



Comment on The Identifying the Key Factors Affecting the Success of Occupational Health and Safety Management during the Implementation of Construction Projects for NGOs in Sana'a, Yemen

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1. INTRODUCTION

This commentary welcomes the research effort presented by Al-Maancey et al. (2026) [1] to contextualize Occupational Health and Safety (OHS) management within the construction projects in Sana'a, Yemen. However, a careful methodological audit reveals critical gaps in construct validity, regulatory compliance, and statistical consistency. This epistemological disconnect within the introduction is evident across three primary areas:

1. Research Gap vs. Operational Reality: The authors [1] justify their study by claiming limited empirical evidence regarding OHS management in NGO construction projects. This overlooks the mandatory operational reality, as the study's target organizations, the Social Fund for Development (SFD), Public Works Project (PWP), and UNOPS which are legally and contractually bound to the World Bank Environmental and Social Framework (WB ESF), specifically Standard ESS2 (Labor and Working Conditions). These agencies already possess fully funded OHS compliance tools, staff and Monitoring systems. The real gap is not the "limitation of evidence or absence of a system," but rather the management obstacles of enforcing existing fully funded systems and protecting compliance monitoring staff [2], which is a reality overlooked in this paper makes the research gap assumed in this paper [1] inaccurate.

2. Empirical Claim vs. Perceptual Reality: The study claims to provide a "quantitative empirical design" yielding evidence-based priorities [1]. Yet, it relies entirely on subjective, office-based perceptions rather than objective field metrics, (such as actual injury rates, incident logs, or inspection records), completely invalidating its "empirical" designation.

3. Flawed Translation of Findings into Actionable Recommendations: While the authors state their third contribution is translating findings into "actionable recommendations aligned with leadership, planning, and pro-

curement" [1], deriving high-stakes execution policies from a hierarchy of subjective perceptions (n=171) is an epistemological fallacy [3]. True operational guidelines require empirical forensic audits rather than unverified perceptual rankings [4].

2. THE GAP BETWEEN CONCEPTUAL ADAPTATION AND INSTITUTIONAL CLASSIFICATION

The study [1] titles its topic as managing safety in construction projects for Non-Governmental Organizations (NGOs). However, the sample section clearly shows that the survey was distributed exclusively within three main institutions: SFD, PWP, and UNOPS.

According to Willetts [5] and the United Nations organizational frameworks [6], the distinction between UN agencies, national implementing agencies, and non-governmental organizations (NGOs) is a legal, structural, and operational reality, not a mere label. Official donor documents [7] classify both SFD and PWP explicitly as "National Implementing Agencies" established by national laws, while UNOPS is classified as an UN Agency.

As noted by Yin [4], combining entities with completely different operational structures, administrative lines, and capital budgets into a single sample destroys the sample homogeneity. The results of this study [1] reflect the viewpoints of personnel working within national and international programs backed by pre-existing, internationally mandated compliance systems [2]. They do not reflect the actual reality or capacity of local, grassroots NGOs mentioned in this study sections.

3. SAMPLING, PSYCHOMETRICS, AND STATISTICAL RIGOR ISSUES

The authors [1] used the finite population formula to calculate a target reference sample (n=360) based on an estimated population of (N=5600). This formula strictly

requires a probability sampling design where every element has an equal chance of selection [3]. However, the authors [1] explicitly stated that they used a non-probability “Purposive Sampling” method [8].

As explained by Etikan et al. [8], applying probability formulas to purposive selection techniques creates a logical contradiction that undermines the study’s generalizability. Furthermore, analyzing only 171 responses without performing a Post-hoc Power Analysis significantly weakens the statistical power of the results ($1-\beta$), making them unrepresentative of the major institutions under study [9]. The demographic data [1] shows an unrealistic inflation in higher education degrees. The study claims that 23.4% of respondents hold a Master’s degree and 8.8% hold a PhD, totaling 32.2% of the sample. When comparing these figures with standard international data from UNESCO [10] and the World Bank [11] for development field personnel in Yemen, the actual percentage of PhD holders does not exceed 1%, and Master’s holders do not exceed 5%. This major statistical gap weakens the credibility of the demographic tool.

