

68TH AMEU CONVENTION 2022

Durban International Convention Centre

2 – 5 October 2022

A JUST ENERGY TRANSITION (“JET”) FOR SOUTH AFRICA

**Framework in creating a positive safety culture with the introduction of
life saving rules in a municipal electricity utility**

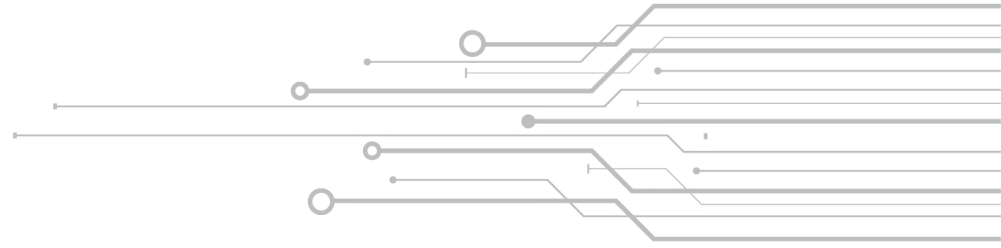
Presented by Orren Groenewaldt Pr Eng
City Electrical Engineer
Sol Plaatje Municipality

Hosted by



Presentation Outline

- Introduction
- Some Theory
- Why are we doing this
- Methodology
- Assessment
- Results + Analysis
- Recommendations

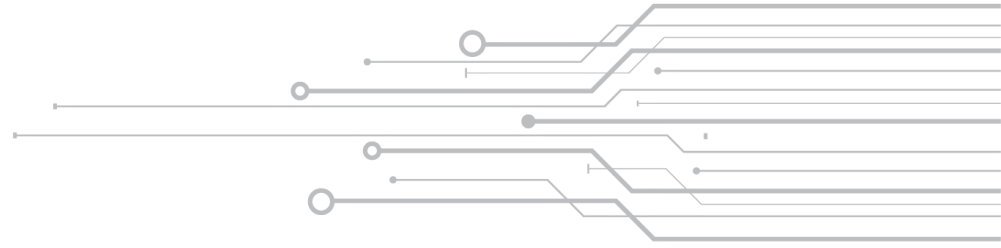


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Introduction



Themes

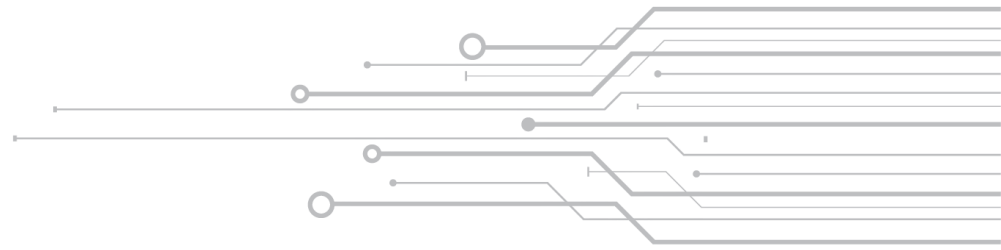
- Culture
- Safety Culture
- Safety Rules Management
- Life Saving Rules

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Introduction



The municipality should continuously improve safety within the workplace, hence we need to ensure that our safety management systems are adequate

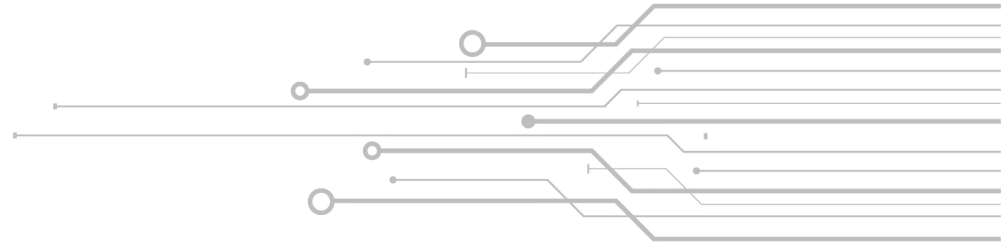
Safety Management System	
COMPONENTS	ELEMENTS
1 Safety Policy and Objectives	1.1) Management Commitment 1.2) Safety Accountability and Responsibilities 1.3) Appointment of Key Safety Personnel 1.4) Coordination of Emergency Response Planning 1.5) Safety Management System Documentation
2 Safety Risk Management	2.1) Hazard Identification 2.2) Safety Risk Assessment and Mitigation
3 Safety Assurance	3.1) Safety Performance Monitoring and Measurement 3.2) The Management of Change 3.3) Continuous Improvement of the SMS
4 Safety Promotion	4.1) Training and Education 4.2) Safety Communication

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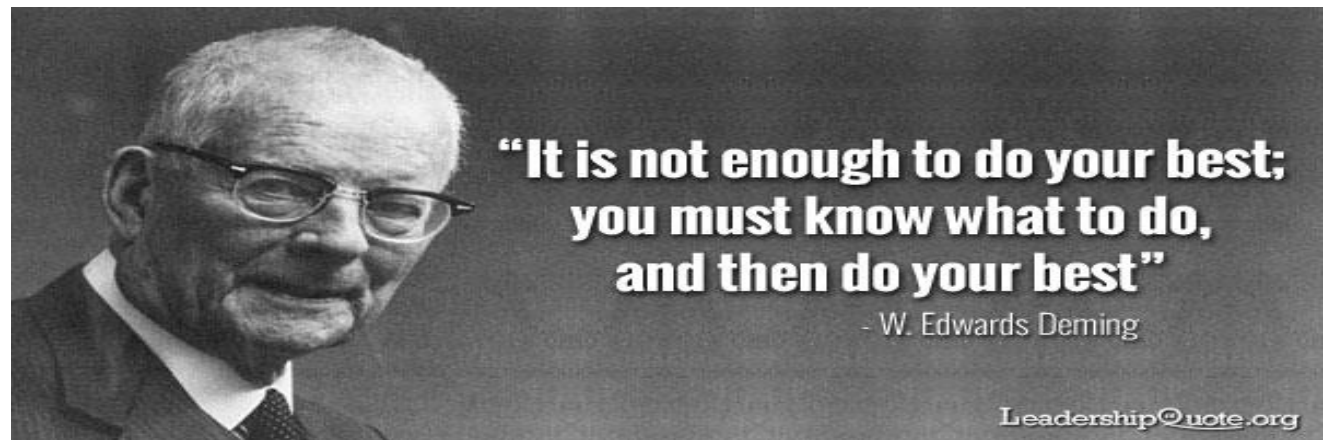
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Introduction



