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Impact of OHS Practices on Employee Engagement An Applied Study in Five-Star Hotels in the City of Sana'a(*)

Abdulrahman Mohammed Al- Sufyani
Assistant Professor, Department of Tourism and
Hotel Management, Faculty of Administrative
Sciences, Taiz University, Yemen
a_alsufyani2009@gmail.com

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(*) موقع المجلة:

أثر ممارسات الصحة والسلامة المهنية على ارتباط الموظفين دراسة تطبيقية في الفنادق فئة الخمس نجوم في مدينة صنعاء

عبدالرحمن محمد السفيناني

أستاذ مساعد بقسم السياحة وإدارة الفنادق
كلية العلوم الادارية جامعة تعز اليمن

الملخص

الهدف من هذه الدراسة هو التحقيق من أثر ممارسات الصحة والسلامة المهنية على ارتباط الموظفين في الفنادق فئة الخمس نجوم في مدينة صنعاء. اعتمدت الدراسة على المنهج الوصفي واستخدمت أداة الاستبيان التي تم تصميمها وفقاً لمقياس ليكرت الخماسي. تم توزيع وجمع البيانات من 195 موظفا ممن يعملون في فنادق الخمس نجوم في مدينة صنعاء اليمنية. وتشير النتائج إلى أن واقع تطبيق ممارسات الصحة والسلامة المهنية في فنادق الخمس نجوم متوسط، ومستوى ارتباط الموظفين مرتفع. تظهر النتائج أيضاً أن هناك تأثيراً نوا دلالة إحصائية لممارسات الصحة والسلامة المهنية (في وقت واحد) على ارتباط الموظفين. إلى جانب ذلك، فإن المتغيرين (التزام الإدارة العليا وتدريب الصحة والسلامة المهنية) من بين المتغيرات الأخرى لممارسات الصحة والسلامة المهنية لهما تأثير كبير على ارتباط الموظفين. علاوة على ذلك، تظهر النتائج أن ما يقدر بـ 30.4% من التباين الكلي لارتباط الموظفين يمكن تفسيره من خلال ممارسات الصحة والسلامة المهنية. أخيراً، يمكن تقديم مقترحات إلى إدارات فنادق الخمس نجوم في مدينة صنعاء بإيلاء مزيداً من الاهتمام بممارسات الصحة والسلامة المهنية للحفاظ على موظفيها وحمايتهم من الأخطار والأمراض التي تحدث في مكان العمل بسبب أهميتها في تعزيز ارتباط الموظفين.

الكلمات المفتاحية: ممارسات الصحة والسلامة المهنية، سياسة الصحة والسلامة المهنية، التزام الإدارة العليا، الحفاظ على بيئة عمل صحية، تقارير الحوادث والتحقيقات، تدريب الصحة والسلامة المهنية، ارتباط الموظفين.



Impact of OHS Practices on Employee Engagement An Applied Study in Five-Star Hotels in the City of Sana'a

Abdulrahman Mohammed Al- Sufyani

Assistant Professor, Department of Tourism and Hotel Management,
Faculty of Administrative Sciences, Taiz University, Yemen

Abstract

The aim of this study is to investigate the impact of occupational health and safety practices on employee engagement in the five-star hotels in the city of Sana'a. The Study depended on the descriptive approach and used the questionnaire tool that was designed according to the five-Likert scale. The data distributed and collected from 195 employees working in in the five-star hotels in the Yemeni city of Sana'a. The results indicate that the reality of implementing occupational health and safety practices in the five-star hotels is medium, and the level of employee engagement is high. Also, the results show that there is a statistically significant impact of occupational health and safety practices (simultaneously) on employee engagement. Besides, the two variables (top management commitment and OHS training) among the other variables of OHS Practices have been a significant impact on the employee engagement. Further, the results show that an estimated 30.4% of the variance in overall employee engagement can be accounted for by the occupational health and safety practices. Finally, suggestions may be made to the managements of five-star hotels in the city of Sana'a to pay more attention to occupational health and safety practices to maintain and protect their employees from dangers and deases that are occurring in the work place because of its importance in enhancing the employee engagement.

Key Words: OHS practices, OHS policy, top management commitment, maintaining a healthy work environment, accident reports & investigation, OHS training, employee engagement.



Introduction

The hotel industry in Yemen considered one of the most important service industries that contribute significantly to the development of tourism and the economic development of the country by providing job opportunities, earning foreign exchange, improving the balance of payments, raising the standard of living, and rural development (Al-Sufyani, 2010). Its success depends largely on its highly qualified and skilled human resources, but the most prominent challenge facing this industry in the world in general and Yemen in particular is what the world is witnessing from the transformations and the spread of diseases, epidemics, as well as the spread of Corona pandemic in early 2020, which had profound effects in all parts of the earth, and touched every aspect almost all aspects of the world of work, from the risks of transmission of the virus in the workplace to occupational health and safety risks.

