

## **Workplace Complacency: A Misdiagnosed Cause of Occupational Accidents and the Development of the Coutts Adaptive Safety Learning Model**

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### **Author's Reflective Introduction**

Workplace complacency has long been cited as a cause of accidents and incidents, yet my observations and experiences suggest that this “complacency” is rarely the root problem. Rather, it is a symptom of systemic shortcomings in workplace design, supervision, training, and continuous learning. Over three decades of working in occupational health, safety, and environmental management has exposed patterns that are consistent across industries, from mining to manufacturing to process plants.

These patterns point to a recurring theme: when employees are left to perform repetitive tasks without structured reinforcement or rotational exposure, risk perception diminishes, attention wanes, and latent hazards often manifest as incidents that are inaccurately blamed on individual complacency or poor safety behaviour.

Early in my career, I worked in a heavy industrial plant where employees were often trained intensively during onboarding, with rigorous technical instruction, mentoring, and certification programmes.

A new operator, enthusiastic and technically competent, was assigned to a supervisor I will call “Jack.” Jack’s approach to leadership emphasised control over collaboration. He instructed employees to follow his established routines rather than adhere strictly to formal procedures.

The new operator, eager to fit in and demonstrate competence, complied. Within three months, the operator experienced a minor incident, fortunately not life-threatening, but it required medical treatment beyond first aid. Post-incident analysis labelled the employee as “complacent” and “negligent,” while Jack’s influence, systemic procedural gaps, and insufficient on-the-job reinforcement were largely overlooked, in addition to deficiencies in machine guarding.

This scenario is far from unique. Across multiple sites, I observed that when employees are left to work independently after initial training, they tend to adopt shortcuts, fail to consistently apply safety procedures, or assume that existing knowledge is sufficient for all tasks. Complacency, in this sense, is a natural human response to repetition and perceived competence. The underlying cause, however, is organisational: a lack of ongoing supervision, continuous learning programmes, rotational exposure, and engagement from leadership.

The consequences of this misdiagnosis are profound. Employees are blamed for incidents, while organisational systems remain unchanged, perpetuating unsafe conditions. Individuals internalise the blame, which can erode trust in leadership and decrease engagement in safety programmes. I have seen capable employees exit organisations out of frustration, leaving behind systemic weaknesses unaddressed. This cycle reinforces a culture where “complacency” is treated as a human failing rather than a symptom of organisational gaps.

It became evident to me that preventing complacency requires more than behavioural training; it demands systemic intervention. This insight led to the conceptualisation of the Coutts Adaptive Safety Learning Model (CASLM), a framework designed to identify the organisational conditions that allow complacency to emerge and to provide actionable measures to maintain attention, engagement, and hazard awareness. CASLM integrates leadership visibility, system integrity, continuous learning, operational adaptation, and competence mobility to create a dynamic and resilient safety environment.

Through reflective analysis, I recognised that complacency often manifests within weeks of starting a role, not after years of experience as commonly believed. When employees are left unsupervised or when routines are rigid and unvaried, perceived competence rises quickly, attention diminishes, and incidents occur not due to negligence but due to the absence of structured reinforcement and engagement. CASLM is designed to systematically address these gaps, ensuring that employees remain engaged, competent, and aware, while the organisation maintains a proactive approach to managing latent risks.

## Abstract

This paper examines workplace complacency as a systemic issue rather than a simple human behavioural flaw. Traditional accident models, including Heinrich's accident triangle (1931), Bird's expanded ratios (1969), ConocoPhillips' safety pyramid (2003), and Zimmerman & Bauer's modern adaptations (2006), have focused heavily on unsafe acts and human error, often underestimating organisational accountability.

Through critical review of these models and integration of modern safety science, including Safety-I/Safety-II frameworks (Hollnagel, 2014) and Resilience Engineering principles (Hollnagel, Woods & Leveson, 2006), this paper proposes the **Coutts Adaptive Safety Learning Model (CASLM)**.

CASLM identifies organisational and systemic factors that contribute to the emergence of complacency and provides practical interventions, including leadership engagement, system integrity audits, continuous learning architecture, operational adaptation, and competence mobility.

The model is operationalised through a diagnostic matrix and aligned with ISO 45001, enabling safety professionals to proactively identify hazards, prevent complacency-driven incidents, and enhance organisational resilience.

Case narratives, practical applications, and implementation guidance are included to ensure the model is actionable and adaptable across industries.