We require Interventions that matters and that makes a difference

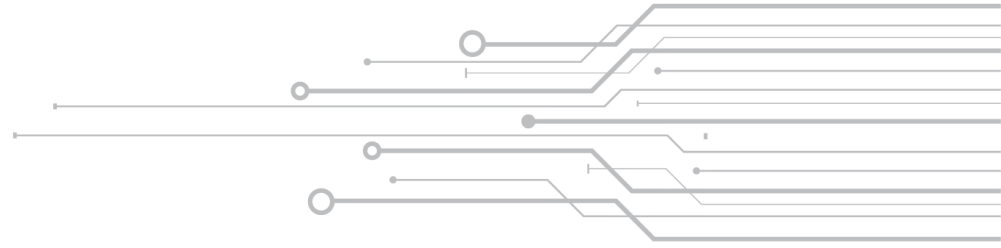


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Some Theory



Culture

‘The way we do things around here’

Bower, 1966

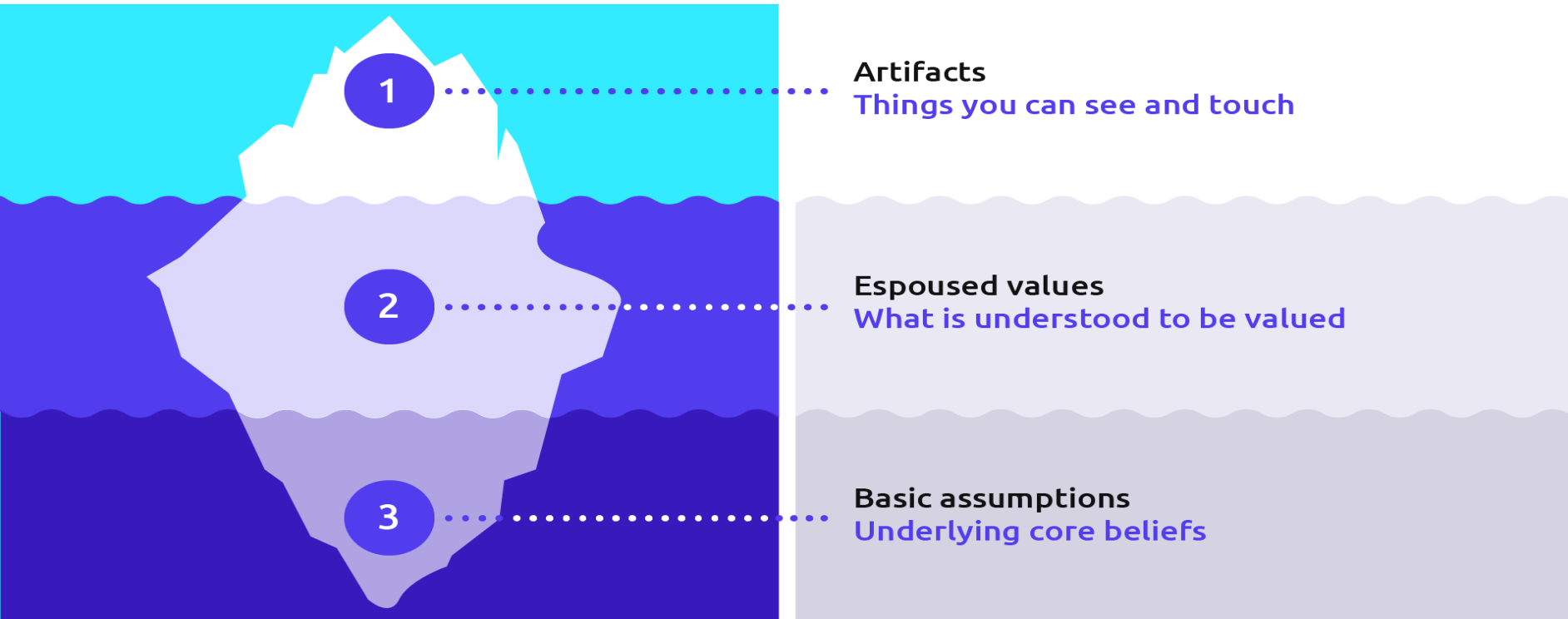
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Some Theory

Culture according to Schein



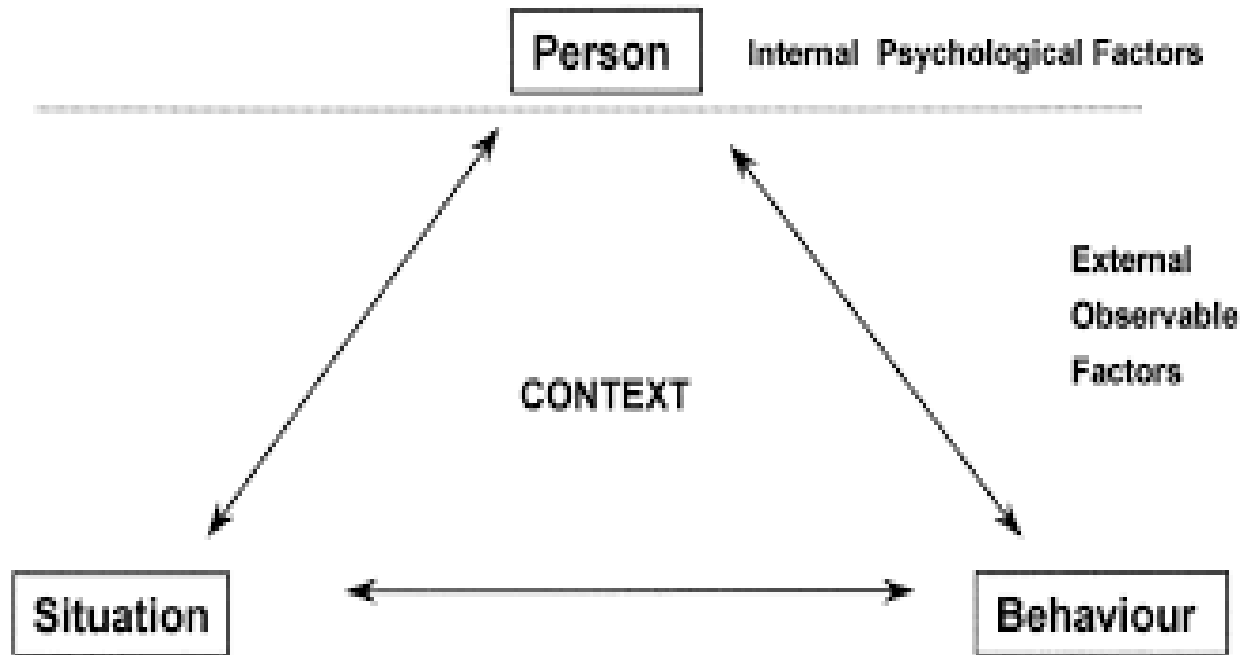
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Some Theory

