



WORKPLACE SAFETY AND HUMAN PERFORMANCE



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INTRODUCTION

A condition where nothing goes wrong or the magnitude of things that can go wrong is acceptably small (Erik, 2014)..

“A safe workplace as a sound business”
(United States Department of Labor)

SAFETY

“the state in which harm to persons or property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and risk management”
(International Civil Aviation Organisation)

Helps businesses to prevent workplace injuries and illnesses, improve compliance with laws and regulations, reduce costs, increase productivity, and enhance overall business operations
(OSHA, 2016).

Adoption Of Zero-accident/Incident Targets By Many Organizations

Expectations

- ↓ Work-related accidents
- 0 Fatalities

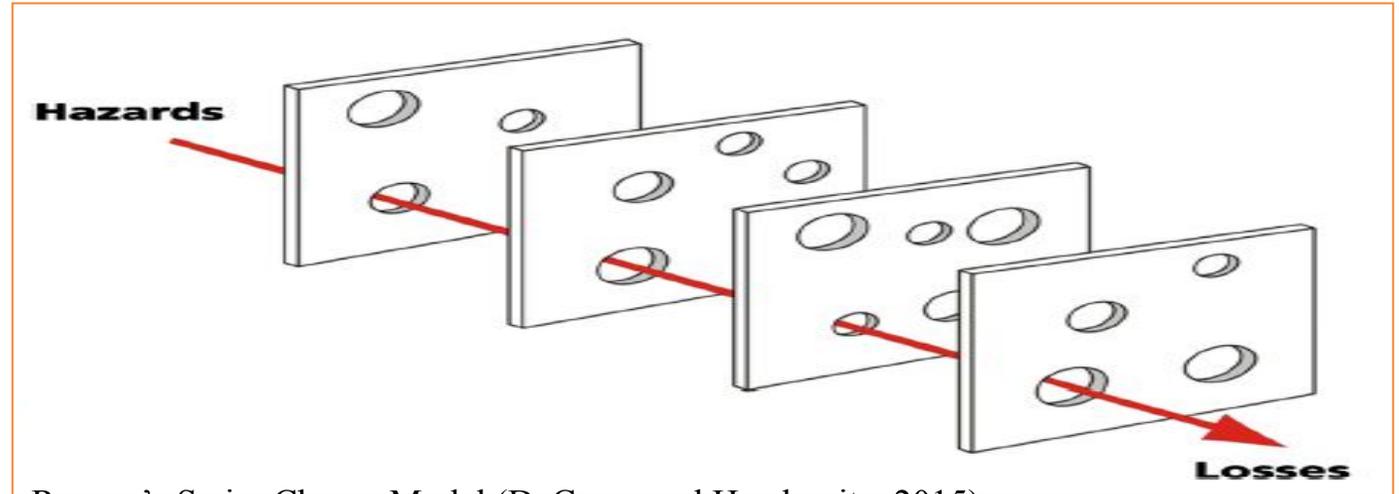
Reality

- **374** million workplace accidents and **2.78** million work-related fatalities **yearly** around the **world**. (ILO, 2017)
- **238** fatalities in **Nigeria within 3 years**, from 2014 (ILO, 2016).

