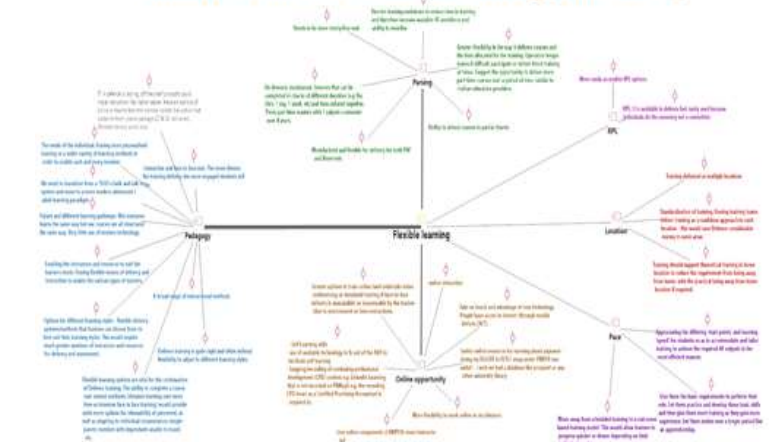
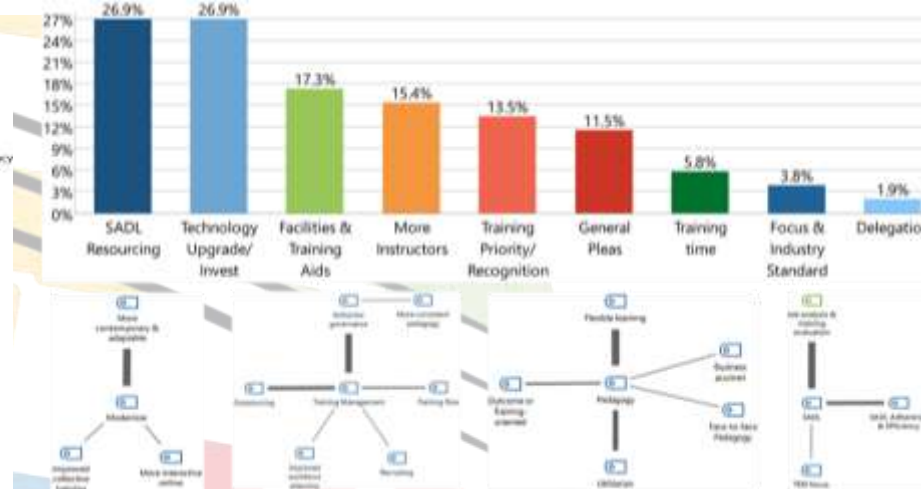
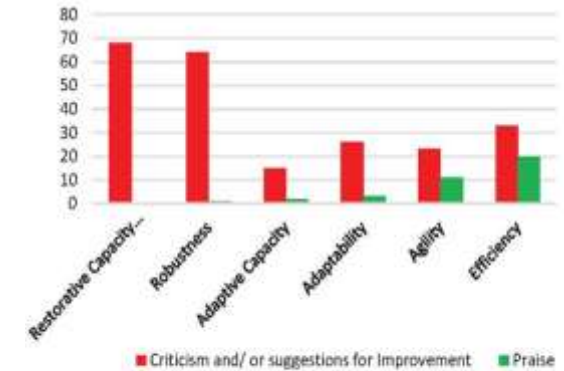
New Training System Resilience Hypothesis

Implementation: of the recommended TS design modifications

Road Map: from 'As Is' [Actual] to 'To Be' [Desired] resilience

Survey Instrument:

