Understanding The Key Factors Affecting Sustainable Health and Safety Practices in Construction Industry

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Abstract

Promoting safe working environments and project performance overall depends heavily on the construction industry's adoption of sustainable health and safety measures. However, navigating the many variables that affect employee well-being and organisational performance is necessary to establish and uphold sustainable health and safety procedures. Therefore, this study aimed to investigate the factors affecting sustainable health and safety procedures in the construction industry. To achieve this, a survey questionnaire was designed using the identified factors from the literature and administered to construction stakeholders to gather data. The collected data was analysed using exploratory factor analysis (EFA). The results revealed that safety culture deficiencies, improper safety management, inadequate safety knowledge and compliance, poor safety governance and oversight, resource and management deficiencies, a lack of safety awareness and engagement, and poor organisational commitment and governance were the significant factors affecting sustainable health and safety practices. Tackling these issues calls for coordinated efforts from regulatory agencies, lawmakers, and stakeholders in the construction industry to advance a comprehensive strategy for enhancing sustainable health and safety practices. The construction industry can improve safety cultures, advance employee well-being, and create sustainable, safer work environments by resolving identified inadequacies.

Keywords

Accident, EFA, Safety, Sustainability

1. Introduction

Despite being essential to the growth of the world economy, the construction sector experiences various health and safety risks and occupational accidents owing to its inherent hazards (Ogundipe et al., 2018a). The construction industry is recognised for having a high rate of ailments, accidents, and injuries at work, emphasising health and safety management (Ogundipe et al., 2018b; Oni et al., 2024). Conventional safety methods frequently fail to address the intricate and constantly changing threats related to construction work. There is a rising awareness of the need to include sustainable health and safety measures in building projects to address these issues sustainably. To safeguard employees and advance the project's sustainability, sustainable health and safety standards provide a comprehensive framework that considers social, environmental, and economic factors (Onubi et al., 2020).

Several important factors influence the adoption and effectiveness of sustainable health and safety practices in construction. Organisational culture influences behaviours and practices through values centred around safety, employee involvement, and leadership commitment (Orogun & Issa, 2022). Regulatory frameworks establish health and safety management requirements in the construction industry and motivate compliance and accountability. For sustainable practices to be implemented successfully, worker empowerment and training are crucial. Participating employees in safety activities promotes a culture of safety ownership, proactive risk management, and increased awareness (Kineber et al., 2023). Furthermore, cutting-edge technical solutions for real-time risk assessment and intervention on construction sites are provided via wearable sensors and digital monitoring systems. It is still difficult for construction companies to implement sustainable health and safety policies, even with the efforts from previous research studies. Strategic approaches are necessary to effectively implement barriers such as resource limits, opposition to change, and the complexity of construction operations (Islam et al., 2019). To this end, it is essential to comprehend and address these crucial factors to advance sustainable health and safety standards, improve worker

protection, increase project efficiency, and contribute to the overall sustainability of the industry. Promoting safe working environments and project performance overall depends heavily on the construction industry's adoption of sustainable health and safety measures. However, navigating the many variables that affect employee well-being and organisational performance is necessary to establish and uphold sustainable health and safety procedures (Famakin et al., 2023).

Therefore, this study aims to investigate and analyse multiple factors influencing sustainable health and safety procedures in the construction industry. This study examined a wide range of literature to analyse current knowledge, theoretical frameworks, and empirical data about sustainable health and safety practices in construction. Data from construction stakeholders was gathered using a structured questionnaire. Statistical approaches were employed to thoroughly analyse the acquired data to derive significant insights and conclusions. Ultimately, this study's findings will add to the body of knowledge by illuminating the variables affecting sustainable safety and health practices in the construction industry. The research findings will guide the creation of focused interventions and tactics to enhance health and safety results, create better working conditions, and advance the construction sector's general sustainability.