This requires those in charge of managing these establishments to abandon their traditional administrative methods and adopt modern methods in their management of their human resources, and provide them with a healthy work environment commensurate with their psychological and physiological capabilities to protect them from diseases. This is of course reflected positively on the level of their engagement, increase their level of satisfaction with work, and achieve the highest levels of efficiency and effectiveness in accomplishing their work. In addition, the issue of occupational health and safety is one of the topics that received international attention since long time.

Historically, the international interest in safety, health and the work environment dates back to the year (1981) when the General International Conference of the International Labor Organization was held, which came out with many proposals related to safety, health and the work environment. It was took the form of an agreement to prevent accidents and health injuries resulting from work, reduce risks associated with the work environment, achieve a safe work environment free and fortified from sources of risks, familiarize workers with occupational health and safety rules, and provide and implement all requirements for occupational health (Nasima, 2018).

Moreover, many studies and research have emphasized the importance of occupational health and safety and its strong impact on the performance of both organizations and employees alike (Wambulwa et al., 2018; Gbadago et al., 2017; Maryjoan, & Tom 2016; Dwomoh et al., 2013), job satisfaction (Yusuf et al., 2012, Perera, 2019), organizational commitment and turnover intention (Liu et al., 2019; Albanchez et al., 2021) and employee engagement (Gyensare et al., 2019). Given the importance of occupational



health and safety and its impact on employee engagement, this study came to highlight on the impact of occupational health and safety practices on the employee engagement in five-star Hotels in the city of Sana'a.

2. Study Problem

Major hotel companies in the city of Sana'a in particular, and Yemen in general, face many problems and obstacles due to the current conditions that our country is witnessing as a result of wars and conflicts since March 2015 and the spread of the Corona pandemic. As these problems are not related to the internal administrative practices of hotel companies only, but also extended to include the factors of the external environment surrounding them, which negatively affected the performance and engagement of their employees, and the level of services provided to their clients.

Given the main role played by human resources in bringing about change and adapting to those variables, these companies are required to provide the elements of occupational health and safety for workers to protect them from diseases and epidemics that may affect them during work. This, in turn, enhances the manifestations of their engagement, increases their level of performance, and makes them more attached to their jobs and do their best in the performance of their work. Within this context, the study problem can be formulated in answering the following question:

What is the impact of occupational health and safety practices on the employee engagement in five-star hotels in the city of Sana'a?

3. Objectives of the Study

- 1- Identify the reality of occupational health and safety practices in five-star hotels in the city of Sana'a.
- 2- Identify the level of employee engagement in five-star hotels in the city of Sana'a.
- 3- Determine the impact of occupational health and safety practices on employee engagement in five-star hotels in the city of Sana'a.

4. Theoretical and Literature Review

4.1 Occupational Health and Safety

Occupational health or workplace health and safety (WHS), is a multidisciplinary field concerned with the safety, health, and welfare of people at work (Medical Dictionary, 2012). A joint definition of occupational health by ILO and WHO stated that occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental, and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of employees in their work from risks resulting



from factors adverse to health; the placing and maintenance of workers in an occupational environment adapted to their physiological capabilities; and, to summarize: the adaptation of work to man and of each man to his job (WHO, 1995).

The term OH & S defined by (OHSAS, 2008), as conditions and factors that affect, or could affect, the health and safety of employees or other workers (including temporary workers and contractor personnel), visitors, or any other person in the workplace. According to (Armstrong & Taylor, 2014) Occupational health deals with the prevention of ill-health arising from working conditions/or environment that slowly accumulate to lead deterioration of the workers' health, whereas occupational safety is concerned with prevention of accidents and minimizing the aspect of work environment that has the potential of causing immediate violent harm to employees. Occupational health and safety (OHS) is the science of the anticipation, recognition, evaluation and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment (Alli, 2008).

In recent years, some employees have temporarily or permanently disabled by work related accidents as a result of inadequate knowledge in OHS systems. According to International Labor Organization (ILO) more than 2.78 million people die annually as a result of occupational accidents or work-related diseases, and there are more than 374 million non-fatal work-related injuries each year, resulting in more than 4 days of absences from work. The human cost of this daily adversity is vast and the economic burden of poor occupational safety and health practices is estimated at 3.94 per cent of global Gross Domestic Product each year (www.ilo.org).