## 1. Introduction

In many workplaces, incidents are explained through a simple narrative: the worker became complacent. When accidents occur, investigation findings frequently cite phrases such as "failure to follow procedure," "loss of situational awareness," or "worker complacency." While these explanations appear logical, they may oversimplify the underlying causes of workplace accidents.

Human factors research suggests that complacency is often the result of psychological adaptation to routine rather than deliberate negligence (Reason, 1997). At the same time, organisational safety research indicates that many unsafe behaviours arise from cultural and managerial influences rather than individual choice (Dekker, 2014).

This raises an important question for occupational health and safety professionals: **is workplace complacency truly an individual behavioural failure, or does it emerge from systemic weaknesses in organisational safety management?**

Humans are naturally inclined toward routine. Repetitive behaviours conserve cognitive resources and allow focus on complex or novel tasks. However, this adaptive mechanism introduces vulnerabilities in workplaces, particularly in industrial and process-intensive environments. Routine tasks can create the perception of mastery, reducing active hazard awareness and leading to incidents that are often misattributed to “complacency.”

Traditional perspectives on workplace accidents have emphasised human behaviour. Supervisors and managers frequently attribute incidents to individual negligence, often overlooking systemic weaknesses in organisational design, training, supervision, and hazard control. This misattribution is not merely academic; it has real-world consequences for safety culture, employee morale, and operational resilience.

In my professional experience, new employees often start roles with enthusiasm, structured training, and mentorship. Within days or weeks, however, they are frequently left to perform independently, with little reinforcement or rotation in duties. Perceived competence develops rapidly, and attention to evolving hazards diminishes. This is precisely when the conditions for complacency emerge, not as a character flaw, but as a natural cognitive response to inadequate organisational systems.

Accident models such as Heinrich’s triangle (1931) and Bird’s ratios (1969) historically emphasised unsafe acts as the primary cause of accidents. While these models are foundational, they neglect systemic factors, leadership influence, and continuous learning. Similarly, ConocoPhillips’ safety pyramid (2003) and Zimmerman & Bauer (2006) refined ratio calculations but still largely focused on behaviour rather than organisational design.

Modern safety science, including Safety-I/Safety-II and Resilience Engineering, has shifted focus toward systemic resilience, highlighting that incidents occur when organisational conditions align to allow errors to propagate.

This paper argues that complacency should be understood as a systemic symptom. By integrating critical reflections, historical model critiques, and modern safety science, it introduces the **Coutts Adaptive Safety Learning Model (CASLM)** as a proactive, operational framework designed to maintain attention, encourage continuous learning, and prevent complacency-driven incidents. CASLM focuses on organisational responsibility, structured learning, rotational exposure, and dynamic hazard control, shifting the narrative from blaming individuals to addressing systemic deficiencies.

## 2. Human Behaviour, Habit Formation, and Complacency

Workplace complacency cannot be fully understood without examining human behaviour, cognitive psychology, and habit formation. Humans rely on **cognitive shortcuts** to manage routine tasks efficiently. Kahneman (2011) describes two modes of thought: System 1, which is fast, automatic, and often subconscious, and System 2, which is slow, deliberate, and analytical. In industrial environments, routine tasks are processed primarily through System 1. While this efficiency allows employees to handle repetitive work without mental overload, it reduces active hazard recognition. Over time, an employee may operate a machine or follow a procedure without consciously evaluating risk at every step. Therefore, within occupational environments, repeated exposure to the same task without incident can lead to risk desensitization, where individuals begin to perceive hazards as less dangerous over time. This psychological adaptation can reduce vigilance and increase the likelihood of procedural shortcuts.

Habit formation theory (Lally et al., 2010) shows that repeated behaviours become automatic through neural adaptation. In workplaces where tasks are performed repeatedly, employees may develop habits that bypass formal safety steps, not out of negligence but due to the cognitive efficiency of automaticity. For instance, a worker might skip a lockout procedure when operating familiar machinery, believing that risk is low, even though system conditions or environmental factors may have changed.

Complacency emerges particularly when organisations fail to reinforce learning. Training programmes often focus on initial onboarding, technical competence, and certification. Yet after the first weeks or months, employees may receive little additional guidance, mentorship, or rotational exposure. This is precisely when perceived mastery leads to diminished vigilance. The worker believes they have achieved full competence, but in reality, learning is never complete; each new situation or system change represents a new hazard.