Safety Culture – Reciprocal Determinism



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Some Theory

Safety Culture – Reciprocal Determinism



Hearts and Minds

Person

Internal Psychological Factors

External
Observable
Factors

CONTEXT

Safety Management Systems

Situation

Daily Actions

Behaviour

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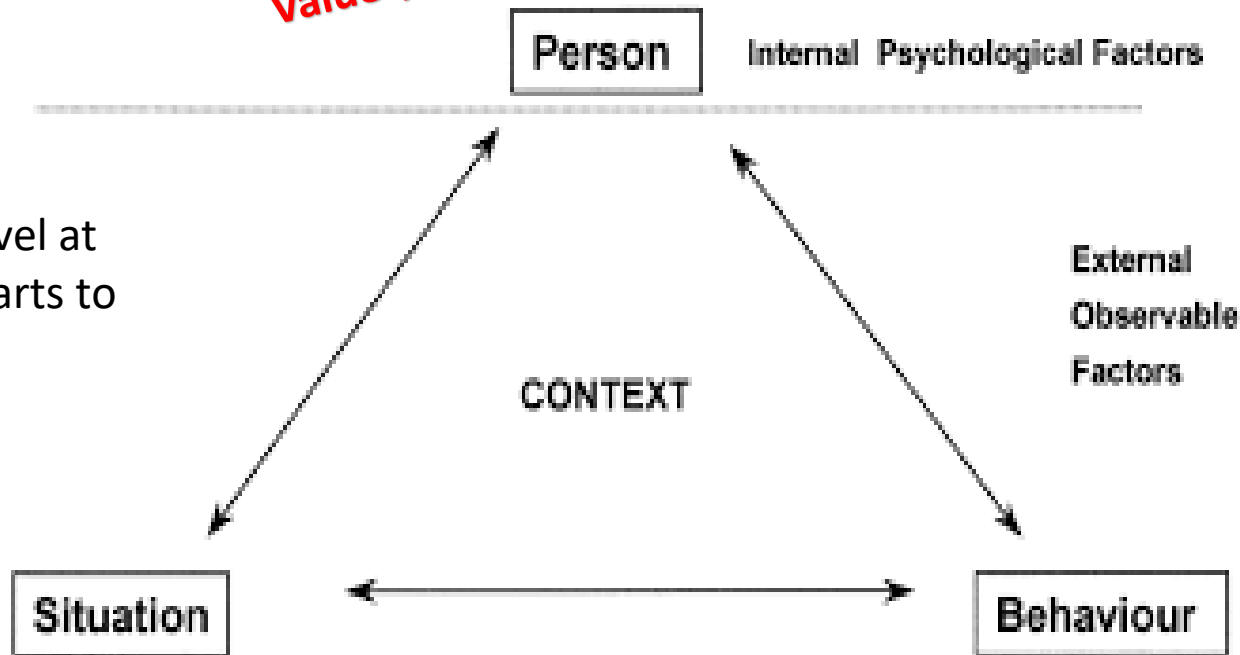


Some Theory

Safety Culture – Reciprocal Determinism

Values, Attitudes and Beliefs

Example: Travel at 120km/hr, starts to rain.....

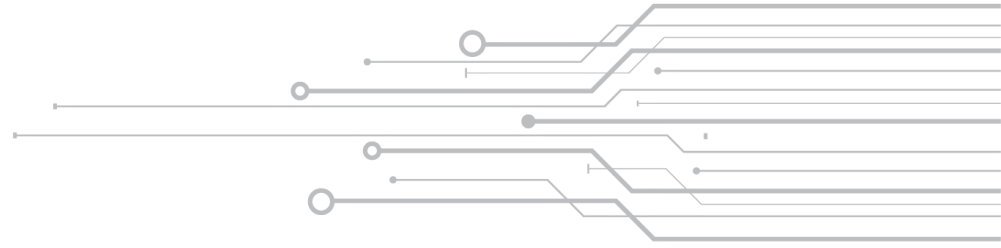


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Some Theory



Safety Rule Management Theory

- Need to establish a safe zone of operation
- Forms the objective of safety rules

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Some Theory



Safety Rule Management Theory

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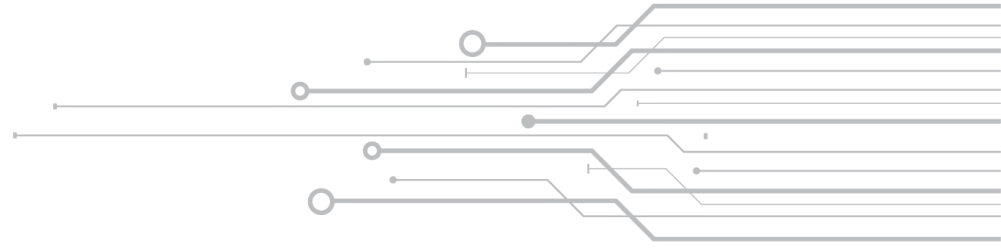


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Why are we doing this?