(Juliet & Nkemdilim, 2019) study revealed that Hotel employees have higher rates of occupational injuries and sustain more severe injuries than most other service workers. In addition, according to a study (Buchanan et al., 2010), which conducted on hotel companies in the United States, a total of 2,865 injuries are reported during 55,327 worker-years observation and the rate, was higher for housekeepers workers and kitchen workers. Also age, job title, and company had a closely related to injury risk. Currently, hotel companies in the world, like other industries, are struggling to prevent health risks that may afflict their employees as a result of the spread of diseases and epidemics, especially the Corona pandemic, which has spread recently.

The application of occupational health and safety regulations today has led to the successful control of workplace injuries in many companies in the



world. However, there is a lack of literature studies on the impact of occupational health and safety practices on employee engagement. In 2018, McKnight conducted a study in U.S, and found that safe work-sites not only reduce safety incidents and fatalities but also promote successful, vibrant lives and healthy communities as well. (Kim et al., 2016) conducted a study in Hong Kong and found that the occurrence of occupational damages and diseases has considerably reduced after scientific and technological changes as well as the establishment of occupational health and safety systems. (Lebeau et al., 2014) conducted a study in Canada and found that occupational accidents represent a social and economic burden for businesses.

Thus, OHS is a field concerned with protecting employees and other people affected by what the organization produces and does. It aims at protecting employees from the hazards and risks arising from their employment or their links with the organization and deals with the prevention of ill-health arising from working conditions (Armstrong, 2006). Moreover, people are motivated not only by their unique personalities and by how they want to fit into their world but also by their own individual needs. Dr. Maslow identified five needs which are the physiological, safety, social, ego, and self-fulfillment needs. He said that people work to survive and live through financial compensation, to make new friends, to have job security, for a sense of achievement and to feel important in the society, to have a sense of identity, and most especially to have job satisfaction and therefore the employees that have job satisfaction are high performers in their respective workplaces (Maslow, 1943).

OHS programs are most important in changing unsafe behavior and reducing accidents and injuries (Fleming & Lardner, 2002). Hazards present in the work environment can have a significant impact on productivity, safety and health, employee satisfaction, and employee turnover (Salvendy, 2012). (Andersen et al., 2019) found in his study that OHS policy may reduce injuries and fatalities as well as improve compliance with OH&S systems. (McKnight, 2018) found that top management established a safety-oriented culture by systematically implementing the safety management systems principles and practices in every organizational process, and safety training ensured that workers have the necessary skills to perform safely. (Gyensare et al., 2020), by examining the impact of occupational health and safety on employee engagement in their study found that occupational health and safety has a positive effect on intellectual, social and affective engagement.



4. 2 OHS Policy

The concept of occupational health and safety policy clarifies the existence of clear and written occupational health and safety standards and objectives recognized by the concerned authorities. It also explains in detail the procedures followed in the organization to protect the life and health of employees, and it must be included in the vision and mission of the organization and in which all employees participate (Reese, 2016). In general, (Francis, 2017) indicated that the policy should contain at a minimum the overall objective of the program, the commitment of management to protect the HS of employees, management responsibility and accountability, the EHS philosophy of the organization and employee accountability and responsibility.

The OHS policy should contain a commitment to eliminate hazards and reduce occupational health and safety risks (Fuller, 2019). It establishes an overall sense of direction and it is the driver for implementing and improving an organization's OHS management system so that it can maintain and potentially improve its OHS performance. It should enable persons to understand the overall commitment of the organization and how this can affect their individual responsibilities. The responsibility for defining and authorizing an OHS policy rests with the organization's top management. The organization's OH&S policy should be appropriate to the nature and scale of its identified risks and should guide the setting of objectives. In order to be appropriate, the OH&S policy should be consistent with a vision of the organization's future, and realistic, neither overstating the nature of the risks the organization faces, nor trivializing them. The OH&S policy should be reviewed periodically to ensure that it remains relevant and appropriate to the organization (OHSAS, 2008).

According to (Armstrong and Taylor, 2014), written OH&S policies are required to demonstrate that top management is concerned about the protection of the organization's employees from hazards at work and to indicate how this protection will be provided. Therefore, the policies are a declaration of intent a definition of the means by which that intent will be realized and a statement of the guidelines that should be followed by everyone concerned. The policy statement should consist of three parts; First part is the general policy statement which is a declaration of the intention of the employer to safeguard the health and safety of employees, whereas the second part is the description of the organization of health and safety which describes the health and safety practices in the organization of the business through high set standards and to be achieved by people at all levels in the organization, this statement should underline the ultimate



responsibility of top management for the health and safety performance of the organization, the role of safety representatives and safety committees should be defined, and the duties of specialists such as the safety adviser and the medical officer should be summarized. The third part is about details of arrangements for implementing the policy which is provided by three review methods risk assessments, OH&S audits and OH&S inspections.