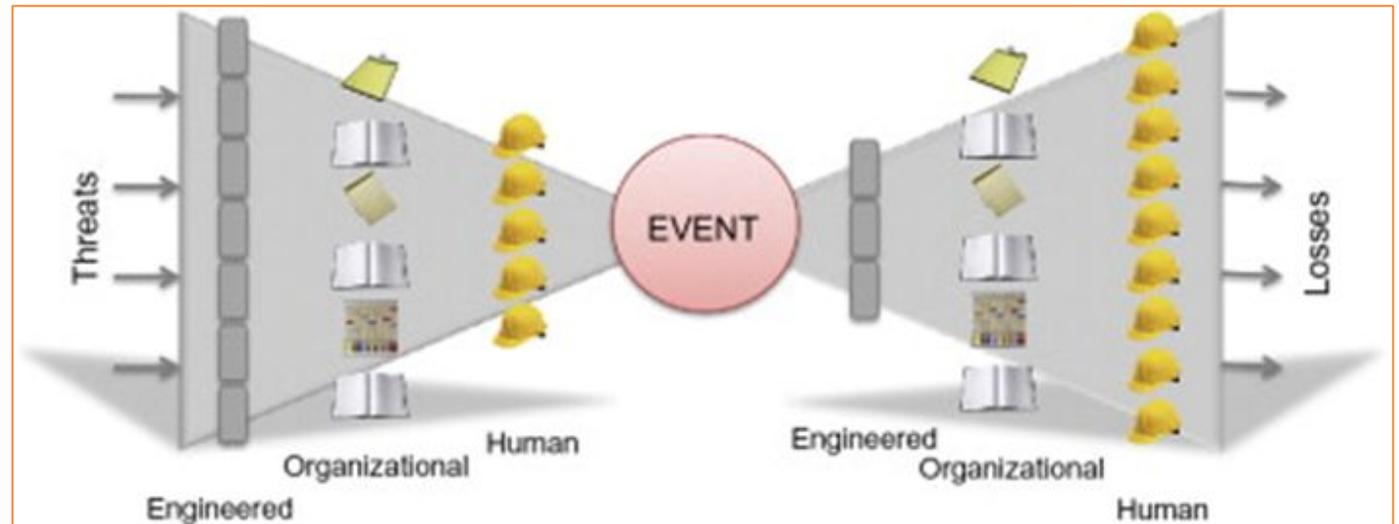
This presentation is industry focused and intended to review the impact of human performance improvement on workplace safety and productivity.

WORKPLACE SAFETY AND ACCIDENT PREVENTION

- A robust workplace safety implies implementation of barriers (passive or active barrier, physical, technical, or human/operational)
- The bow-ties is fundamental in representing layers of defenses.
- Three generic types of controls exist on the bow-tie:
 - Engineered
 - Organizational/Administrative
 - Human controls