The assessment of an industry's perceived safety culture is a crucial step toward identifying opportunities for safety performance and ensures that the correct intervention is identified.

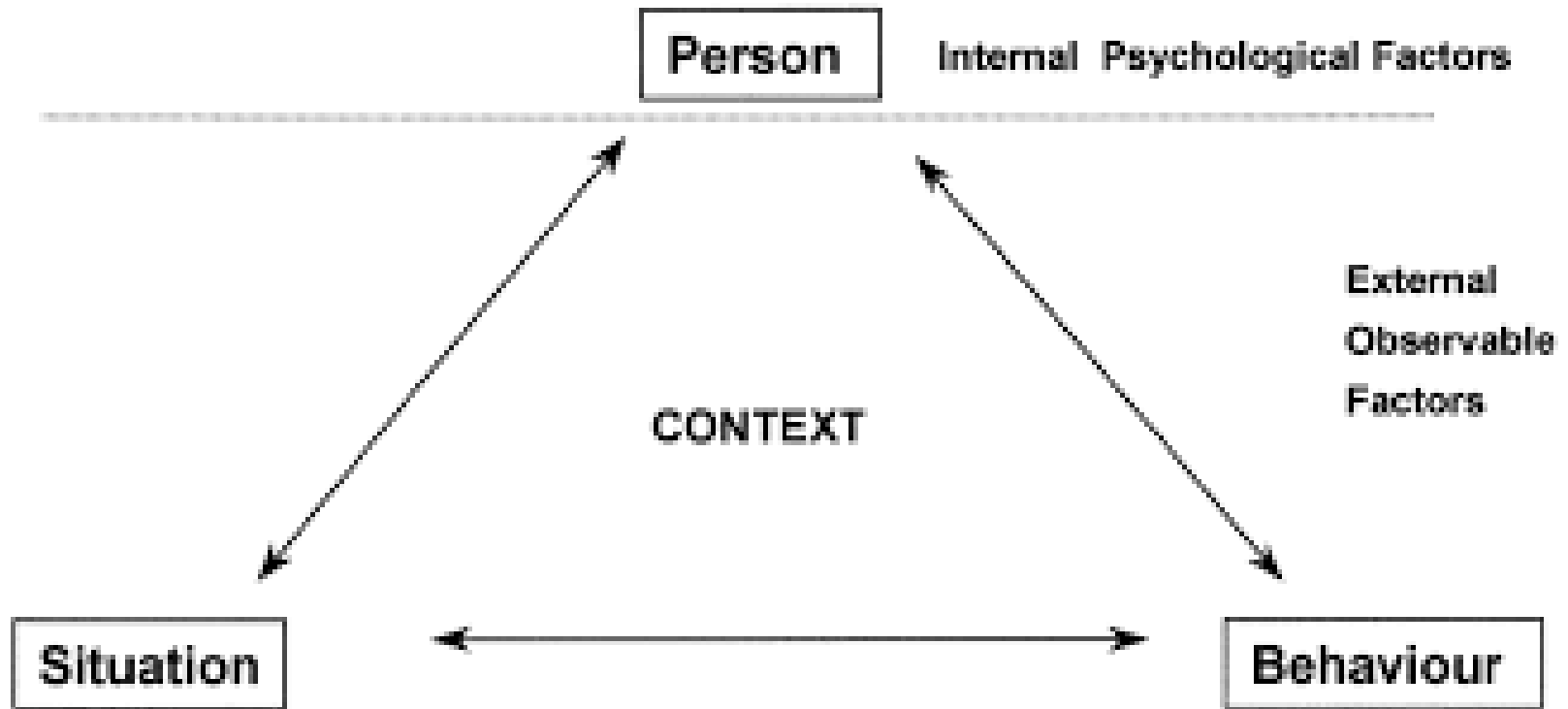
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Why are we doing this?

ID the right Intervention

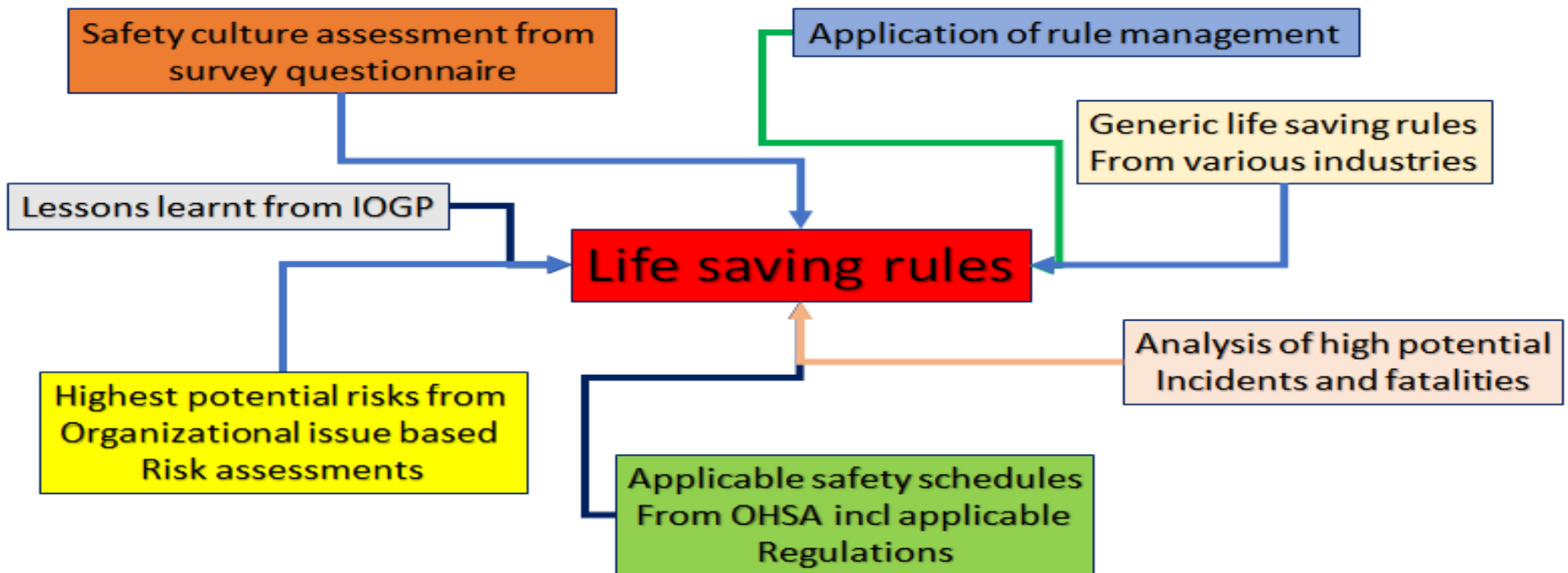
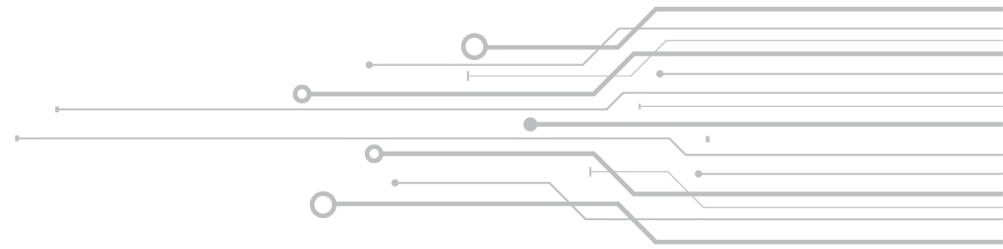