4.3 Top Management Commitment

It is the responsibility of the top management to provide a healthy and safe work environment for employees. (Reese, 2016) review the organization's OHS management system, at planned intervals, to ensure its continuing suitability, adequacy, and effectiveness (Fuller, 2019), and ensure that management process promote safety and health at work (Alli, 2008). Adequate arrangements should also be made for compensating employees related to injuries and disease, responding to employees' suggestions regarding OHS issues, adopting planning in risk assessment process, giving priority to occupational health and safety, allocating the necessary resources to support OHS systems and empowering employees to achieve their works and everything related to OHS issues.

In his seminal Harvard Business Review article, Richard Walton 1985 stated that eliciting employee commitment will lead to improve the performance. The importance of commitment was highlighted by Walton. His theme was that improved performance would result if the organization moved away from the traditional control-oriented approach to workforce management, which relies on establishing order, exercising control and achieving efficiency (Armstrong, & Taylor, 2014).

In conclusion of the (ILO, 2016) Statement mentioned that the commitment of senior management to occupational health and safety management systems is important because communication between employers and workers is critical, and the attitudes of senior management strongly influence the nature of this communication. Management's commitment to safety is recognized as an essential component of an organization's management system.

4.4 Maintaining a Healthy Work Environment:

The term working environment was taken at occupational safety and health act 1984 to include workplace itself, the work arrangements, the work process, the physical environment and the psychological environment (Commission for Occupational Safety and Health, 2005). The physical work environment as defined by WHO is the part of the workplace facility which can be detected by human or electronic senses, including the structure, air,



properties, chemicals, materials and processes that are present or that occur in the workplace, and which can impact the physical or mental safety, health and performance of workers. The Psychosocial Work Environment includes the organization of work and the organizational culture; the attitudes, values, beliefs and practices that are demonstrated on a daily basis in the company, and which affect the mental and physical performance of employees (WHO,2010).

(Stephen & Timothy, (2017) stated that the purpose of the OHS is to create a safe working environment and employees are protected from workplace accidents or from adverse events. This is attributed to the factors that drive job satisfaction, such as supporting employment condition in which employees care about good working environment for personal comfort and to ease their task because they prefer to work in the physical environment that is not dangerous or troublesome. International labor standards request employers to ensure a safe and healthy working environment, and to identify hazards in order to eliminate them or reduce the risks involved (ILO, 2016).

4. 5 Accident Report and Investigation

An accident is defined as an unplanned event (Kemei & Nyerere, 2016). As for the occupational accident, it was described as any danger that occurs in the work environment without prior warning (ILO, 2016). While the occupational injury was described as the final result of the worker's exposure to any accident while performing his work or while going to or returning from it, without deviating from the normal path (McKinnon,2014). It was also defined as exposing the worker to a slight danger in his work environment and can be treat them immediately, and then the most common injuries in hotel establishments were classified into: wounds, burns and collision (Chesser, 2016; Jeong & Shin, 2016). The occurrence of these hazards in the work environment linked by the unsafe working conditions or unsafe behavior, or a combination of these and they can be minimized through measures such as safe work procedures, engineering design/controls, personal protective equipment, and planning (Garland, 2018).

The investigation of the causes of accidents and occupational injuries is one of the important procedures to be implemented in any facility (McKinnon, 2014). It is aimed to determine how and why an undesirable accident occurred by collecting data and information to understand what happened, identifying procedures regarding the effectiveness of interventions and prevention methods, documenting everything related to accidents, legal issues and workers' compensation, and identifying potential risks (Michael, 2013).



4. 6 OHS Training

Training is the process whereby people acquire capabilities to perform jobs (Mathis & Jackson, 2008). It is the systematic application of formal processes that helps in developing the set of knowledge and skills for employees in order to improve their performance in the workplace (Sheeba & Christopher, 2020). Health and safety training is an essential part of a preventive programme. It should start as a part of new employees' orientation as well as following a transfer to a new job or a change in working methods (Armstrong & Taylor, 2014). According to (Reese, 2016) training is one of the most important elements of any safety and health program, which describe methods for introducing and communicating new ideas into the workplace, reinforcing existing ideas and procedures, and implementing OHS program into action. Training needs are identified with the participation of all employees, which should include training of managers and employees, worker task training, employee updates, and new employee's orientation/induction. All organizations and corporations need to identify their human resource needs and then determine how they will fulfill them in the work locations (Fuller, 2019). There are appropriate times when safety and health training should be provided for example, when employee lacks the safety skills, for new employees, when changes have been made in the normal operating procedures and when worker has not performed a task for some period of time (Reese, 2016).