Several studies highlight the link between routine, perceived competence, and unsafe behaviour. Hofmann and Stetzer (1996) found that workers performing repetitive tasks were more likely to deviate from safety procedures over time, especially in environments lacking active supervision. Choudhry, Fang, and Mohamed (2007) emphasised that safety culture and organisational engagement strongly influence attention, risk perception, and compliance. These findings reinforce the argument that complacency is not an innate human flaw but a systemic issue influenced by organisational design and culture.

Rotational exposure and continuous learning are critical mitigators. By rotating employees across roles, introducing scenario-based training, and promoting cross-functional knowledge, organisations can prevent tasks from becoming so routine that attention lapses. Rotational assignments not only maintain engagement but also allow employees to identify risks across systems, promoting resilience and reducing the likelihood of incidents attributed to complacency.

### **3. Historical Accident Models and Critique**

#### **3.1 Heinrich (1931)**

Heinrich's seminal work, *Industrial Accident Prevention: A Scientific Approach*, introduced the "accident triangle," asserting that 88% of incidents are caused by unsafe acts, 10% by unsafe conditions, and 2% by major accidents. While groundbreaking, Heinrich's model places undue emphasis on individual behaviour. It assumes that unsafe acts are the primary drivers of accidents, thereby minimising organisational responsibility. This approach reinforced a culture where employees were blamed for incidents, while latent system failures remained unaddressed.

#### **3.2 Bird (1969)**

Bird extended Heinrich's model by including property damage and refining ratios, providing a more nuanced understanding of incident causation. However, Bird maintained a behavioural emphasis, again underestimating the role of organisational design, leadership, and systemic latent failures in accident causation.

#### **3.3 ConocoPhillips (2003)**

The ConocoPhillips safety pyramid conceptualised minor incidents as precursors to major accidents, emphasising the importance of controlling low-severity events. While practical, the pyramid still assumes a linear relationship between minor and major incidents and often ignores the latent organisational causes that allow errors to propagate.

### **3.4 Zimmerman & Bauer (2006)**

Zimmerman and Bauer highlighted the importance of organisational culture, leadership, and system design in accident prevention. Their work shifted attention toward systemic accountability but has not been universally adopted in industry. Their critique underlines a crucial point: behaviour-focused models fail to address why systemic conditions allow complacency to emerge, leading to incidents that are misattributed to human error alone.

### **3.5 Critical Synthesis**

Historical accident models provided foundational insight into human error and incident ratios, but they are increasingly insufficient for contemporary safety management. They lack integration of organisational, cognitive, and cultural factors. CASLM addresses these shortcomings by framing complacency as an outcome of system and process failures, not an isolated human deficiency.

## **4. Modern Safety Science Perspectives**

### **4.1 Swiss Cheese Model**

Reason's Swiss Cheese Model (1997) conceptualises accidents as the alignment of latent system failures and active errors. Layers of protection, procedures, training, supervision, and physical safeguards represent slices of Swiss cheese. Holes in these layers can align to allow an incident to occur. CASLM builds on this concept by explicitly targeting latent system weaknesses that create conditions for complacency.

### **4.2 Safety-I vs Safety-II**

Hollnagel (2014) distinguishes between Safety-I (reactive, error-focused) and Safety-II (proactive, success-focused). Safety-II emphasises understanding why operations succeed, not merely why they fail. CASLM operationalises Safety-II principles by maintaining engagement, learning, and adaptation, preventing the emergence of complacency before incidents occur.

### **4.3 Resilience Engineering**

Resilience Engineering (Hollnagel, Woods & Leveson, 2006) focuses on an organisation's ability to anticipate, adapt, and recover from deviations. CASLM incorporates resilience by promoting rotational exposure, continuous learning, and cross-functional hazard awareness, ensuring employees remain alert and adaptable.

### **4.4 Integration into CASLM**

By synthesising cognitive psychology, Safety-II principles, and resilience engineering, CASLM reframes complacency as a systemic signal rather than an individual flaw. Employees are active participants in a learning ecosystem, with organisational systems designed to prevent lapses in attention or engagement.

## **5. Development of the Coutts Adaptive Safety Learning Model (CASLM)**

CASLM comprises five integrated domains:

1. **Leadership Orientation** – Leaders actively engage with employees, demonstrating visible commitment to safety, mentoring, and scenario-based learning.

2. **System Integrity** – Ensures equipment, procedures, and hazard controls are maintained proactively, preventing latent failures and thereby mitigating the introduction of risks within a set operational system.
3. **Continuous Learning Architecture** – Structured, ongoing training, knowledge sharing, and scenario simulations maintain engagement and hazard awareness.
4. **Operational Adaptation** – Processes are continuously monitored, adjusted, and improved to address dynamic workplace hazards.
5. **Competence Mobility** – Rotational exposure across tasks and roles prevents stagnation and mitigates routine-induced complacency.