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Methodology



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Assessment of Safety Culture

Purpose	# Question
Screening questions	5
Management commitment	6
Employees personnel attitude	6
Workplace pressure	7
Safety Management system	9
Violation behaviour	4
Personnel safety motivation	4
Personnel error behaviour	4
High Risk Activity	1
Total questions	46

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Assessment of Safety Culture cont

Management Commitment	Mean	Std. Deviation	N
Management provides efficient safety training for workers	2,78	1,482	171
If I report a mistake to my supervisor, management supports me	2,58	1,401	171
Management encourages workers to report every safety incident to a supervisor	2,14	1,452	171
Management strongly supports safety for workers	2,60	1,528	171
Management puts safety first even if it causes a delay in work	2,87	1,555	171
My supervisor values my opinion for improving safety	2,44	1,464	171

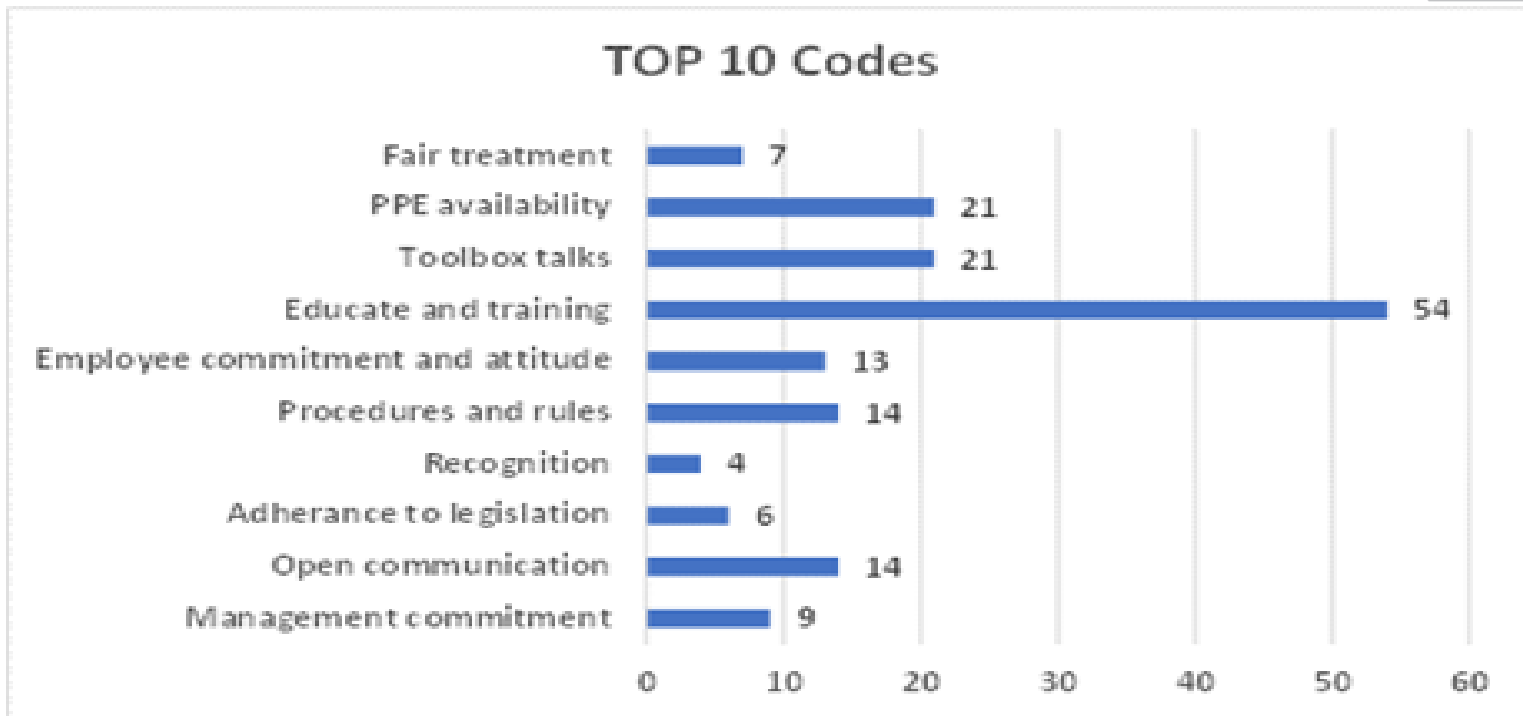
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Assessment of Safety Culture