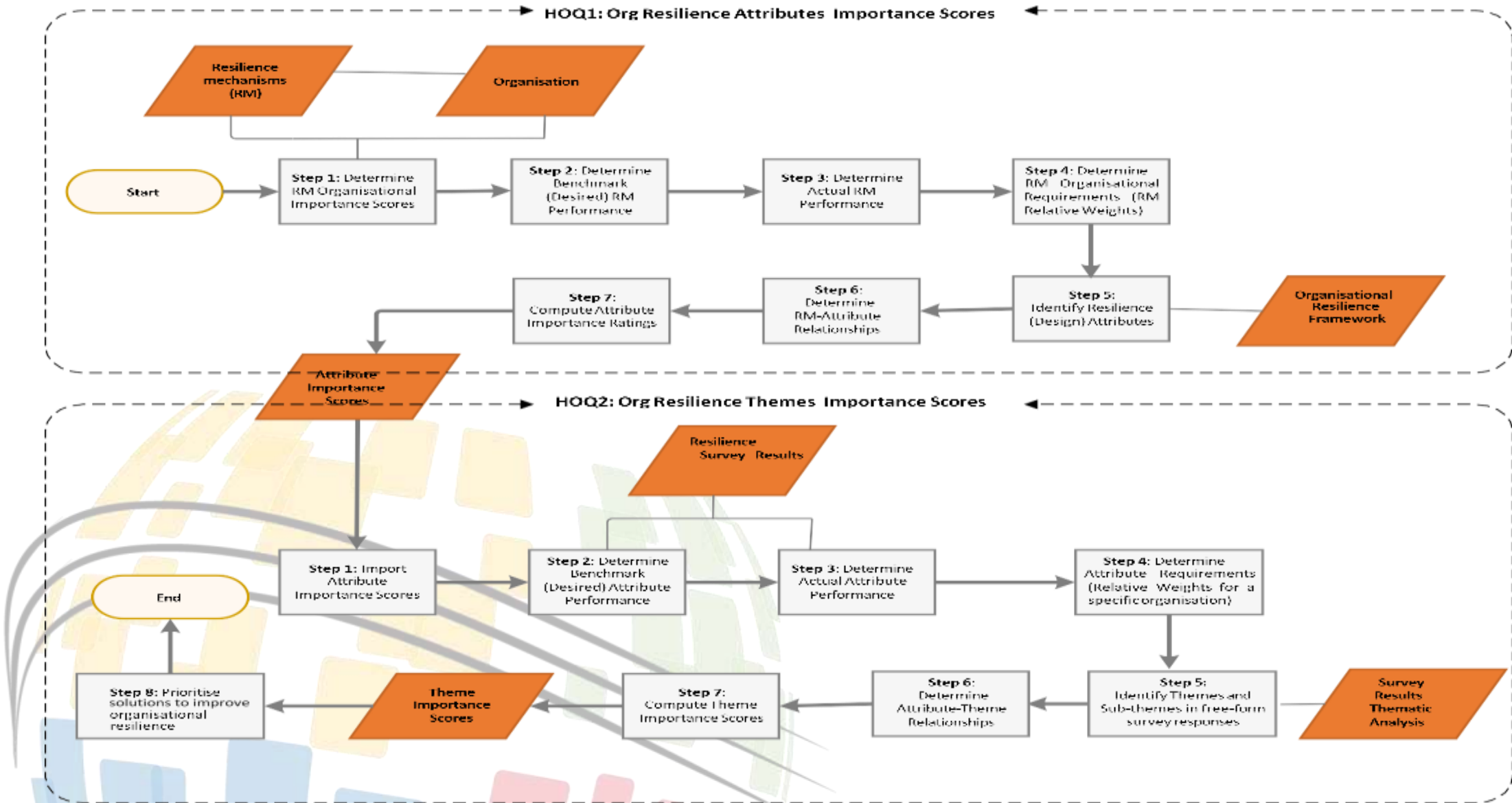
A simple line drawing of a person's arm and head. The arm is raised, holding a rectangular sign with the word "HELP" written on it in capital letters. The person's head is visible at the bottom right, looking upwards towards the sign.



HOQ Instrument

- the HOQ tool is adopted from the SE Course at the UniSA
- it automatically calculates importance scores of proposed solutions based on the strength of their relationships with the customer needs and their associated [known] importance scores represented on a scale from 1 to 5
- the relationship level assessment scales are as follows: (0) not related; (1) weak; (3) medium; (9) strong

Using HOQ to Prioritise Resilience Solutions



HOQ1: Resilience Mechanisms VS Attributes

Step 1 Resilience mechanisms

requirements & importance (1-5)

Step 2 Benchmark performance (1-5)

Step 3 Actual performance (1-5)

Step 4 Relative weight (computed)

Step 5 Resilience 'design' attributes

Step 6 Mechanism-Attribute Matrix
(0,1,3,9)