2. Literature review

Eigege et al. (2021) investigated the factors that support and encourage H&S management practices. The results indicated that the main obstacles to successful implementation were the omission of H&S expenditures from budgets, the lack of performance records for tender selection, and insufficient staff training. Chigara and Moyo (2022) examined how building experts in Zimbabwe perceived the elements that affected providing the best possible health and safety (H&S) during the COVID-19 epidemic. Nine significant factors were identified by a quantitative approach using a web-based questionnaire: monitoring and enforcement, production, change and innovation, on-site facilities and welfare, information and health service access, cost, job security and funding, risk assessment and mitigation, and COVID-19 risk perception. According to Nyaruai (2019), assessment of health and safety concerns in Kenya's construction industry, there are few protective measures and a high frequency of incidents. Most learning took place through apprenticeships, and there was little official documentation. Inadequate compliance with regulations was also discovered, indicating the need for sector-specific policies, more stringent enforcement, and the inclusion of safety and health concerns at the top of development programs' priority lists (Nyaruai, 2019). The impact of client type on the health and safety outcomes of construction projects implementing green practices in Nigeria is examined by Onubi et al. (2020). The study discovered that while client type hurts the association between energy management and safety indicators, it positively modifies the relationship between waste management and health and safety performance. The type of client does not moderate the link with materials management.

Orogun and Issa (2022) created and verified a sustainable health and safety maturity model to evaluate health and safety procedures in sustainable construction projects. The model highlighted risk and hazard management as significant components and identified important drivers of safety maturity and essential safety behaviours. The empirical landscape of occupational health and safety management systems (OHSMSs) in the construction sector is summarised by Kineber et al. (2023), emphasising implementation, management, performance, awareness, and impediments. The results point to critical areas of study for OHSMS, including issues like poor safety culture, insufficient use of personal protective equipment, and communication gaps. Chandra (2015) examines the primary causes and determinants of sustainable construction safety and health, emphasising the importance of project management, company support, and leadership. Measuring sustainable construction methods requires careful consideration of critical indicators such as waste management, indoor air quality control, and on-site renewable energy. The findings show a high correlation between construction safety, health results, sustainable practices, and motivators. Agumba and Haupt (2018) examined health and safety (H&S) procedures in small and medium-sized construction companies (SMEs) using a mixed-method study approach. A refined H&S model with five critical practices was validated with 216 SMEs. The results demonstrated that, through project supervision, adequate H&S resources and training, and upper management commitment and involvement, overall H&S performance was positively influenced. These factors are critical for building a strong H&S culture in construction SMEs.

Islam et al. (2019) acknowledge safety as a critical component of social sustainability and concentrate on identifying and evaluating safety practices in sustainable building. After a thorough analysis, 37 causes and 20 mitigation strategies were found, offering insightful information for further study and practical safety precautions in the building sector. Idoga (2018) looks at what factors affect construction workers' health and safety and finds that planning for safety, worker knowledge, and training all have a significant impact. Construction managers can improve health and safety practices by utilising the data from 236 participants in Northern Cyprus, highlighting important areas for strengthening worker safety. In their investigation of health and safety risks (HSR) in Tanzanian informal construction (IC), Mwemezi et al. (2023) find that risk awareness and a lack of safety expertise are essential influencing factors.

The results underscore the necessity of instituting methodical HSR management protocols to enhance safety in IC, conforming to the 2030 health, well-being, and sustainable communities SDGs 3 and 11. In their investigation of the difficulties in enforcing health and safety laws in the construction industry in developing nations, Famakin et al. (2023) pinpoint essential problems such as working conditions, management procedures, and enforcement mechanisms. The results highlight how crucial it is to keep safety records and legislation up to date to successfully address these issues and guide future construction site safety management studies. Senso (2017) investigates the variables affecting health and safety practices (HSPs) at work in Tanzania's Temeke Municipality. The results highlight the value of employee involvement, training, and leadership in enhancing HSPs and organisational effectiveness. By contrasting them with nonsustainable projects, Karakhan and Gambatese (2017) assess occupational health and safety (OHS) risks in sustainable building projects across the United States. When leadership in energy and environmental design (LEED) credits were examined for their effect on the safety of construction workers; it became clear that while many of them are neutral, some are linked to higher safety concerns. The results emphasise how crucial it is for construction stakeholders to consider OHS when making decisions on sustainable design.

3. Methods

The study used a quantitative research strategy to methodically investigate the variables influencing sustainable health and safety practices in the construction sector. This method made it easier to gather quantitative data that could be statistically examined to provide essential insights and conclusions about the connections between different elements influencing construction-related health and safety procedures. The research technique was based on a thorough understanding of the topic provided by the literature review, which also identified pertinent studies, theoretical frameworks, and empirical data about sustainable health and safety practices. The research framework, questionnaire design, and later data analysis methods were all influenced by this phase.