cont



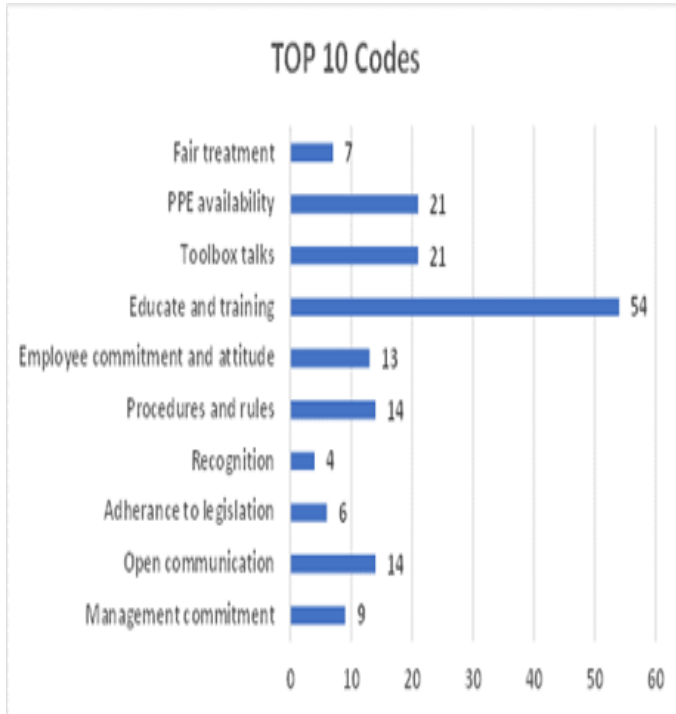
How can our organization create a positive safety culture among all employees?

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Assessment of Safety Culture cont



- **Training of employees on safety**
- **PPE availability**
- **Toolbox talks (meetings)**

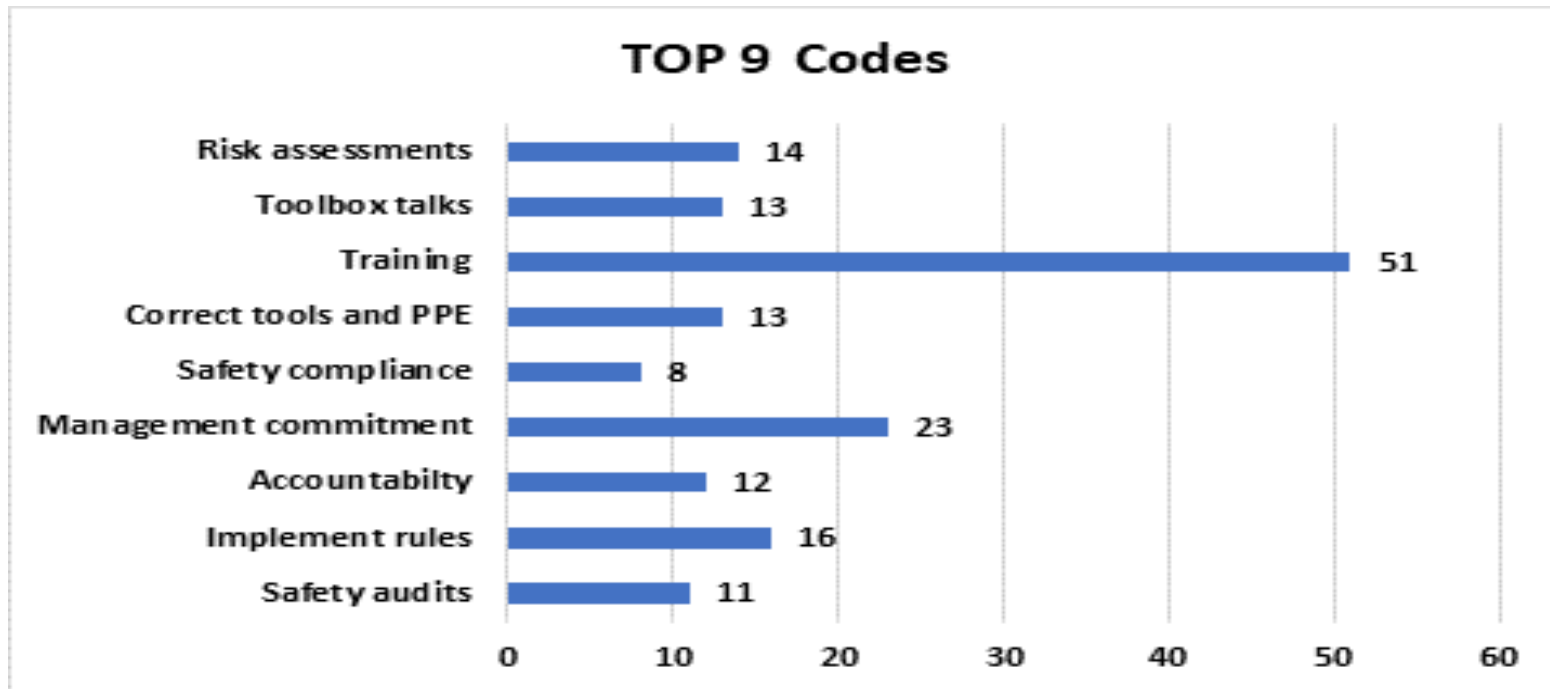
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Assessment of Safety Culture cont



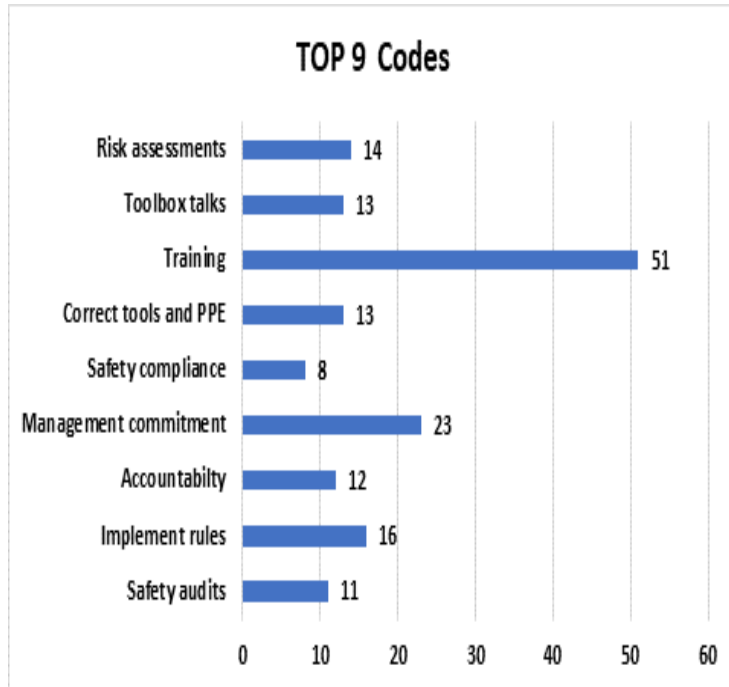
How can we ensure safety compliance within our organization?

