

Environmental Constraint Amongst the Higher Learning Institution: Policy Emendation with Critical Areas and Society Emerging.

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Abstract

Occupational Health and Safety Management System is part of an organization's critical risks that is aimed at protecting the organization's assets. The purpose of Risk Management Committee is to strategically deal with all the risks with emphasis to prevent severities to personnel health, injuries & fatalities, the business itself and meet legislated laws & regulations, prevention of unnecessary penalties and sanctions that could arise from non-conformances and to remain cost competitive. A study of operational behavior at laboratory "X" had been conducted in a comprehensive university and several health and safety related non-conformances which led to large number of broken-down equipment and vandalism were observed. As result stipulated a 37% of the impact factor of both outside and inside the higher learning that indicates acknowledge of environmental transfer has been ignored.

Keywords

Environmental, management contribution, higher learning institution, OHS.

1. Introduction

Higher learning institutions have the responsibility of knowledge transferring to society with an aim of uplifting the citizen. (Olewski & Snakard 2017b) states that implementing a risk management system within universities is uncommon concept which became more common in recent years after an unfortunate series of high-profile catastrophic academic laboratory accidents over the world served as a wake-up call for universities. Environment with the higher learning institutions has shown some negative contribution. Numerous global occupational health and safety (OHS) studies had proven to be influential in various organizational strategies, policies, procedure standards and regulations (Wachter & Yorio 2014). The International Labor Organization (ILO) and World Health Organization (WHO) had jointly embarked on protection of all global citizens by their countries from industrial hazards that include worker health infectious diseases, worker injuries and or deaths (OIT-ILO, 2014) This therefore raises concerns and

questions revolving around in many organizations about the ineffectiveness of the implementation of Occupational Healthy Safety (OHS) management within the working environment (Surayya & Ramdhan 2022).

1.1 Legislation Requirement

The primary goal of the higher learning institution is to conduct all academic activities in a safest environment possible. This involves employees at all levels and includes, students, contractors and any visitors entering the university premises. The occupational health and safety Act No. 85 of 1993 as amended by occupational health and safety amendment Act No. 181 of 1993 prescribes employers to:

Provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for the occupational health and safety; and to provide for matters connected therewith government labor section.

This becomes a higher learning senior management's university responsibility to ensure that an occupational safety and health management system is developed and implemented to control and manage unsafe working conditions, vulnerabilities and misbehaviors that may lead to human injuries, fatal accidents, ill-health, damage and vandalism to assets of the university and other related business crimes such as theft, intimidation injuries during unexpected unrest either by employees or students is addressed.

1.2 Risk Management in Universities

College environments are often considered low risk level in comparison to industrial settings. However, college chemistry laboratories might present more hazardous conditions than those that are typically found in other academic settings (Marin, et al., 2019). Business model risks challenging an institution's ability to generate adequate revenue to remain competitive. The factors below as stated by (Vitters, et al., 2018) are to be considered for the sustainability and relevance of colleges and university business models in an environment where new approaches to delivery, revenue generation, and enrolment are evolving rapidly.

1.3 Study Aim and Objectives

The main aim of the study is to improve the inadequateness of the environment with the higher leaning institution that reflect badly to the management and contribute less to the society. The study will then address the following objectives:

- To deal with laboratory significant contribution to the environmental negative impact
- To address the inadequate of knowledge transformation with the high learning institution
- To strategically improve the negative impact that a higher learning institution have towards environment.

The main challenge is that the nature of open distance learning (ODL) type high learning institutions university, the frequent student turnover on semester basis, makes it difficult to manage occupational health and safety in laboratories. Space constraints contributed by either poor planning for facility at initial stage which overlooked the potential growth in terms of enrolment and potential new projects such as (in service training to original practical & research). Space constraints are a major contributor to accidents simply caused by poor housekeeping. The nature of university practice is a belief in highly qualified personnel (Post Docs and Professors) in their specific fields. They earn this level through extensive research outputs, and they receive first preference for vacant critical risk positions such as Human Resource Management, Finance, Engineering without considering other required.