A structured questionnaire was created to gather information on the variables influencing sustainable health and safety practices based on conclusions drawn from the literature study. The survey used a combination of closed-ended and Likert scale questions to collect data from Malaysian construction stakeholders methodically. Purposeful sampling was used to choose participants with the necessary training and experience. These participants included project managers, engineers, architects, quantity surveyors, and safety officials. This sampling technique ensured that participants had the knowledge needed to give insightful answers. To maximise response rates, the survey questionnaire was emailed to a selected group of participants along with several reminders spaced out over seven months. Electronic distribution lowered the logistical obstacles linked to conventional paper-based surveys and enabled more effective data collection.

After several reminders, stakeholders in Malaysian construction provided 281 responses. To analyse the underlying factor structure of the data and pinpoint discrete groups or clusters of variables about sustainable health and safety practices in the construction industry, the data analysis process included exploratory factor analysis (EFA). By identifying patterns and links in the dataset, this method made it easier to categorise or eliminate observation variables to maximise data consolidation. The analysis's conclusions offered insightful information on the variables impacting sustainable health and safety procedures in Malaysia's construction sector.

4. Results

4.1 Results (Respondents Background)

39.9% of respondents reported working for six to ten years, and 23.1% reported working for eleven to fifteen years. In particular, 86.4% of respondents had worked in construction for more than five years, which made them the most fit to offer accurate responses, given their depth of expertise.

51.6% of respondents held a bachelor's degree, and 24.6% held a master's degree. Similarly, over 79.4% of participants reported obtaining a degree or higher education credential. This suggests that the survey participants have a solid educational record, increasing the possibility that they have the knowledge required to respond correctly.

4.2. Results (EFA)

Starting with a set of 50 variables, the exploratory factor analysis was conducted using the Kaiser-Meyer-Olkin Measure and Bartlett's Test of Sphericity of Sampling Adequacy Test. The validity of factor analysis was confirmed by Bartlett's test of sphericity, a gauge of the strength of the relationship between variables. ($x^2 = 2255.958$) The results were found to be significant. According to the KMO measure of sampling adequacy, the sample size was adequate to assess the factor structure, yielding a value of 0.722 for the parameter. The data also passed Bartlett's sphericity test,

demonstrating their suitability for factor analysis (Pallant, 2016). Table 1 shows the results of the KMO and Bartlett's Test.

Table 1. Kaiser–Meyer–Olkin (KMO) and Bartlett spherical test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.722
Bartlett's Test of Sphericity	Approx. Chi-Square	2255.958
	df	1081
	Sig.	<.001

A factor loading limit of 0.35 was needed for the EFA, which was then conducted with 50 items utilising principal component analysis (PCA) extraction and Varimax rotation with an eigenvalue of 1.5 for this investigation. The seven variables account for 41.592 percent of the variance (see Table 2).

Table 2. Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.483	18.049	18.049	8.483	18.049	18.049	3.931	8.365	8.365
2	2.185	4.649	22.698	2.185	4.649	22.698	2.957	6.292	14.657
3	1.924	4.094	26.792	1.924	4.094	26.792	2.788	5.932	20.589
4	1.894	4.031	30.822	1.894	4.031	30.822	2.751	5.852	26.441
5	1.768	3.761	34.583	1.768	3.761	34.583	2.716	5.779	32.220
6	1.716	3.650	38.234	1.716	3.650	38.234	2.301	4.897	37.117
7	1.579	3.359	41.592	1.579	3.359	41.592	2.103	4.475	41.592
8	1.433	3.050	44.642						
9	1.396	2.969	47.611						
10	1.333	2.837	50.448						
11	1.289	2.743	53.191						
12	1.204	2.562	55.752						
13	1.185	2.522	58.274						
14	1.152	2.451	60.725						
15	1.122	2.387	63.112						
16	1.031	2.193	65.305						
17	.982	2.089	67.394						
18	.932	1.983	69.377						
19	.904	1.923	71.300						
20	.880	1.872	73.172						
21	.847	1.802	74.974						
22	.805	1.713	76.687						
23	.782	1.663	78.350						
24	.728	1.548	79.898						
25	.699	1.486	81.384						
26	.663	1.411	82.795						
27	.625	1.329	84.124						
28	.588	1.251	85.375						
29	.584	1.243	86.618						
30	.554	1.179	87.797						
31	.542	1.153	88.950						
32	.491	1.044	89.994						
33	.457	.973	90.968						
34	.443	.942	91.910						
35	.420	.894	92.804						
36	.396	.842	93.647						
37	.374	.797	94.443						
38	.362	.770	95.213						
39	.348	.741	95.955						
40	.321	.682	96.637						
41	.307	.654	97.291						
42	.290	.617	97.908						
43	.239	.508	98.416						

