Dynamic Risk Assessment and Management

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Clarifying meaning and giving context
Dynamic Risk Assessment and Management

The continuous cognitive (mental) assessment of risk in a changing (dynamic) environment which aids decision making to provide an acceptable level of safety.

Ashbury and Jacobs (2014)
Real-time decisions, which rely upon the adaptation of predictive risk assessment outcomes. Workers are empowered.

Documented arrangements to meet moral and legal obligations – Operational assessments made within the constraints of the Strategic risk assessment. Line Managers are empowered.

Policy and strategy decisions – Highly informed, developed over time. Executive team
The 3-level risk model

- Dynamic Risk Assessment
- Predictive Risk Assessment
- Strategic Risk Assessment
Understanding the present state

STAGE 1
Understanding the present state

“If you can't explain it to a six year old, you don't understand it yourself.”

― Albert Einstein
Q. How risky is the task during normal operation?

A. It’s about a 6…look…
Understanding the present state

What is the hazard? What is a hazard?
What is the risk? What is a risk?
What are the controls? What are controls?
Understanding the present state

**Hazard** is the ‘thing’ that has the potential to cause harm

**Harm** is what safety is concerned with preventing: Stopping the ‘ouch’, the pain or the damage.

**Risk** is the effect of uncertainty on objectives (ISO 31000)

**Risk** is the numerical estimate of the probability or likelihood that a given hazard will occur (ISO 13043:2001)

**Risk** is the probability of loss or injury from a hazard (ISO22538-4:2007)

**Risk** is the probability of a specific undesired event occurring so that a hazard is realised (ISO/TR11610:2004)

**Risk** is the exposure to the chance of injury or loss as applies to safety (ISO/TR15916:2004)
Risk is factor, R, that reflects both likelihood, L, of the occurrence of a hazard in a particular situation and severity, S, of the consequences or extent of harm to the individual to be expected from the hazard \( R = L \times S \) (ISO/TR21808)

Risk is the effect of uncertainty (ISO 21101:2014)

Risk is the probability of a specific undesired event occurring so that the hazard is realised (ISO/TR 11610:2004)

Risk is the combination of the probability of an event and its consequences (ISO/IEC16085:2006)

Risk is the combination of the probability that a specified undesirable event will occur combined with the severity of the consequences of that event (ISO19906:2010)
Understanding the present state

Hazard

Risk
Understanding the present state: Hazard, Danger, Risk, Harm.
Understanding the present state

Risk Appetite

Risk

Hazard

Danger

Guard

SOP

Risk

Risk

Risk

Harm

Risk Appetite

Danger

Signage

PPE

Hazard

Risk

Risk

Risk

Harm

Coachio Group
Understanding the present state

Risk

Top Event

Risk Rating = Likelihood x Severity

Hazard

Danger

Wipers

Seatbelt

Harm
Understanding the present state
Good Risk Decisions

Understanding of the present state → Awareness of any new information → Processing the new information → Acting upon the new information

Explain:
Hazard
Harm
Risk
Risk Control
Risk Appetite

To a 6 year old.
Awareness of new information?

STAGE 2
Awareness of new information

Observant (experience/previous learning)

Available to receive new information (not in the tunnel)

Presented with information in an accessible manner (3/9/27)

Systems developed to get information to decision maker
Setting up communication systems
Worker’s responsibilities and tasks in organisational risk assessment and management

Supervisor’s role in organisational risk assessment and management

Manager’s role in organisational risk assessment and management

Due Diligence
Awareness of new information

Actively look for and communicate things that impact upon the Risk, Hazard or Risk Controls

Including:

People:

Equipment:

Environment:
Good Risk Decisions

1. Understanding of the present state
2. Awareness of any new information
3. Processing the new information
4. Acting upon the new information

Explain:
- Hazard
- Harm
- Risk
- Risk Control
- Risk Appetite

To a 6 year old.

Observe, open to receive clear information via known communication systems:
- The Hazard
- The Risk
- The effectiveness of Controls

Coachio Group
CREATING PRODUCTIVE WORKPLACES TOGETHER
The Monty Hall Problem

https://www.youtube.com/watch?v=mhlc7peGlGg
Processing new information

STAGE 3
I’ve got this new information what do I do with it?

System 1
Unconscious Emotion
Very Fast
Involuntary
Associative

System 2
Conscious Thinking
Slow
Controlled
Rule Following

Implicit Responses
Explicit Responses
Processing new information

Risk intelligence – RQ
Processing new information

The power of the team

The remote buddy

Predictive risk prompts (SLAM)

Technology (RADeMS)
Good Risk Decisions

Understanding of the present state

Awareness of any new information

Processing the new information

Acting upon the new information

Explain:
- Hazard
- Harm
- Risk
- Risk Control
- Risk Appetite

To a 6 year old.

Observe, open to receive clear information via known communication systems
- The Hazard
- The Risk
- The effectiveness of Controls

Opportunity to think slow:
- Buddy
- Group/team
- Technology

What is the impact on:
- The Hazard
- The Risk
- The effectiveness of Controls
Acting upon the new information?

STAGE 4
Good Risk Decisions

Understanding of the present state

Awareness of any new information

Processing the new information

Acting upon the new information

Explain:

- Hazard
- Harm
- Risk
- Risk Control
- Risk Appetite

To a 6 year old.

Observe, open to receive clear information via known communication systems

The Hazard
The Risk
The effectiveness of Controls

Opportunity to think slow:
- Buddy
- Group/team
- Technology

What is the impact on:
- The Hazard
- The Risk
- The effectiveness of Controls

STOP
KEEP GOING
MODIFY RISK THROUGH IMPLEMENTING ADDITIONAL CONTROLS
Worker's responsibilities and tasks in organisational risk assessment and management

Supervisor's role in organisational risk assessment and management

Manager's role in organisational risk assessment and management

Due Diligence

Dynamic Risk Assessment and Management
Predictive Risk Assessment and Management
Strategic Risk Assessment and Management
Thank you for your time

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