2. Literature Review

A The illustration of structural comparisons (Finster2013) further elaborates weakness of university management with regards to people management driven by the academic freedom that is mentioned in National Research Council 2014 during investigation of explosion in a US chemical laboratory. During observation, the ineffectiveness points out the weakness in the recruitment process to final appointment of the technical laboratory personnel. The immediate management have the final decision to appoint while they possess little skill to the critical requirements of laboratory operations and needs, indeed, by profession they are engineers. During interviews, the panel is more interested in day-to-day academic tasks and research outputs with no consideration to OHSM, in turn the chairs of department must recruit for the first line management level that will be directly responsible for entire laboratory operations including

crucial health and safety issues. There is no evidence of an extensive induction and training provisions with regards to OHS awareness prior to new employees assuming their duties.

In most literature used for this OHS challenge facing universities is focused in area of university laboratory (chemical laboratory) and this promotes traditional “one size fits all” to be applied and this practice has a major negative impact to OHSMS success because it excludes system customization that suits the specific laboratory needs and lastly, the failure to integrate the structural functions and systems for free flow of shared values as can be seen in **(Council, 2014)** during an accident investigation from explosion in US chemical establishment.

It is important to note that in every organization the hierarchy of structure defines the authority, responsibility, and accountability at different levels of those appointed in each laboratory unit to perform various practical and research activities with different equipment and materials that pose different hazards to health and safety of various asset of the institution.

2.1 Recruitments

(Council, 2014) raised concerns with the management’s appointments which are periodical contractual positions, the interviews questionnaire revolves around the highest qualification these people possess, teaching and learning experience, student throughputs, success rate, satisfaction, retention, research outputs and protection of the brand. The management’s then, without laboratory management related skills are given extended safety critical ownership of the day-to-day operations and needs for the laboratory including OHS compliance and in this juncture health and safety is neglected and goals and objectives of health and safety is compromised.

2.2 Safety Attitudes for Safety Climate

Safety compliance refers to behaviors that engage in core safety tasks such as laboratory safety rules and regulations and adhering to all safety procedures (Griffin & Curcurruto 2016). The positive safety performance in laboratories is highly dependent on relationship between group leader and students carrying out laboratory tasks, therefore supervisor leadership plays important role in influencing the success of laboratory safety by utilizing safety leadership into safety performance (Yanar 2019)(Yanar et al. 2019). Safety attitudes are more of a deterministic factor towards safety performance results, if correctly applied, it will produce positive results, and negative results if incorrectly applied, it therefore demands leading by example (Griffin & Curcurruto 2016).

Good safety attitudes involve safety inspiration which demonstrates an appeal to safety adherence that builds from the very first safety induction, safety monitoring that proves the effectiveness to eliminate errors made by the inexperienced students but more importantly is the approach on how the supervisor responds to those mistakes made by the students, the responsiveness turn-around and use that as a lesson learned not to be repeated. This builds mutual trust and encourages participatory safety involvement by all group members.

3. Methods (12 font)

It has been important to design the research in was that will address the study objectives and meet the required outcomes. All these phases or stages are interconnected from investigation to the performance of the environmental policies in the high learning institutions through analyzing the previous framework and models.

Discovering the environmental challenges and use the investigative tools to further analyze the modern challenge facing the higher learning institution. Data was gathered within the laboratories of higher learning institutions as well as in the literature review for the better understanding the scale of the challenge in the laboratory. The gathered data was analyzed utilizing statistical approach and dashboard monitoring approach as part of brainstorming as the team. This approach assisted in data validation as it was importance to align the study with the international requirement through validity check.

Results and recommendations are addressed in the next stage when the presentation and interpretation of data take place in discussion stage.is discussed. Most of the analysis outcome is as the result of brainstorming session that took place after data gathering. Lastly, the summary of everything discussed in the last stage of the study. To attain the objectives of this research, the study was conducted using the quantitative method.

4. Results and Discussion

4.1 Environmental analysis

The graph below gives the main impact of the ignorance and inadequate society toward their environment. Fig.2 shows the high failure rate due to instruction unavailability of almost 76% to the society and almost 24% to the new coming society, this instructs the significance of uncontrollable working environment under a leadership. In relation to policy documentation around environment everything has been seen working very well with almost 98% populated with a gap of 2%.