44	.224	.477	98.893
45	.195	.414	99.308
46	.191	.407	99.715
47	.134	.285	100.000

Three items that did not contribute to a simple factor structure and did not meet the required minimum factor loading criteria of 0.35 or above were eliminated based on the rotated component matrix. As a result, 47 items in total were kept. The outcome of the factor analysis revealed the formation of seven factors. The final components and their factor loading are contained in Table 3.

Table 3: Rotated Component Matrix[a]

	Component						
Factors	1	2	3	4	5	6	7
1. Safety culture deficiencies							
The feedback loop is not closed after accidents	0.867						
Insufficient staff for safety supervision and inspection	0.841						
Not giving adequate safety orientation to new labourers	0.822						
Low priority of safety only priority is to avoid incremental costs	0.798						
Insufficient safety budget	0.787						
Exploitation and corruption	0.757						
Non-decentralization of safety responsibilities by management	0.722						
Not giving value to the significance of safety measures actualised in working environments	0.718						
Management's focus on productivity rather than safety	0.711						
Inadequate safety equipment at Work	0.656						
Lack of employee engagement in developing safety policy	0.632						
2. Improper safety management							
Lack of emergency plan and procedures		0.942					
Lack of technical guidance		0.871					
Poor information flow		0.854					
Safety violations were sometimes ignored to maintain the project schedule.		0.833					
The training for safety officers is costly		0.802					
No balance between safety and profitability		0.788					
Lack of worker compensation/insurance scheme		0.721					
3. Inadequate safety knowledge and compliance							
Lack of safety training			0.833				
Extensive subcontracting and outsourcing resulted in poor safety control			0.812				
Lack of documented and regular safety management systems			0.809				
Unawareness of workers about their safety rights			0.775				
Poor accident record-keeping and reporting			0.752				
Lack of safety knowledge or not wanting to understand the reason or importance of safety			0.740				
Insufficient health and safety rules and regulations			0.713				
Role and procedures challenging to understand and implement			0.621				
4. Poor safety governance and oversight							
Inadequate and lack of safety meeting				0.856			
Lack of inspection				0.821			
Not setting safety guidelines into the body of conditions of the contract				0.798			
Lack of enforcement of safety rules and regulations by the government				0.765			
Extensive utilisation of foreign workers				0.741			
Lack of experienced project managers				0.722			
5. Resource and management deficiencies							
Insufficient allocation for safety incentives					0.880		
Improper health and safety risk assessment					0.841		
Work pressure is high when deadlines are approaching					0.807		
Lack of experience of workers on safety matters					0.788		
Language barriers between supervisors and workers					0.763		
Management blame is divided for accidents					0.729		
6. Lack of safety awareness and engagement							
Lack of safety awareness among workers						0.905	
Lack of promotion on safety matters						0.872	
Lack of financial allocation for safety management						0.843	

Not engaging resident safety managers on construction sites	0.811	
Lack of safety awareness among the management team	0.771	
Low educational level of workers	0.720	
7. Poor organisational commitment and governance		
Poor management commitment		0.962
Safety not considered while selecting the subcontractors		0.858
Lack of attention from Government		0.825

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 14 iterations.

5. Discussion

5.1. Safety culture deficiencies

"Safety culture deficiencies" describes essential elements that prevent construction companies from creating and sustaining a strong safety culture. These variables include a range of inadequacies and difficulties with workplace safety procedures and attitudes. First, the factor "Insufficient staff for safety supervision and inspection" emphasises how crucial it is to have enough people working to enforce standards compliance and supervise safety procedures (Islam et al., 2019). Organisations may find it challenging to recognise and efficiently manage safety issues if insufficient staff is unavailable for supervision and inspection. The need to provide new hires with appropriate onboarding and training is highlighted by the factor "Not giving adequate safety orientation to new labourers". Inexperienced labourers may be more vulnerable to dangers and accidents if they do not receive a complete safety orientation (Kineber et al., 2023).

