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# Refinement of the culture transformation framework (CTF) for the South African mining industry (SAMI)

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**ABSTRACT**

**Background**

The mining industry remains one of the pillars of the South African economy and effective management of occupational health and safety (OHS) is critical for the continued sustainability of the sector. Although the South African mining industry (SAMI) has made significant strides in improving OHS conditions over the past two decades, the performance improvements appear to have plateaued at unacceptably high levels.

**Aim of the study**

The purpose of the study was to assess whether the culture transformation framework (CTF) provides sufficient guidance for cultivation of positive OHS culture in the SAMI. The emphasis on OHS culture is important when OHS performance improvements plateaued, following efforts to improve OHS through technical interventions and occupational health and safety management systems (OHSMS), incorporating considerations about human factors and risk management.

**Methods**

A literature review was conducted on relevant local and international literature relating to the concept of OHS culture and best practices in OHS culture management. Occupational health culture was not specifically covered in the literature but relates to concerns about the work environment and the well-being of the workforce. The term "safety" is often used in practice to refer to 'health and safety' and workplace health risks have generally been receiving less attention as compared to safety. In line with best practices of integrated OHS management, the term OHS culture was adopted for the purpose of the study. The CTF was examined against best practices in OHS culture management that were revealed by the literature survey.

A total of 36 in-depth interviews (IDIs) were conducted to understand key informants' experiences of the management of OHS culture in the SAMI and their insights into the concept of OHS culture. Two questionnaires were utilised, customised to accommodate mining

industry stakeholders who were not employed by mining companies, and participants who were employed by mining companies.

A deductive thematic analysis method was applied to analyse the data and some level of saturation was observed during the analysis of data. The findings from the qualitative study were reviewed for convergence of perspectives among the stakeholders and compared against the CTF and findings from the review of the literature. Moreover, the insights that were obtained from the qualitative and literature studies were consolidated to draw up some conclusions and recommendations to strengthen the CTF.

**Findings**

Similarities were observed between gaps identified by analysing the CTF against findings of the qualitative and literature studies. Common gaps were identified on aspects such as narrow definition of OHS culture, inadequate coverage of key OHS culture elements, and non-existence of definition and responsibilities of OHS leadership and meaning and rationality of zero harm. Additional common gaps include lack of emphasis on importance of collaborative culture, good OHS behaviour, OHSMS, systematic OHS management approach, technological innovation and holistic consideration of potential threats to establishment of positive OHS culture. Lack of guidance on approaches for determining prevailing OHS culture, managing OHS culture change, managing OHS risks, cultivating good OHS behaviour and nurturing collaborative, just, reporting and learning cultures were also identified as similar gaps. The similarities in the identified gaps could be as a result of the implementation of global best practices in OHSMS and OHS culture management by some mines in the SAMI.

Findings that were revealed by the literature study but not addressed by the qualitative study and CTF include the importance of establishing a flexible culture and potential cost savings and improved OHS resulting from the use of cleaner and efficient energy sources. Moreover, the qualitative study revealed additional findings that were not covered by the literature that was reviewed or CTF. The findings include the requirement to empower OHS representatives to stop unsafe work and introduce mandatory OHS behaviour screening and minimum educational requirements for employment in the sector. Appendix 6 provides a summary of

the combined gaps between the CTF and findings from the qualitative study and an analysis of CTF against the literature available on OHS culture.

## Recommendations

The following recommendations are proposed based on the outcomes of the literature and qualitative studies:

### *Practice*

The Mine Health and Safety Council (MHSC) and other SAMI stakeholders implementing the CTF should note the gaps identified and summarised in Appendix 6, with a view to supplementing the content of the CTF. Moreover, the MHSC is advised to develop and implement programmes to nurture positive health and safety culture at societal levels.

### *Potential for further research*

There is no inherent generalisability of the study findings as the research methodology was restricted to a limited qualitative study. Insights were obtained from a sample of key informants representative of stakeholders in the SAMI but not from members of the workforce. The results of this limited study however suggest that further research is warranted. While the analysis of the CTF against the findings of research into OHS culture and the tools in service, is comprehensive, the small size and narrow composition of the sample of key informants is a significant limitation. Generalisation of the study findings could be advanced by use of mixed research methods (qualitative and quantitative approaches), with a larger and representative study population, which includes solicitation of the views of the workforce and verification of the strategies and practices adopted by individual mining companies. Further studies could thus build on the findings of the current study and provide further recommendations on improving the CTF.