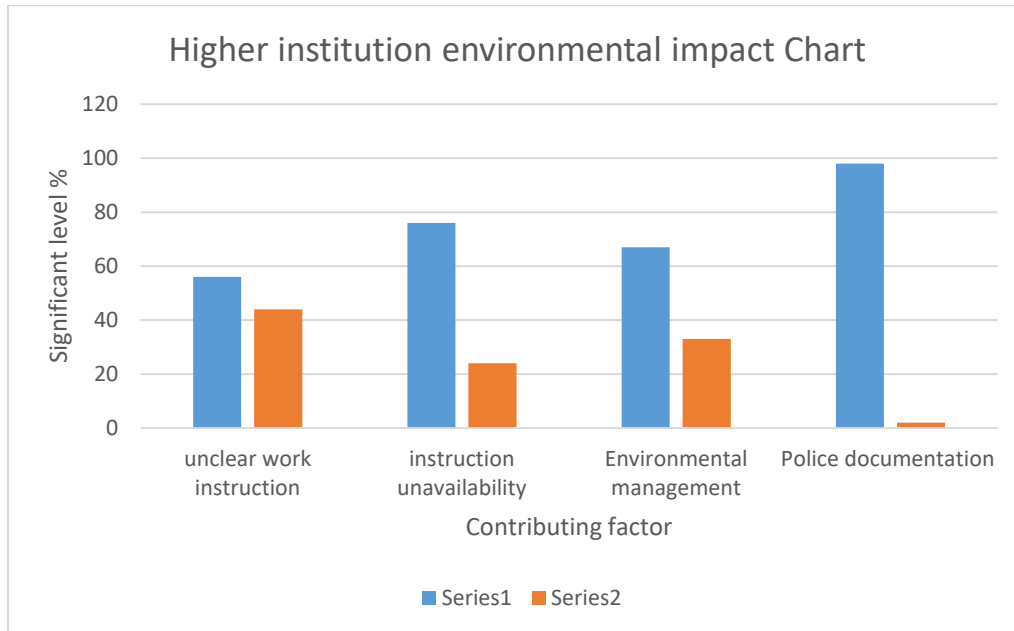


Figure 1. Higher institution environmental impact

The main stage of the environmental impact can further be categorized in the three categories as stipulated in the pie chart below. If almost 31% contribute to the failure of environmental monitoring due to the proper instruction adherence and speculation need to be looked at closely. The same impact factor is then seen with no difference to the next phase of analysis with analytical phase. This is where society has a direct impact on the working environment, as it contributes 31% as in the previous phase. This demonstrates that knowledge was not adequately translated to the society of higher learning institutions.

The growth is then discovered in the last phase as outside society starts to influence the internal society and vice versa with both a negative rejoinder to the determined acknowledging the environment. If 37% is the impact factor of both outside and inside that indicates acknowledge of environmental transfer has been ignored throughout the organization.