The types of training include but not limited to; first on-the-job training (OJT) which done at the work site with the resources the employee uses to perform the job, and it is conducted one-by-one with the trainee, second in classroom training, in which the organisation creates a training course and provides a qualified instructor to teach the class in a single location at a specific time and third distance learning, also called e-learning, which allows the employees to sign in to the training site and provides them for appropriate content (Lussier & Hendon, 2018). The OHS Act, 1984 stated that training should include safety and health induction training for new employees, industry based training, hazard specific training; on-the-job training; in-house programs and external training (Commission for OSH, 2005).

The organization must identify the training needs associated with occupational health and safety risks and the occupational health and safety management system. It should provide training or take other action to meet these needs, evaluate the effectiveness of the training or action taken, and keep relevant records. The organization shall formulate, implement and maintain procedures to make people working under its control aware of the actual or potential consequences of their work activities and behavior and



the benefits of occupational health and safety to improve personal performance. In addition to their knowledge of their roles, responsibilities and significance in achieving compliance with the occupational health and safety policy and the requirements of the occupational health and safety management system, including emergency preparedness, response requirements, and potential consequences of deviating from established procedures. Moreover, training procedures should take into account different levels of responsibility, ability, language skills and literacy; and risks (OHSAS, 2008).

5. Employee Engagement

The concept of employee engagement was first introduced by the researcher (Kahn), who presented it as the harnessing of organization members' selves to their work roles, where individuals express themselves physically, cognitively, and emotionally while performing roles and defined personal disengagement as the separation of self from work roles (Kahn, 1990). Employee engagement is a full investment of psychological, mental and emotional energy in the task, making them put maximum focus and potential in the task, thus achieving high levels of performance and creating competitive advantages for the organization.

On the other hand (Schaufeli et al., 2001) defined engagement as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior. (Schaufeli et al., 2001) indicated that vigour is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption is characterized by being fully concentrated and deeply engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work. Several studies discussed and analyzed the importance of having engaged employee and its impact on the performance of both the organization and the employees.

According to (Mkheimer & Mjlae, 2020), employee engagement is a positive attitude through which employees achieve their goals and the goals of the organization, as employees engaged in their organization support the realization of the organization's values and mission, effectively implement strategy, and create significant business positions. (Kaaviyapriya & Xavier, 2020) concluded that employee engagement improves their performance and



productivity and reduce the intention to quit from the organization. They also concluded that without the engaged employees, the organization cannot yield business profitability and customer satisfaction. In addition to, they confirmed that engaged employees more often have experienced positive emotions, better health for making the job more creativity by using all their personal resources. They also transfer the engagement for colleagues in the organizations and they are the real potential to make the innovative outcomes for the organizational performance. Further, they found through reviewing various literature studies, that the factors affect employee engagement at the macro level are the organization-related factors, personal-related factors, team-related factors and job-related factors.

6. OHS Practices and Employee Engagement

In a review of studies investigating OHS practices and employee engagement, the study of (Gyensare et al., 2020) entitled "Occupational Health and Safety and Employee Engagement: Evidence from the SMEs Sector in Ghana" found that a positive effect of occupational health and safety on intellectual, social and affective engagement, and among the dimensions of engagement, intellectual engagement was the criterion variable influenced most. They suggested that promoters of SMEs, owners and/or managers, should make maximum priority to treat the health and safety concerns of their employees in order to get the best out of them. (Phillips, 2008) in her study "Workplace Safety and Employee Engagement" noted that work-related injuries remain a major financial problem for employers, particularly in small construction companies across the United States, which impact comes through the financial burden of serious injuries and illnesses, work-related as well as the hidden indirect costs that come with work injuries, such as lost work time, replacement workers, administrative costs, low morale, and reduced productivity. She also concluded in its findings that there is a relationship between workplace safety and employee engagement.

In the study of (Mohd et al., 2016), the work environment is considered the most influential factor that contributes to employee engagement. (Stephen & Timothy, 2017) stated that creating a safe work environment and protecting employees from workplace accidents or negative events leads to enhanced job satisfaction and support working conditions in which employees are interested in good work, an environment for personal comfort and facilitating their task because they prefer to work in a non-physical environment dangerous or annoying. The study of (Yeshitila & Beyene, 2019) also revealed the existence a positive relationship between leadership



and the employee engagement's dimensions: vigour, dedication and absorption. Further (Wagner & Harter, 2006) identify that "working in a team" averages 30% fewer accidents than a team with less cohesiveness. It is important to note that many employees work in teams and, therefore, often need to respond to hazards collectively rather than as individuals. Another factor that effect engagement, which also reduces accidents, is when companies focus on the reports of progress the individuals.