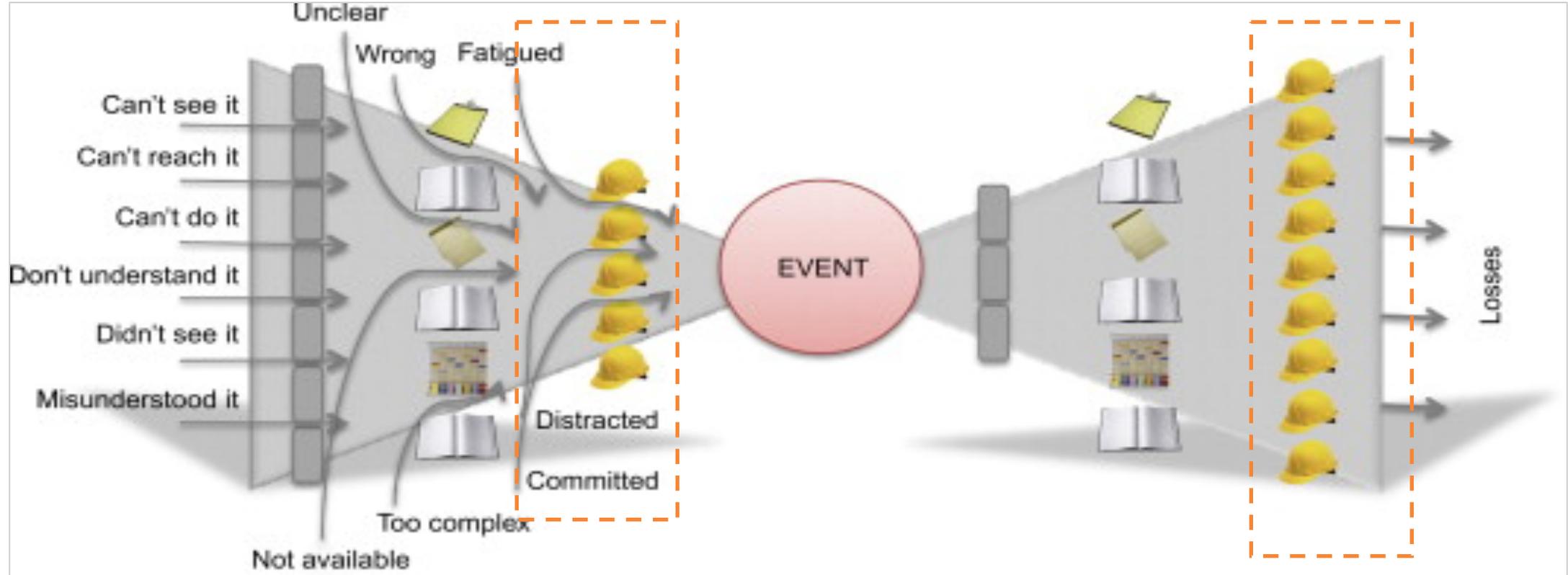


Reason's Swiss Cheese Model (DeCamp and Herskovitz, 2015).



Conceptual bow-tie model (Roland, 2015)