Step 7 Attribute relative importance
(computed)

Step 8 Not applicable

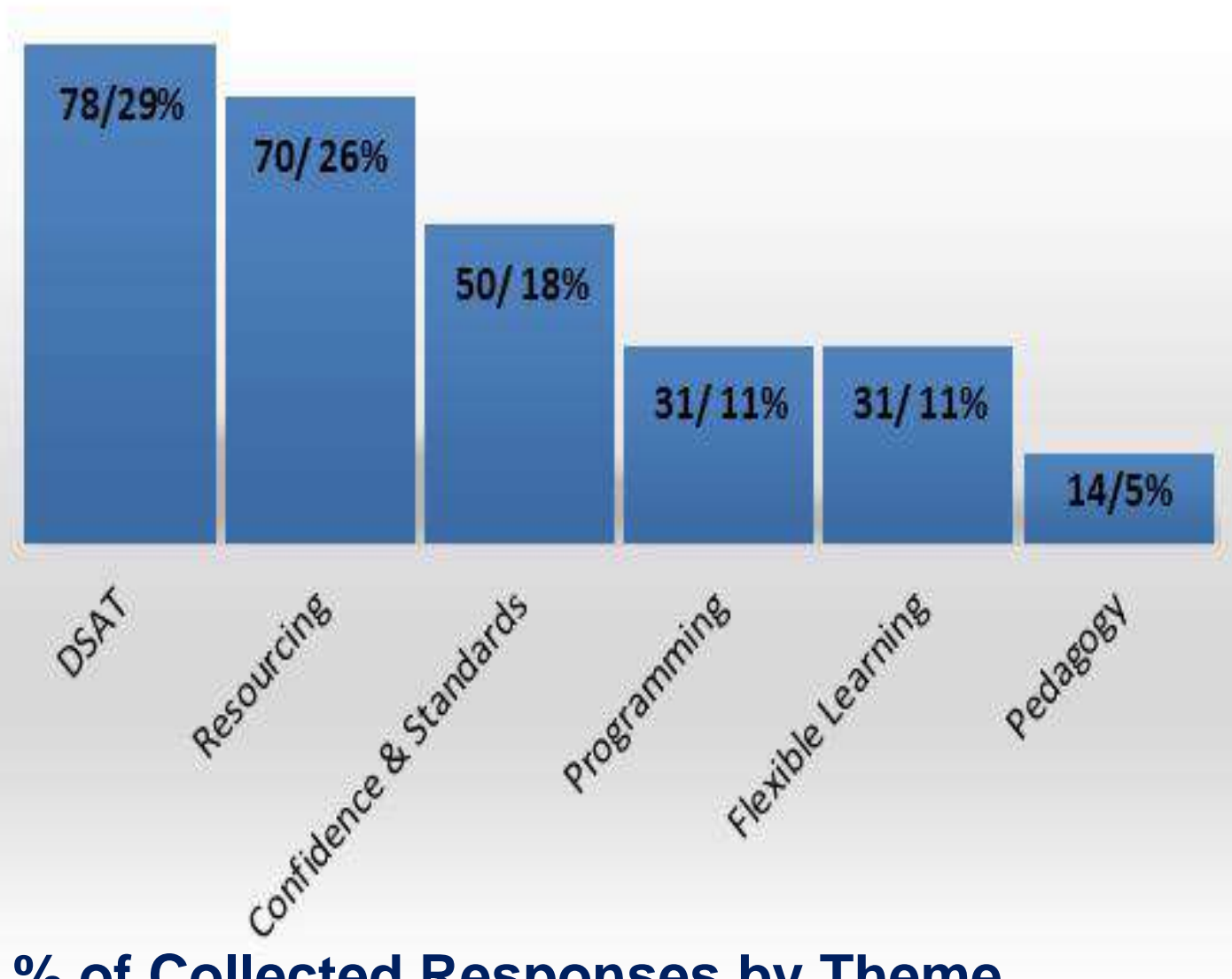
Step 1 Resilience mechanisms requirements & importance (1-5)			1	2	3	4	5	6						
Step 2 Benchmark performance (1-5)			Resilience attributes	Adaptability	Agility	Efficiency	Robustness	Recovery&Redundancy	Adaptive Capacity	Benchmark performance	Actual performance	Improvement ratio	Absolute weight	Relative weight
Step 3 Actual performance (1-5)														
Step 4 Relative weight (computed)														
Step 5 Resilience ‘design’ attributes														
Step 6 Mechanism-Attribute Matrix (0,1,3,9)														
Step 7 Attribute relative importance (computed)														
Step 8 Not applicable														
Customer Needs (Resilience Mechanisms)			Importance											
1	Avoidance	3	3	9	3			3	5	5	1.00	3.00	0.20	
2	Withstanding	3	1	1	3	9	9		5	5	1.00	3.00	0.20	
3	Recovery	4	9	3	3		9	3	5	5	1.00	4.00	0.27	
4	Evolution	5	3	3	3		3	9	5	5	1.00	5.00	0.33	
Technical Performance Measures														
Absolute importance			4.20	3.80	3.00	1.80	5.20	4.40	22.40					
Relative importance			0.19	0.17	0.13	0.08	0.23	0.20						