Comparably, "Low priority of safety, with a sole focus on cost avoidance" highlights a prevalent issue in which cost reduction precedes safety considerations. This mentality may hamper attempts to purchase essential safety gear and precautions. Problems such as "Inadequate safety equipment at work" directly affect employee safety and may be a factor in the rise in injury rates. Workers face increased risks and vulnerabilities when not outfitted with the appropriate safety gear and equipment. Moreover, "Management's focus on productivity over safety" highlights a crucial cultural problem in which organisational priorities may favour productivity targets over safety measures. Conflicts and tensions like this may arise, jeopardising overall safety performance. Additional elements affecting safety practices include "Lack of employee engagement in developing safety policy" and worries about "exploitation and corruption." These highlight more significant organisational and cultural issues (Chigara & Moyo, 2022). Involving workers in creating safety policies promotes a sense of accountability and dedication to the cause of safety, and tackling issues of exploitation and corruption is crucial to establishing integrity and confidence within the company.

5.2. Improper safety management

Improper safety management refers to a range of inadequacies in managing safety in construction companies, such as deficiencies in emergency preparation, technical advice, information sharing, and responding to safety infractions. The "Lack of emergency plan and procedures" emphasises how crucial it is to have thorough emergency protocols to efficiently handle on-site emergencies or crises (Eigege et al., 2021). Comparably, "Lack of technical guidance" emphasises the importance of constant, unambiguous technical support to handle safety issues and guarantee that best practices are followed. "Poor information flow" refers to internal communication and information exchange issues that can prevent important safety-related information from getting out there (Kineber et al., 2023).

Similarly, "Safety violations being ignored to maintain project schedule" highlights a serious problem: worker safety may be jeopardised if safety issues are minimised or disregarded in favour of project timelines. Budgetary restrictions that may affect investments in safety training and development are highlighted by concerns about the expense of training safety officers (Training for safety officers is costly). "No balance between safety and profitability" highlights the significance of incorporating safety issues into entire project planning and decision-making, addressing the difficulty of matching safety objectives with business goals (Oni et al., 2024). In conclusion, "Lack of Worker Compensation/Insurance Scheme" emphasises how critical it is to give employees sufficient assistance and security in the event of an accident or injury.

5.3. Inadequate Safety Knowledge and Compliance

Inadequate Safety Knowledge and Compliance draws attention to several issues that construction companies face regarding safety knowledge, paperwork, training, and compliance. The "lack of safety training" factor highlights the urgent need for thorough training programs that give employees the abilities and information they need to recognise and successfully reduce safety risks (Kineber et al., 2023). "Extensive subcontracting and outsourcing resulting in

poor safety control" highlights the need for clear safety rules and coordination while drawing attention to the difficulties caused by subcontractors' divided safety obligations and oversight. Likewise, the "lack of documented and regular safety management systems" highlights how crucial it is to set up robust systems that are effectively communicated throughout the company, well-documented, and frequently updated (Islam et al., 2019).
In the same vein, "Unawareness of workers about their safety rights" draws attention to the necessity of better education and communication to ensure that employees are aware of their rights and obligations concerning safety. The term "poor accident record-keeping and reporting" highlights inadequacies in the gathering and processing of data, making it more challenging to conclude the past and put preventative measures in place. "Lack of safety knowledge or unwillingness to understand safety importance" highlights issues with attitudes and culture surrounding safety, highlighting the necessity of ongoing engagement and education to help employees develop a safety-oriented way of thinking (Nwemezi et al., 2023). The term "insufficient health and safety rules and regulations" highlights the need for comprehensive and enforced safety standards by reflecting weaknesses in regulatory frameworks or insufficient enforcement. "Role and procedures difficult to understand and implement" emphasises the difficulties that arise from ambiguous or complicated safety protocols, stressing the significance of streamlining processes and offering sufficient assistance for their execution