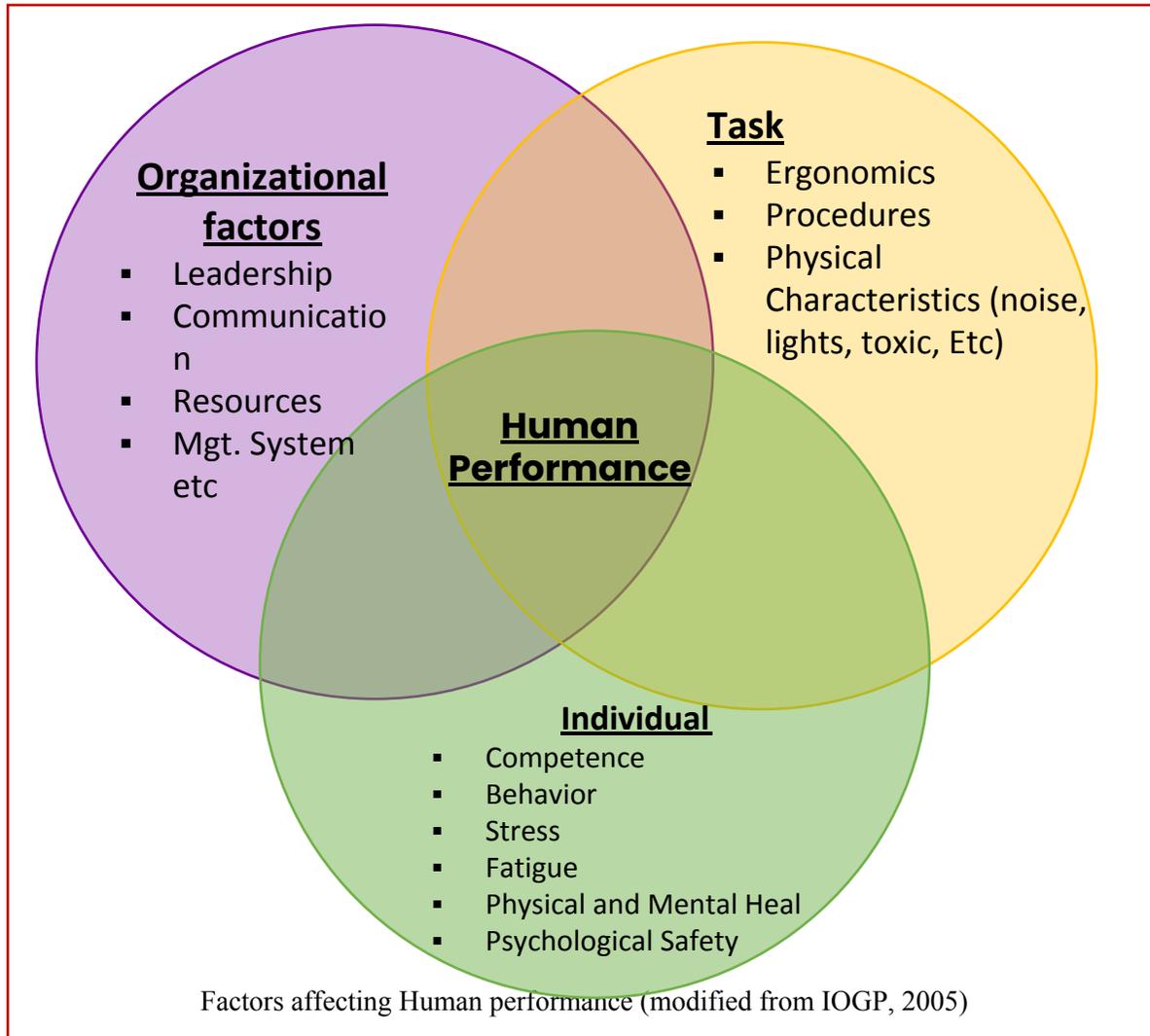
HUMANS AS BARRIERS



- Human barrier ensures work is performed by people who are trained, competent and experienced.
- Human beings are indispensable in maintaining safety barriers and controls. They have what it takes, and in most situations, they do “save the day”.
- Humans are prone to errors – skill based or mistakes; Therefore, Human factors can defeat all three types of control.

HUMAN PERFORMANCE

Human performance is the way people, culture, equipment, work systems and processes interact as a system.



- Humans do make mistakes.
- People's actions are rarely malicious
- Human Performance Improvement aim to proactively reduce the seriousness and frequency of human failure.

HUMAN PERFORMANCE PRINCIPLES

1

ERROR IS NORMAL

- People are fallible, even the best of humans make mistakes.
- Understanding how mistakes happen can help organizations avert or cope with them.

2

BLAMES FIXES NOTHING

- People's actions are rarely malicious they are usually well-meaning to get the job done
- Organizations can predict, prevent and can manage error-likely situations before they occur

3

CONTEXT DRIVES BEHAVIOR

- Majority of the errors associated with incidents stem from latent conditions
- Organizations influence their systems and people; context drives behavior.

4

LEARNING IS VITAL

- A strong safety culture is a learning culture
- Organization learns from its mistakes and make necessary changes