Each domain includes operational indicators, interventions, and metrics. CASLM provides a structured, actionable approach, transforming abstract safety principles into measurable organisational practices.



## 6. CASLM Operationalisation and Diagnostic Matrix

CASLM Domain	Diagnostic Focus	Key Questions	Leading Indicators	Lagging Indicators	Complacency Risk if Weak	Recommended Interventions	Key KPI's
<b>Leadership Orientation</b>	Leadership visibility, behavioural reinforcement, and accountability for safety	Are leaders present in the field? Do they reinforce safe practices or override them? Is safety prioritised over production?	Visible Felt Leadership (VFL); Toolbox talk quality; Supervisor engagement frequency	Incidents linked to poor supervision; Low reporting culture; Blame-focused investigations	Employees disengage and adopt shortcuts when leadership is absent or inconsistent	Leadership coaching; Mandatory safety walkabouts; Accountability frameworks	% leadership engagements; Safety climate scores
<b>System Integrity</b>	Equipment condition, hazard controls, and system reliability	Are systems proactively maintained? Are hazards engineered out?	Preventive maintenance compliance; Audit scores; Inspection frequency	Equipment failures; Repeat incidents; Audit non-conformances	Workers compensate for failing systems, increasing exposure to risk	Preventive maintenance; Engineering controls; System audits	Maintenance compliance %; Audit closure rates
<b>Continuous Learning Architecture</b>	Ongoing training, learning systems, and knowledge reinforcement	Is training continuous or once-off? Are lessons learned shared? Are workers challenged beyond routine tasks?	Training frequency; Scenario-based learning; Mentorship participation	Repeated incidents; Skill degradation; Post-incident knowledge gaps	False confidence develops quickly after initial training, leading to early complacency	Continuous training programmes; Simulation exercises; Peer learning systems	Training hours per employee; Competency assessment scores
<b>Operational Adaptation</b>	Process flexibility, deviation management, and informal practices	Are procedures followed or adapted informally? Are deviations tracked and corrected?	Reported deviations; Worker feedback; Improvement initiatives	Incidents caused by workarounds; Process drift; Uncontrolled variation	Informal practices become normalised and override safe systems	Deviation reporting systems; Continuous improvement loops; Procedure reviews	% deviations corrected; Process compliance rates
<b>Competence Mobility</b>	Job rotation, multi-skilling, and exposure to varied tasks	Are employees rotated across roles? Or fixed in repetitive tasks?	Job rotation frequency; Cross-training participation; multi-skilling rates	Incidents in repetitive roles; Reduced hazard awareness; Skill stagnation	High — repetition leads to automatic behaviour and reduced vigilance	Job rotation programmes; Skills diversification; Cross-functional exposure	% multi-skilled workforce; Rotation cycle completion

Table 1: CASLM Diagnostic Matrix (Coutts, 2026)

The CASLM Diagnostic Matrix translates the conceptual model into a practical assessment tool, enabling organisations to systematically identify, measure, and mitigate the systemic drivers of workplace complacency

## 7. CASLM in Practice and ISO 45001 Integration

CASLM aligns with ISO 45001 clauses, including leadership commitment, operational planning, competence management, and continuous improvement. Practical application includes:

- Structured rotational assignments
- Scenario-based learning modules
- Leadership engagement in daily operations
- Cross-functional hazard awareness programmes
- Metrics tracking through dashboards

By operationalising CASLM, organisations ensure employees remain engaged, alert, and capable, and latent hazards are identified before incidents occur.

## 8. Discussion and Integration

CASLM reframes complacency as a systemic phenomenon. Historical models focused on human behaviour, whereas CASLM integrates leadership, system integrity, learning, and operational adaptation to create resilient safety cultures. Evidence from cognitive psychology, modern safety science, and organisational learning supports CASLM as a practical, implementable framework that can enhance safety outcomes, prevent complacency-driven incidents, and increase organisational resilience.

## 9. Conclusion

Complacency is misdiagnosed when labelled solely as a human behavioural flaw. CASLM provides a comprehensive framework that addresses organisational systems, continuous learning, rotational exposure, and operational adaptation. By integrating CASLM into safety management systems, organisations can proactively prevent incidents, improve hazard awareness, and enhance overall safety culture. CASLM operationalises Safety-II principles and resilience engineering concepts, bridging the gap between academic theory and practical implementation.

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