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Assessment of Safety Culture cont



- **Training of employees on safety**
- **Management commitment**
- **Implementation of rules**

How can we ensure safety compliance within our organization?

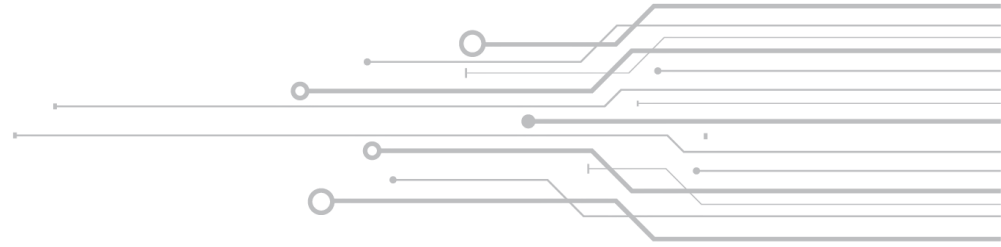
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Other Inputs

- Risk Assessments
- OHSA including Regulations
- Incident Analysis
- Lessons from IOGP
- Generic Life Saving Rules

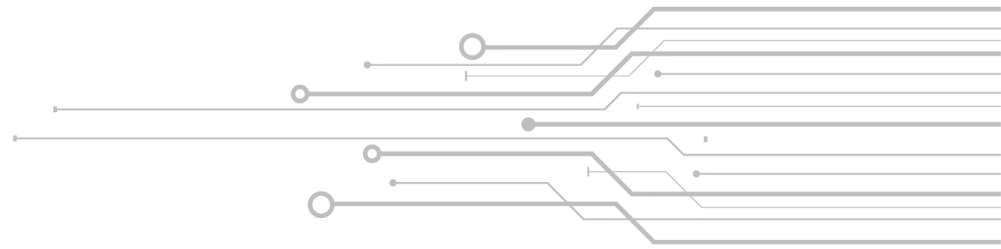


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Other Inputs



Risk Assessments (Top 10 risks identified)

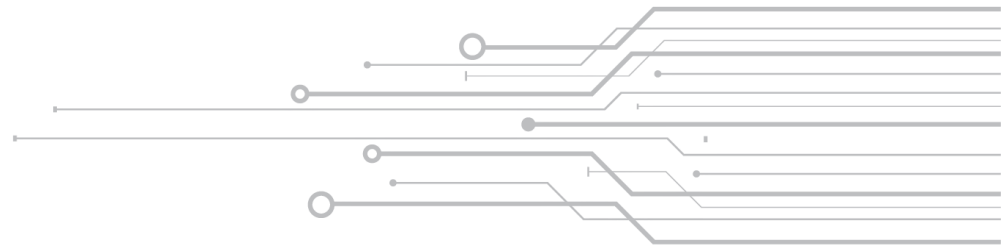
- ❖ Electrical switching and isolation
- ❖ Working at heights
- ❖ Working in confined spaces
- ❖ Chlorine gas handling
- ❖ Work being performed within deep excavations
- ❖ Moving machinery accidents
- ❖ Lifting operations
- ❖ Unauthorised persons operating machinery
- ❖ Machine guarding
- ❖ Intoxication at work

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Other Inputs



Lessons from IOGP

The IOGP (2018) greatly trimmed its life saving rules based on the following approach:

- Matching or similar rules were incorporated into one. Example handling of chemical substances and inhalation of gaseous fumes was combined into one rule
- Company specific rules such as intoxication is omitted. Intoxication, drugs and even fitness for duty is stipulated within various Safety Acts including Regulations

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Other Inputs

Incident Analysis

Vehicle Safety Working at Heights Electrical Lockout

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Other Inputs

Generic Life Saving Rules

OGP Life-Saving Rules



Life Saving Rules

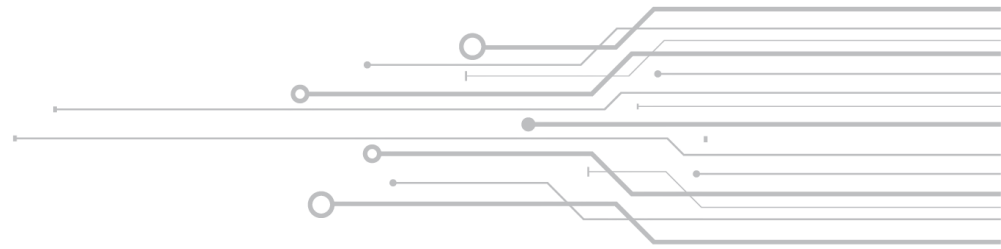


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Other Inputs



Generic Life Saving Rules

Analysis of 18 companies

Life saving rules	
Electrical Lockout	Lifting operations
Working at heights	Fire and explosion
Confined spaces	Tire and rim management
Mobile equipment	Chemicals and hazardous substances
Electrical Safety	Fitness for work
Emergency response	Wear safety belt
Alcohol and drugs	Operate machinery only when authorised
Hot work permit requirements	No tampering of safety devices
Suspended loads	Excavation
PPE	Reporting of all incidents