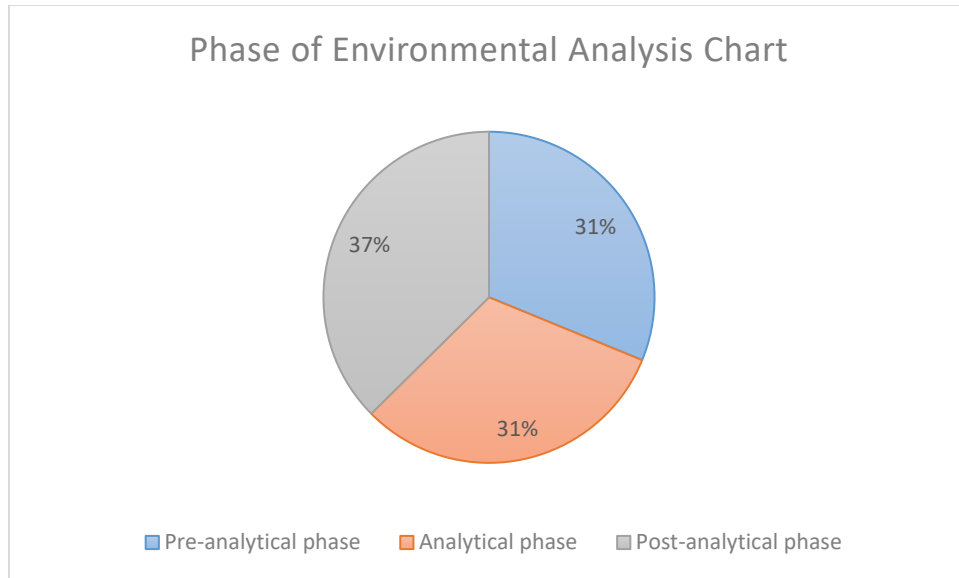


Figure 2. Phases of environmental analysis

- **Pre-analytical phase:**

Where an unclear work instruction is given to students, and this should specify suitable equipment and tools to be used for the work to be completed. Failure to read, understand and adhere to standard operating procedures. Failure to report the breakdown when it occurs.

- **Analytical phase:**

The continuous use of faulty equipment causes additional deterioration to the current damage in equipment. Incorrect tools used by incompetent skills in incorrect applications.

- **Post-analytical phase:**

The absence of operating instructions and warning signs from the machines. Non-adherence to standard operating procedures where available. Poor or a complete absence of supervision. Inaccurate reporting that distorts the factual root-cause of the incident for repair and complete error proofing as a corrective action.

- **Poor Challenges**

Purposefully poor, diluted, and distorted communication by middle management at the expense of critical OHS issues to achieve their set targets. Limited OHS meetings to further limit the critical safety issues.

4.3 Proposed Improvements

The university must deliberate and review the gap between the Faculty Dean and laboratories first line and middle management for ease of collecting information to react where necessary as stated by (Finster, 2013) of how OHS is applied and managed in universities as opposed to industry settings.

The university must design a suitable tool that enables a true measurement of the OHS performance in laboratories by close monitoring and well management of inefficiencies refer to point 4.1 under operational model risks by (Vitters, et al. 2018). The higher learning institution policies and procedures including procurement procedures that concern laboratory needs must be compiled for laboratory governance.

The safest laboratory is controlled by restricted access to unauthorized personnel, with stipulated business hours for students and authorized personnel, use of laboratory after hours requires special arrangements and permission with affirmation of available assistance in case of emergency, refer to point 3.2 campus safety under reputation risks by (Vitters, et al. 2018).

The appointment of laboratory regulatory personnel is vital to take full responsibility of all laboratory operations aligned to OHS system and legislation serving teaching and learning services under academic HOD for effective OHS system, which is compromised by the traditional tenure system, the management under organizational strategic risks by (Vitters, et al. 2018).

5. Conclusion

In conclusion, the management skills such as man management, OHS Performance Management and tools to measure that performance seem directly affective everything that is taking place in the environment ignorance by the society. Ineffective supervision combined with free access into the laboratory is a serious concern (OHS nonconformities, tempering, exploring without competency under no supervision that results in vandalism of equipment is the order of the day. This category of key employees in key positions operate with scientific proven evidence before they can act. They are against suggestions for improvement (proactiveness) until (injury or death occurs in OHS portfolios and bankruptcy or liquidation in financial portfolios). Without the traditional university highest qualifications as requirement, candidates with suitable skills aligned to job specification are not offered a market remuneration, the job offer is rejected and OHS suffer. The interpretation of university policies and procedures into simplified laboratory rules (manual) does not exist. Ignorance and purposeful distortions to mislead is encouraged by the tenure system. Various procurement policies and procedures do not support the efficiency of laboratory productivity and compromise OHS intended prevention measures.

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Biography / Biographies

Simphiwe Ngcobo is a senior Laboratory technologist at the University of South Africa. He manages the day-to-day activities in the laboratory under the department of Industrial engineering. He holds an Honor's degree in Production Management with traceable industry experience. He is currently studying a Master of Engineering degree in industrial from the University of South Africa. His research interest lies with Occupational health and safety, laboratory improvement, systems thinking and production management.

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