(Tomas et al., 1999) found that the organizational safety climate, made up of attitudes and behaviors, is a significant impact on workplace injuries. The results of (Greeperson, 2013) revealed that there is a reasonable effect of the occupational health and safety program on the organization. (Liu et al., 2019) concluded that the employees satisfied with the health and safety system of their organization tend to be committed to their organization and have lower turnover intention, and vice versa. The results of the (Gyensare & Tsede, 2018) indicated a positive relationship between occupational health and safety and engagement. They also revealed a positive influence of safety procedure and safety leadership on mental health nurses engagement. The evidence from (Robson et al., 2012) study found strong effectiveness of training on worker OHS behaviors, while insufficient evidence was found of its effectiveness on health (ie, symptoms, injuries, illnesses).

The study of (Wachter & Yorio, 2013) found that there is a significant negative relationship between both of safety management practices and the level of safety-focused worker emotional and cognitive engagement with accident rates. (Ayalew & Demissie, 2020) in their study indicated that most of the accidents are not reported or recorded and may pass unnoticed and no measures are taken to prevent the same accidents in the future because they may not be among the tasks and duties performed by the supervisors. The result is that accidents are not prevented at all, and this may be reflected on many behaviors related to the behavior of workers in the work environment, including employee engagement. (Liu et al., 2020) in their study found that there is a moderately strong negative and significant relationship between occupational health and safety management frameworks and workplace accidents and occupational injuries. They also found that Safety knowledge significantly mediates the causal relationship between occupational health and safety management frameworks and workplace accidents and injuries. Besides Safety training was found to be a significant predictor of safety knowledge, work-related injuries, and workplace accidents.



Based on the review of literature, the hypotheses developed in the study include:

- H1 There is statistically significant impact of occupation health and safety practices on employee engagement in five-star hotels in the city of Sana'a.
- H1.1 There is statistically significant impact of OHS policy on employee engagement in five-star hotels in the city of Sana'a.
- H1.2 There is statistically significant impact of top management commitment on employee engagement in five-star hotels in the city of Sana'a.
- H1.3 There is statistically significant impact of maintaining a healthy work environment on employee engagement in five-star hotels in the city of Sana'a.
- H1.4 There is statistically significant impact of accident reports & investigation on employee engagement in five-star hotels in the city of Sana'a.
- H1.5 There is statistically significant impact of OHS training on employee engagement in five-star hotels in the city of Sana'a.

7. Study Gap

Many studies have been conducted on occupational health and safety practices and their impact on a number of variables such as employee performance, organizational commitment and productivity increase, however, none of the studies have been conducted on the impact of occupational health and safety practices on the participating employee except for one study as per the researcher's knowledge which was applied On the sector of small and medium enterprises in Ghana, and this study focused on the sector of small and medium enterprises other than the hotel sector, which gave rise to the need to bridge this gap in literary studies, by studying the impact of occupational health and safety practices on the employee engagement in five-star hotels in the city of Sana'a.

8. Methodology

8.1 Data Collection Instrument

The researcher used the questionnaire designed on the Likert scales with 5 points ranging from strongly disagree to strongly agree, and it was used to collect primary data from employees working in five-star hotels in the city of Sana'a. The questionnaire was divided into three parts: the first part consists of the demographic information of the respondents, the second part consists of data related to occupation health and safety practices measured in five dimensions (OHS policy, top management commitment, maintaining a healthy work environment, accident reports & investigation, and OHS



training), based on the studies of (Abu Nawas, 2018; Glendon & Litherland, 2001; Cohen, 1977), and third part consists of data related to employee engagement measured in three dimensions (vigour, dedication and absorption) based on the measures of (Schaufeli et al., 2001).

8.2 Study population and sample size

The study population consisted of all employees of the Sheba and Movenpick hotels, which are five-star hotels operating in the city of Sana'a, and the study population did not include the Sheraton Hotel because it is out of service. A total of (240) the questionnaires were distributed, the (210) questionnaires were returned and (15) questionnaires were excluded because they were not suitable for statistical analysis. Accordingly, the sample that was statistically analyzed amounted to (195) male and female employees.

8.3 Reliability and Validity

The reliability of measurement tool was tested with Cronbach Alpha coefficient. Occupational health and safety practices had the highest internal consistency level (0.941), followed by employee engagement (0.813). The internal consistency of the whole questionnaire was determined at 0.937. Explanatory factor analysis was used to measure the construct validity of each of the variable factors to determine whether they were real factors. Suitability of the data was measured using Kaiser-Meyer-Olkin test and Bartlett's test of Sphericity.