5

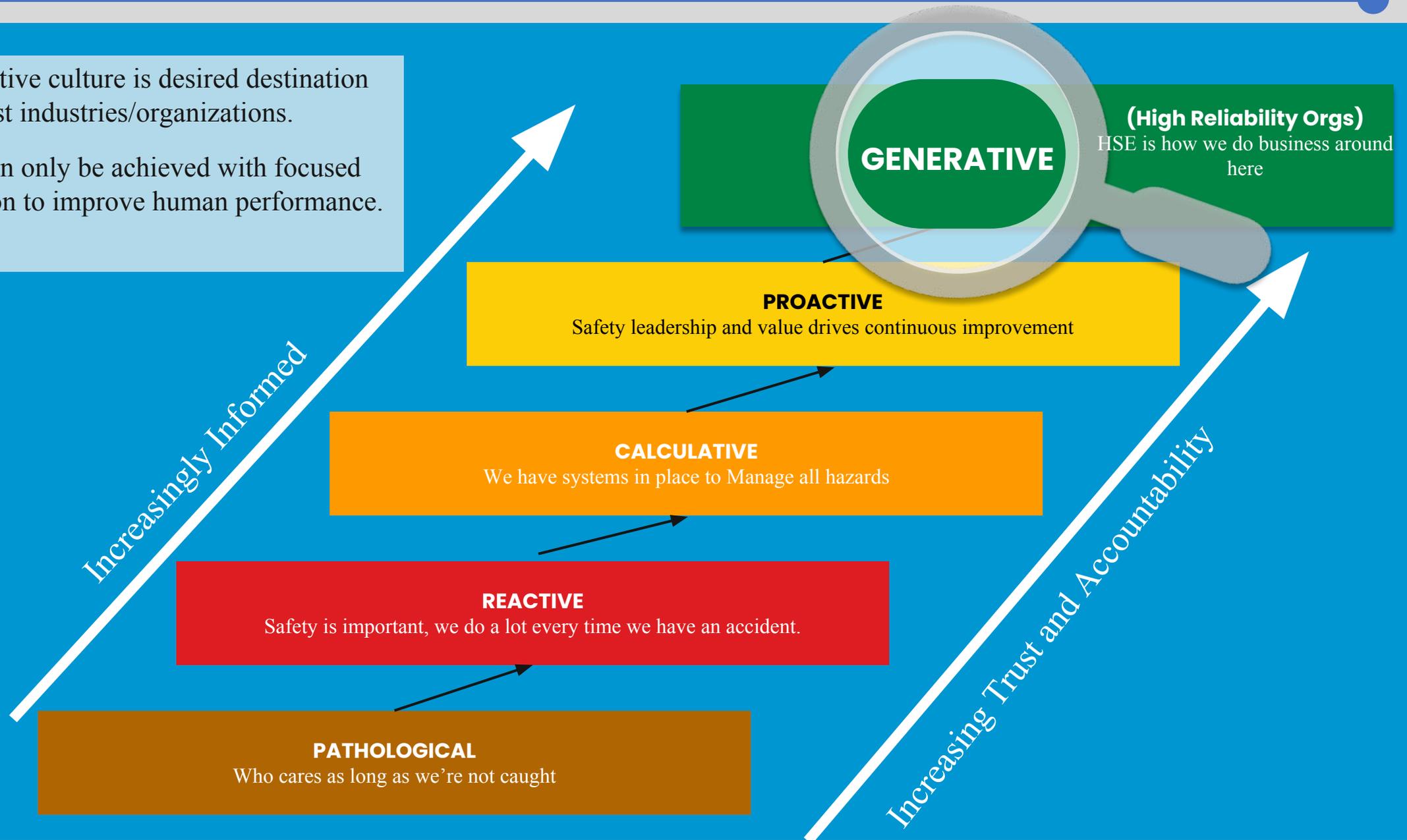
HOW LEADERS RESPOND MATTERS

- Leaders help shape the conditions that influence what people do
- People who feel valued are more engaged

Organizations are increasingly adopting human performance improvement as operating philosophy

SAFETY CULTURE LADDER

- Generative culture is desired destination for most industries/organizations.
- This can only be achieved with focused attention to improve human performance.



WHAT KIND OF LEADER ARE YOU



WHO IS A SAFETY LEADER

A Safety Leader...

- Demonstrates **respect and care** for people **including contractors**.
- Demonstrates **vulnerability**, acknowledging he/she do not always have the answers, and is **genuinely curious**.
- Is an active **partner to contractors**, creating a strong **leadership coalition and a common language** for safety and collaboration.
- Opens up **honest dialogue**, surfacing (rather than glossing over) operational issues, **dilemmas, and weak signals**.
- Is meticulous about **doing what he/she say** and **insists** on standards being met.
- Actively seek & welcome **feedback & coaching from others**, while also **offering coaching**.
- Actively **find, acknowledge and reward** good safety behaviour **at all levels** and champion **positive role models**.
- Is **visible** from the office to the front line, **listening, engaging** and committing to take personal action, including with people in **out-of-sight locations**

RECOMMENDATION FOR LEADERS

01

Promote an immediate positive reinforcement for the desired behavior and outcome.

02

Be more receptive to bad news with the intent of understanding the latent system failures.

03

Recognize that people who feel valued are more engaged; they are the masters of their job and the key to solutions

04

Consider the “Come and tell me, we’ll fix it” approach

05

Develop the “Fix the mistakes and not the individual” mindset to resolving issues

CONCLUSION

Leaders have the potential to influence and can make decisions to change and improve systems, procedures, and tasks to be more resistant to error, especially if they have the support and trust of the workforce.