HOQ2: Resilience Attributes VS Solutions

Step 1 Customer needs & importance
Step 2 Benchmark performance (1-5)
Step 3 Actual performance (1-5)
Step 4 [column AO computed]
Step 5 Design attributes
Step 6 Matrix in the middle (1,3,9)
Step 7 HoQ done [read row 16]
Step 8 Concept Scoring Matrix

Step 1 Customer needs & importance Step 2 Benchmark performance (1-5) Step 3 Actual performance (1-5) Step 4 [column AO computed] Step 5 Design attributes Step 6 Matrix in the middle (1,3,9) Step 7 HoQ done [read row 16] Step 8 Concept Scoring Matrix	Themes	Confidence & Standards					Programming						Extant training policy						Resourcing				Flexible learning				Pedagogy														
	Sub-themes						Instructor management					Course delivery					Assessment					All resources									HR management										
	Sub-sub-themes	1	2	3	4	5																				6	7	8	9	10					11	12	13	14	15	16	17
	Understanding desired effect																																								
	Standard vs need																																								
	Standard assurance																																								
	Standard Implementation																																								
	Accreditation and BPL																																								
	Resolving instructor overloading & stress																																								
	Harnessing Competency																																								
Time to prepare																																									
Job Performance																																									
Supply vs demand																																									
Quality																																									
Conduct																																									
Prioritising workplace needs																																									
Overall Trg Policy Performance Assessment																																									
It is bureaucratic process																																									
IA Performance Assessment																																									
TDD Performance Assessment																																									
Ex'val & QC Performance Assessment																																									
Implementation																																									
Awareness																																									
Insufficient resources																																									
Resource prioritisation & fair distribution																																									
More trainers																																									
Expectations vs HR capacity																																									
Matching skills to roles																																									
Learner needs																																									
Training needs & solutions																																									
Accessible choices																																									
Delivery options																																									
Evolution [in change & adversity]																																									
Contemporising learners																																									
Contemporising training delivery																																									
Contemporising technology																																									
Benchmark performance																																									
Actual performance																									</																

Prioritised Solutions – Organisational Level



% of Collected Responses by Theme

Theme Priority Scores:

- Resourcing – 0.3
- Confidence and Standards – 0.2
- Training Policy – 0.2
- Programming – 0.1
- Flexible Learning – 0.1
- Pedagogy – 0.1

Prioritised Solutions –Theme Level

Pedagogy Sub-Themes Priorities:

- Evolution in change & adversity – 0.6
- Contemporising technology– 0.2
- Contemporising learners – 0.1
- Contemporising training delivery – 0.1

Prioritised Solutions –Sub-Theme Level

Instructor Management Sub-Sub-Themes Priorities:

- Job Performance– 0.4
- Harnessing Competency– 0.4
- Time to prepare– 0.18
- Instructor overloading & stress– 0.02

Conclusion

- based on reputable HOQ methodology
- HOQ use for resilience solution prioritisation is underpinned by our original resilience framework and a survey instrument
- replaces subjective 'frequency of appearance' priorities with 'objective 'HOQ1-2' methodology
- applied successfully in a large training establishment
- provides only indicative guidelines as its outcomes are influenced by a selected analysis methodology

Questions & Discussion



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