As seen in Table (1), the occupational health and safety practices gathered under 5 factors and consisting of 25 items. The items 7, 16, 17, 18, 24, were removed from the scale because they were less than 0.50 (Rovinelli & Hambleton 1976; Şener & Balli, 2020). Employee engagement gathered under 3 factors consisting of 12 items. The items 40, 44, 45 were removed from the scale because 44, 45 were overlapping and the factor load of 40 was below 0.50. The total variance explained by the fifth factors of occupation health and safety practices was 64.434%, in which the first factor (OHS Policy) explained 41.617%, the second factor (top management commitment) explained 8.320%, the third factor (maintaining a Healthy work environment) explained 5.759 %, the fourth factor (accident reports and investigation) explained 4.561%, and the fifth factor (OHS training) explained 4.177% of the total variance. Also the total variance explained by the three factors of employee engagement was 61.420%, in which the first factor (vigour) explained 35.310%, the second factor (dedication) explained 15.015% and the third factor (absorption) explained 11.095% of the total variance.

Table (1) Occupational health and safety practices and employee engagement scale factor analysis.

Factors and Items	Explained Variance %	Eigenvalue	Reliability
OHS policy (Items 1, 2, 3, 4, 5,6)	41.617	10.404	0.889
Top management commitment (Items 8, 9, 10, 11, 12)	8.320	2.080	0.851
Maintaining a healthy work environment (Items 13, 14, 15)	5.759	1.440	0.658
Accident reports and investigation (Items 18, 19, 20, 21, 22)	4.561	1.140	0.845
OHS training (Items 25, 26, 27, 28, 29, 30)	4.177	1.044	0.873
Kaiser-Meyer-Olkin test: 0.927, Bartlett's test of Sphericity: 2653.861, P < 0.0001, The total variance explained: 64.434, Reliability coefficient for the occupational health and safety items: 0.941			
Vigour (Items 31, 32, 33, 34, 35)	35.310	4.237	0.781
Dedication (Items 36, 37, 38, 39)	15.015	1.802	0.674
Absorption (Items 41, 42, 43)	11.095	1.331	0.733
Kaiser-Meyer-Olkin test: 0.799, Bartlett's test of Sphericity: 784.774, P < 0.0001, Reliability coefficient for the occupational health and safety items: 61.420, Reliability coefficient for employee engagement items: 0.813			
Reliability coefficient for the whole questionnaire: 0.937			

8.4 Normality Test

Prior to statistical data analysis, normality test was performed to determine whether data were modeled for normal distribution or not. This test is mandatory prior to hypotheses testing. There are many functions and methods were used for evaluating normality. In this study skewness and kurtosis methods used to evaluate normality.

Table (2) Test of Normality

Field	Skewness			Kurtosis		
	Statistic	Std. Error	Z Value	Statistic	Std. Error	Z Value
OHS policy	- 0.271	0.174	- 1.56	- 0.573	0.346	- 1.66
Top management commitment	- 0.083	0.174	- 0.48	- 0.762	0.346	- 2.20
Maintaining a healthy work environment	- 0.301	0.174	- 1.73	- 0.406	0.346	- 1.17
Accident reports & investigation	- 0.284	0.174	- 1.63	- 0.641	0.346	- 1.85
OHS training	- 0.048	0.174	- 0.28	- 0.605	0.346	- 1.75
OHS practices	0.078	0.174	0.45	- 0.559	0.346	- 1.62
Vigour	- 0.273	0.174	- 1.57	- 0.525	0.346	- 1.52
Dedication	- 0.256	0.174	- 1.47	- 0.585	0.346	- 1.69
Absorption	- 0.060	0.174	- 0.34	0.123	0.346	0.36
Employee engagement	- 0.072	0.174	- 0.41	- 0.773	0.346	- 2.23

Based on the test of normality in the above table, it was found that the data distribution was normal, where the z-values of the Skewness coefficient ranged between (-1.73) and (- 0.34), and it is within the acceptable range of the normal distribution between -2 and +2 (George & Mallery, 2019), and the z-values of the Kurtosis coefficient ranged between (- 2.23) and (0.36) which is also within the acceptable range of a normal distribution between - 7 and +7 (Hair et al., 2010; Byrne, 2010).