5.4. Poor Safety Governance and Oversight

Poor Safety Governance and Oversight covers a range of issues regarding safety meetings, inspections, terms of contracts, compliance with regulations, personnel makeup, and project management proficiency in construction environments. "Inadequate and lack of safety meetings" draws attention to routine safety coordination and communication inadequacies, highlighting the significance of organised safety meetings to discuss and resolve safety-related issues (Islam et al., 2019). "Lack of inspection" highlights the necessity for routine inspections to quickly detect and address safety hazards by pointing out oversight and monitoring deficiencies. Also, "not setting safety guidelines into the body of conditions of contract" emphasises the importance of explicitly including safety criteria in contracts to guarantee accountability and clear expectations. Furthermore, the "lack of enforcement of safety rules and regulations by the government" highlights the difficulties in adhering to and enforcing regulations and the necessity of robust government control and enforcement systems (Famakin et al., 2023). "Extensive utilisation of foreign workers" draws attention to the significance of inclusive safety standards and good communication while highlighting issues related to varied workforce compositions and potential language or cultural difficulties. Finally, the "lack of experienced project managers" highlights the significance of competent project management in efficiently prioritising and implementing safety measures (Nwemezi et al., 2023). It also highlights the vital role that leadership and competence play in managing safety within construction projects.

5.5. Resource and Management Deficiencies

Resource and Management Deficiencies sum up several serious issues that arise in construction settings and immediately affect how well health and safety procedures are implemented and maintained. A lack of budgetary planning priority for safety measures is reflected in the insufficient funding for safety incentives, which could undermine attempts to promote and reward safe behaviour (Chigara & Moyo, 2022). Poor risk assessment for health and safety highlights weaknesses in analysing workplace dangers, resulting in insufficient risk-reduction plans and increased worker safety concerns. When employees are under a lot of work pressure to meet deadlines, they may put project completion ahead of following safety procedures, which raises the risk of accidents. Similarly, employees' lack of expertise in safety issues draws attention to a training gap that compromises the efficacy of safety policies and procedures (Eigege et al., 2021). Language limitations can make it difficult for supervisors and employees to communicate safety instructions clearly, resulting in miscommunication and safety violations. Furthermore, the management's propensity to assign blame for mishaps implies a lack of accountability and a failure to address systemic problems that fuel safety occurrences.

5.6. Lack of Safety Awareness and Engagement

Lack of Safety Awareness and Engagement refers to several essential elements that affect sustainable health and safety procedures in construction environments. "Low educational level of workers" and "lack of safety awareness among workers" draw attention to a lack of comprehension and information regarding safety procedures, which might raise the chance of accidents and hazards (Eigege et al., 2021). This emphasises the significance of thorough safety training programs designed to address a range of educational backgrounds and raise workers' understanding of safety. Similarly, "lack of financial allocation for safety management" and "absence of safety promotion" highlight inadequacies in organisational commitment and investment in safety programs (Oni et al., 2024). A safety-focused culture and the successful execution of safety measures depend on properly promoting safety issues and the availability

of enough funding. Lastly, "not engaging resident safety managers on construction sites" denotes a squandered chance to have committed safety experts monitoring project sites, perhaps resulting in insufficient risk assessment and management.

5.7. Poor organisational commitment and governance

Poor organisational commitment and governance summarises the elements affecting environmentally friendly health and safety procedures in construction environments. "poor management commitment" refers to the organisational leadership's lack of commitment to and support for safety project prioritisation (Oni et al., 2022; Oni et al., 2024). Adopting and maintaining efficient health and safety procedures across building projects becomes difficult without strong management commitment. "Subcontractor selection without considering safety" emphasises the importance of including safety considerations in subcontractor selection procedures. On building sites, disregarding safety requirements while choosing subcontractors can result in higher hazards and lower safety standards. "Lack of attention from government" shows how vital regulatory supervision and governance are in ensuring safety laws and standards are followed in the building sector (Agumba & Haupt, 2018). Government authorities ' lax enforcement or lack of attention can undermine efforts to preserve and promote sustainable health and safety measures.

6. Conclusions

The outcome of this study points to essential areas of concern that significantly affects sustainable health and safety practices in the construction industry. Key issues include safety culture deficiencies, improper safety management, inadequate safety knowledge and compliance, poor safety governance and oversight, resource and management deficiencies, a lack of safety awareness and engagement, and poor organisational commitment and governance. By implementing these findings through targeted interventions and strategies, the construction sector can significantly improve overall sustainability in health and safety practices, create safer work environments, and enhance safety standards. This study underscores the crucial role of leadership commitment, adequate resource allocation, and comprehensive training in promoting sustainable health and safety practices. Addressing these identified inadequacies will enable construction companies to enhance safety cultures, advance employee well-being, and establish safer, more sustainable work environments.

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