The sample classifications [1] show a redundant division between “Civil Engineers” (26.3%) and “Structural Engineers” (22.2%). In the context of site supervision in Yemen, these roles overlap heavily and carry no distinct statistical weight regarding safety climate. Concurrently, the study [1] included purely office-based roles within a field safety survey such as procurement officers, consultants, and environmental engineers, accounting for 18.7% of the sample. These employees are structurally separated from daily site hazards and have no direct role in enforcing field OHS measures, which deeply harms the sample homogeneity and introduces proxy bias.

The dataset [1] shows a complete absence of contractors and frontline site laborers (0%), alongside the total omission of the OHS specialists and officers who actually run these systems within the target organizations [2]. Meanwhile, actual field supervisory roles were weakly represented (Safety Engineers: 9.9%, Supervisors: 2.3%, Site Managers: 1.2%), confirming that the survey evaluates office perceptions rather than site safety.

The scale recorded extremely high Cronbach’s alpha coefficients ($\alpha=0.973$ for Axis 1, $\alpha=0.935$ for Axis 2, and $\alpha=0.972$ overall) [1]. According to standard psychometric literature [12], [13], a reliability coefficient exceeding 0.95 is a strong indicator of item redundancy. This means the questionnaire items repeat the same concepts using different words, forcing respondents into a patterned, biased response loop (Response Set Bias).

All evaluated dimensions [1] achieved exceptionally high mean scores ranging from 4.00 to 4.52, with Relative Importance Index (RII) percentages exceeding 80% across the board. As noted by Field [14], such high scores within a narrow margin limit the discriminant power of the research tool. Furthermore, the ranking of these dimensions was based purely on slight mathematical

differences in the mean without applying non-parametric significance tests (such as the Friedman Test or Wilcoxon Signed-Rank Test), rendering the ranking descriptive rather than statistically proven.

4. DEFICIENCIES IN THE REGULATORY FRAMEWORK AND OMISSION OF BINDING OBLIGATIONS

The study [1] omits the strict legal and contractual compliance framework governing these institutions across three binding levels:

Omission of the World Bank Environmental and Social Framework (WB ESF), as established by Bamberger et al. [2] in RealWorld Evaluation, a study’s conceptual framework must mirror the mandatory rules of the environment under review. Projects implemented through SFD, PWP, and UNOPS are funded by World Bank grants and are legally bound to Environmental and Social Standards which involved (ESS2: Labor and Working Conditions, ESS4: Community Health and Safety and ESS1: Assessment and Management of Environmental and Social Risks and Impacts) [7]. Evaluating safety compliance without addressing this governing framework isolates the study [1] from its actual contractual reality.

Disregarding National Sovereign Laws and Existing Monitoring Tools: The paper [1] overlooks Yemeni Laws and its Executive Regulations, such as labor law, state tendering and procurement laws, and local authority law, alongside the civil and penal law. It also overlooks active, functional monitoring tools within these agencies, such as Environmental and Social, OHS Risk Management Units, Third-Party Monitoring Agencies (TPMA), Worker Grievance Mechanisms (Worker GRM), and Environmental and Social Commitment/Management Plans (ESCP/ESMP). By ignoring these frameworks [7], and completely excluding the ESRM specialists who run it, the study [1] creates an artificial gap of “limited evidence.”

5. CONTRADICTION WITH ISO 45001 STANDARDS AND PROXY BIAS

The introduction and Section 2.3 [1] define the core problem as “unsafe work behaviors” linked to “worker illiteracy and weak safety culture”. However, as explained by Zhang et al. [18] in Safety Science, measuring workers’ behavior and culture by surveying engineers and managers only introduces proxy bias. Management projects its own views, ranking “weak worker culture” as the top barrier (88.6%) while placing worker participation at the very bottom [1]. This shifts the scientific narrative into a Victim-Blaming Framework.