Human performance improvement makes it harder for people to make mistakes and easier to be successful; it recognizes that the people are the masters of their job and the key to solutions.

When successfully implemented by organizations, human performance improvement promotes employee productivity, profitable business, and a maximized workplace safety.

REFERENCES

- Bo, W., Yuzhi, S., Vijayalakshmi, S. and Ashish K. L. (2021). Workplace safety and risk analysis using Additive Heterogeneous Hybridized Computational Model. *Aggression and Violent Behavior*. 101558.
- Centre for Chemical Process Safety (2001). *Layer of protection analysis: simplified process safety assessment (1st edition)*. A CCPS Concept Book.
- DeCamp W. & Herskovitz K. (2015). The Theories of Accident Causation. *Security Supervision and Management*. 71-78. <https://doi.org/10.1016/B978-0-12-800113-4.00005-5>
- Erik, H. (2014). Safety a subject for science? *Safety Science*, 62, 21 – 24.
- Ezenwa, A. (2001). A study of fatal injuries in Nigeria. *Occup. Med.* 1(51) 485 – 489
- ILO (2016). Nigeria Country Profile on Occupational Safety and Health; retrieved from https://www.ilo.org/wcmsp5/groups/public/---africa/---ro-abidjan/---ilo-abuja/documents/publication/wcms_552748.pdf
- ILO (2017). Safety and health at work. Retrieved from. <http://www.ilo.org/global/topics/safety-and-health-at-work/lang-en/index.htm>.
- IOGP (2020). Understanding and managing human factors in the wells sector. IOGP Info sheet. Accessed from <https://www.iogp.org/bookstore/product/understanding-and-managing-human-factors-in-the-wells-sector/>
- Lamm, F., Massey, C., & Perry, M. (2006). Is There a Link between Workplace Health and Safety and Firm Performance and Productivity? *New Zealand Journal of Employment Relations*, 32(1), 75–90. <https://search.informit.org/doi/10.3316/informit.135846714466567>

REFERENCES

- Ness, A. (2015). Lessons learned from recent process safety incidents. *Chemical Engineering Progress*, 111(3), 23-29.
- Occupational Health and Safety administration (2016). Recommended Practices for Safety and Health Programs. OSHA3885. Retrieved from <https://www.osha.gov/sites/default/files/publications/OSHA3885.pdf>
- OGP (2005). Human factors, a means of improving HSE performance. IOGP report 358. Retrieved from <https://www.iogp.org/bookstore/product/human-factors-a-means-of-improving-hse-performance/>
- OGP (2013). Shaping safety culture through safety leadership. IOGP report 452. Retrieved from <http://www.ogp.org.uk/pubs/452.pdf>
- Robert, B.(2021). Principles of Human Performance. Safety and Health Safety Shares. Accessed from <https://safetyandhealthandsafetyshares.com/?p=568>
- Ronald W. M. (2017). Human factors in barrier management: Hard truths and challenges. *Process Safety and Environmental Protection*. 110, 31-42.
- Ronald, W. M. (2015). Human factors in barrier thinking: Designing for Human Reliability. Gulf Professional Publishing (1st Edition). ISBN 9780128024218.
- Snorre S. (2006). Safety barriers: Definition, classification, and performance. *Journal of Loss Prevention in the Process Industries*. 19 (5) 494-506.
- Ugochi I. (2018). Addressing Human Performance in the Workplace through a Multidisciplinary Approach. Society of Petroleum Engineers. Paper presented at the SPE International Conference and Exhibition on Health, Safety, Security, Environment, and Social Responsibility, Abu Dhabi, UAE <https://doi.org/10.2118/190656-MS>
- Yunhao, D., Xinchu, T., and Li W. (2022) Workplace safety accident, employee treatment, and firm value: Evidence from China. *Economic Modelling*. 115.

*Thank
you!*

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