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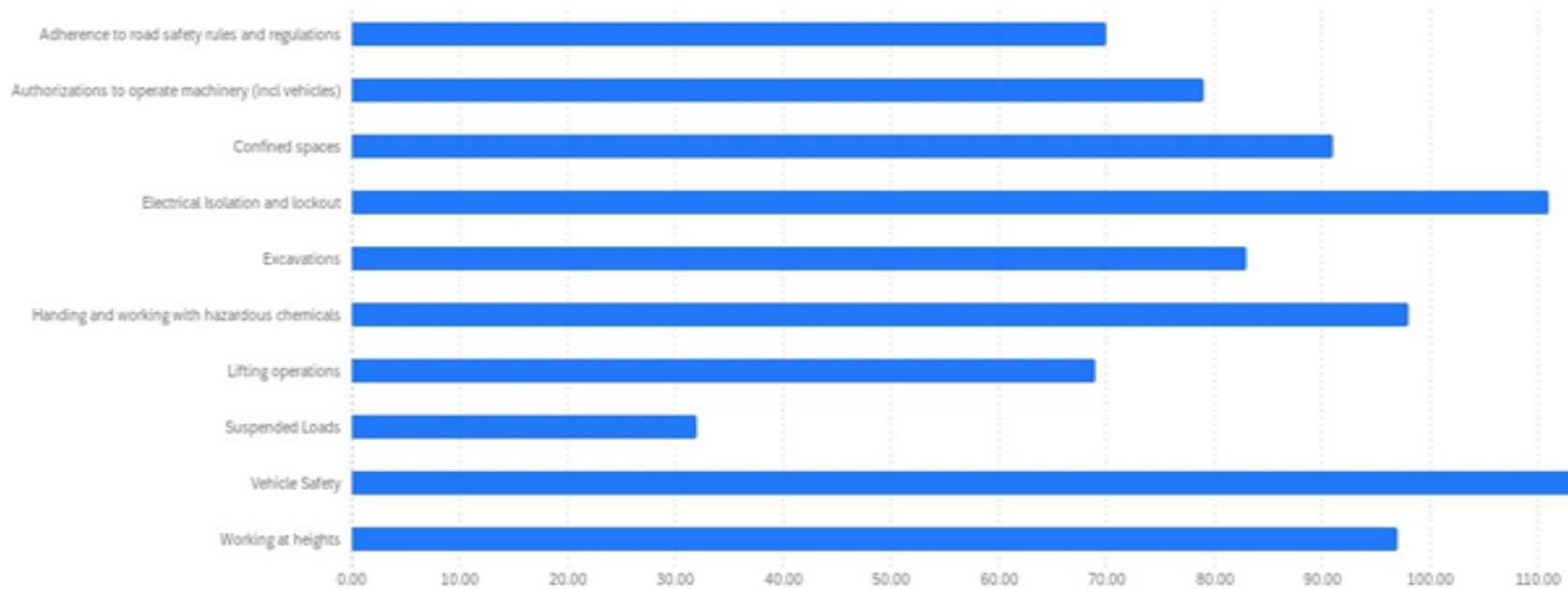
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Other Inputs

Life Saving Rules used in Survey Questionnaire

Choose only five (5) which you regard as a TOP risk within your workplace ①



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Results plus Analysis



From Survey Questionnaire

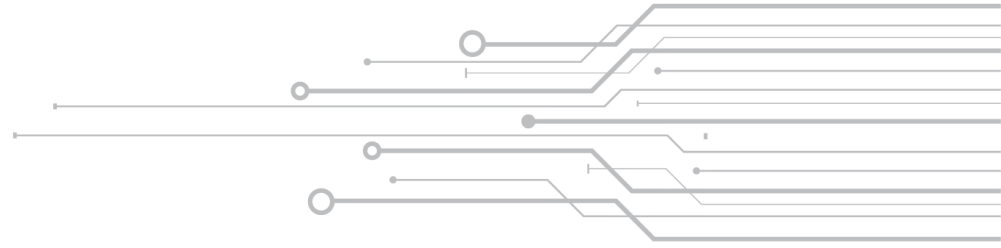
- Strong sense of management commitment towards safety
- The employees' attitude toward safety, and specific safety rules can improve
- Workplace pressure is evident from the data analysed
- Safety management systems construct scored a high mean value
- Poor Safety Behaviour
- Poor Safety Motivation

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Results plus Analysis



From Survey Questionnaire cont

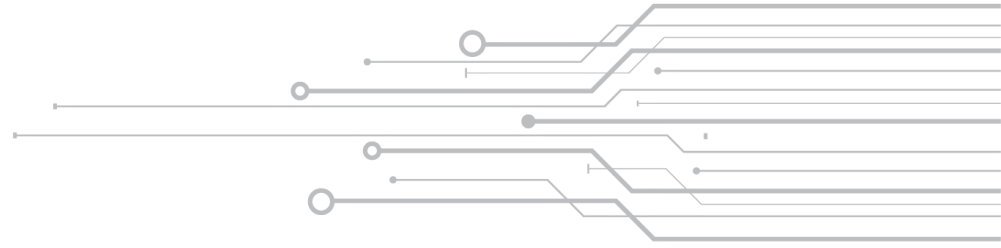
- Safety Training and education are a concern
- The employees regard the implementation of safety rules as very key in ensuring safety compliance.

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Recommendations



- ☐ Behaviour Based Safety Program **not** recommended
- ☐ Clear that we need to **optimise** the situation → **optimise** the behaviour
- ☐ Implementation of 6 life saving rules
- ☐ Training of employees on safety
- ☐ Better management of PPE

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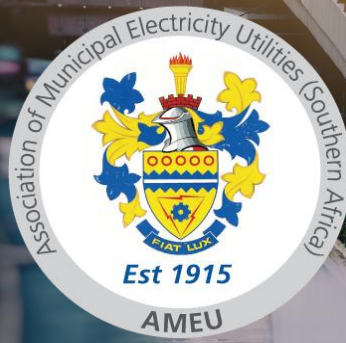
Life Saving Rules

- + **Vehicle Safety**
- + **Electrical isolation and lockout**
- + **Hazardous Chemicals**
- + **Working at heights**
- + **Confined spaces**
- + **Excavations**

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Thank you