ISO Clause	45001:2018	International Standard Requirements	Opposing Scientific Literature	Direct Contradictions in the Paper
Clause 5.4(Worker Participation)		Consultation and participation of non-managerial workers is a mandatory foundation for system evaluation [7].	Wu et al. [15], Safety Science; ILO C155 (Art. 6)	Complete exclusion of laborers from the sample (0%), while placing their participation at the bottom of success factors (RII=80.0%) [1].
Clause 5.1(Leadership & Accountability)		Full and final accountability for safety rests strictly with Top Management [7].	ISO 45001:2018 [16]; Bavafa et al. [17]	Recommending the transfer of OHS duties to site project managers/supervisors [1], allowing leadership to escape accountability and creating a production-safety conflict.
Clause 8.1.4(Procurement & Prevention)		Procurement of equipment and materials must meet strict, non-negotiable safety specifications [7].	ISO 45001:2018 [16]; WB ESS2 [7]	Recommending "flexible procurement" and adapting to local suppliers [1], which licenses the abandonment of standard protection procedures.

6. EPISTEMOLOGICAL DISCONNECT AND FLAWED POLICY RECOMMENDATIONS

Beyond the methodological and psychometric flaws, a critical examination of the authors' concrete policy recommendations [1] reveals deep technical contradictions that actively undermine established OHS standards and literature:

In Section 5.4, the authors [1] acknowledge that their study is a localized, non-probability, perceptual exploration. In research philosophy [19], [20], acknowledging limitations does not excuse structural flaws, nor does it allow a researcher to issue sweeping operational policies. The authors [1] overstepped their limits by recommend a "scaled-down minimum OHSMS package" based on project size and budget [1] violates the absolute legal and ethical duty of care under national and international frameworks (such as Labor law, and WB ESS2) [7]. Human life and physical safety are non-negotiable; physical site hazards carry the same lethality regardless of project scale or funding.

Recommending "strengthen leadership accountability by assignment of OHS responsibilities to site project managers and supervisors" [1] directly violates ISO 45001 (Clause 5.1), which mandates that ultimate accountability rests with Top Management. Delegating safety control to production-driven managers creates an acute structural conflict of interest, incentivizing the suppression of incident reporting to protect timelines and budgets [2], [7].

Recommending "adaptive procurement strategies" to source equipment and materials from local suppliers under Yemen's fragile economic context [1] licenses the acquisition of uncertified, substandard equipment and materials. This directly collides with ISO 45001 (Clause 8.1.4) and WB ESS2 suppliers' controls, reducing safety compliance to a superficial practice (Cosmetic Compliance) [7].

7. CONCLUSION

In conclusion, while Al-Maancey et al. (2026) touch upon an essential field [1], their study suffers from foundational methodological and conceptual flaws [2]. Crucially, the authors bypass mandatory legal and regulatory compliance frameworks such as the World Bank ESF/ESS2 and national laws, while fundamentally misinterpreting the nature of ISO 45001 [1], [7], [16]. ISO 45001 is a voluntary management and quality certification issued to an organization only after rigorous practical verification, exhaustive auditing of operational systems and safety records, and regular annual or semi-annual compliance audits to ensure systematic and strict adherence to OHS procedures [16]. Occupational Health and Safety systems are inherently procedural, operational, and forensic by nature; they cannot and do not rest on subjective office-based perceptions [2]. By substituting actual operational auditing with unverified perceptual rankings (n=171) [1], excluding frontline workers and OHS specialists [1], [2], and proposing compromised safety packages and conflicting management oversight [1], [2], the study introduces dangerous operational risks. Consequently, the paper's empirical claims and policy recommendations lack scientific validity, and its outputs must be treated with extreme caution by institutional donors and practitioners navigating Yemen's fragile development landscape [2].

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