9 - Results and Discussion

9.1 Demographic Characteristics

Table (3) Demographic Characteristics

Demographic Characteristics	Scales	Percentage (N=195)
Gender	Male	70.3%
	Female	29.7%
Age	Less than 30 years	49.2%
	30 – 40 years	41.0%
	More than 40 years	9.7%
Education	Secondary school or less	53.8%
	Undergraduate	40.0%
	Postgraduate	6.1%
Experience	Less than 5 years	44.1%
	5 – 10 years	36.4%
	More than 10 years	19.5%
Working Department	Front of the house	69.9%
	Back of the house	30.1%

Table (3) shows that 70.3% of the respondents are male and 29.7% female. These findings clearly show that male staffs are more than female staff members of the five-star hotels. The reason for this is that the culture of Yemeni society still imposes constraints on women's employment, particularly in the hotel sector. 49.2% of respondents were under 30 years of age, 41.0% were between 30 and 40, and 9.7% were over 40. The table (3) also shows that 53.8% of respondents have a secondary school degree or less, 40.0% have an undergraduate degree, and only 6.1% have a postgraduate degree. 44.1% of respondents reported having less than 5 years of work experience, 36.4% have 5 to 10 years and 19.5% have more than 10 years of work experience. Finally, (69.9%) of respondents were working in the front of the house and 30.1% were working in the back of the house.

9.2 Level of occupational health and safety practices in five-star hotels in the city of Sana'a

Table (4) Level of occupational health and safety practices in five-star hotels in the city of Sana'a

Independent Variables	Mean	Std. Deviation	Availability level	Rank
OHS policy	3.31	0.97	Medium	2
Top management commitment	3.17	0.84	Medium	4
Maintaining a healthy work environment	3.75	0.75	High	1
Accident reports & investigation	3.27	0.90	Medium	3
OHS training	3.17	0.84	Medium	4
Occupational health and safety practices	3.33	0.70	Medium	

It is evident from the results presented in the table (4) that all dimensions of occupational health and safety practices in five-star hotels in the city of Sana'a are available to a medium degree, except of maintaining a healthy work environment, which came with a high degree. Where the practice of maintaining a healthy work environment ranked first with an arithmetic mean (3.75) and a standard deviation (0.75), OHS policy came in the second rank with an arithmetic mean (3.31) and a standard deviation (0.97), accident reports & investigation came in the third rank with an arithmetic mean (3.27) and a standard deviation (0.90) and top management commitment and OHS training came in the fourth rank with an arithmetic mean (3.17) and a standard deviation (0.84). In general, the respondents' answers on all dimensions of occupational health and safety practices were medium, with an arithmetic mean (3.33) and a standard deviation (0.70), which indicates that the occupational health and safety in five-star hotels in the city of Sana'a practiced with medium degree.

The researcher attributes this to a number of reasons including:

- 1- Lack of the sufficient qualifications for the hotel leaders under study to implement the strategic plan related to occupational health and safety and applies it in practice, as well as the prevailing bureaucratic methods that do not allow participation and teamwork.
- 2- Lack of awareness of those in charge of managing the hotels under study with the importance of training employees on occupational health and safety issues and the role it can play in developing employees' capabilities and engagement.
- 3- Absence of a clear policy for occupational health and safety in the hotels under study explains the procedures followed to protect employees from diseases that may affect them as well as the weakness of the regulatory bodies in Sana'a Governorate to carry out their duty to supervise and monitor these bodies.

4- Lack of awareness of the importance of preventing accidents from the ground up and the consequent losses if the necessary preventive measures are not taken.

9.3 Level of employee engagement in five-star hotels in the city of Sana'a

Table (5) level of employee engagement in five-star hotels in the city of Sana'a

Independent Variables	Mean	Std. Deviation	Availability level	Rank
Vigour	3.87	0.76	High	2
Dedication	3.28	0.91	High	3
Absorption	4.34	0.57	Very high	1
Employee engagement	3.80	0.56	Medium	High

Table (5) shows that the all dimensions of employee engagement in five-star hotels in the city of Sana'a are available in a high degree. Where the absorption ranked first with an arithmetic mean (4.34) and a standard deviation (0.57), vigour came in the second rank, with an arithmetic mean (3.87) and a standard deviation (0.76), and dedication came in the last rank with an arithmetic mean (3.28) and a standard deviation (0.91). In general, the level of employee engagement in five-star hotels in the city of Sana'a was high with a general arithmetic mean (3.80) and a general standard deviation (0.56). This indicates that the employees are very happy in their jobs, work long hours to finish their work, perform their work with a great deal of accuracy and focus and have an emotional attachment to their work.

9.4 Impact of Occupational Health and Safety Practices on Employee Engagement

Table (6) Impact of occupational health and safety practices on employee engagement

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.396	.184		13.054	.000		
OHS policy	.002	.051	.003	.036	.971	.459	2.177
Top management commitment	.107	.054	.176	1.969	.050	.451	2.219
Maintaining a healthy work environment	.056	.056	.074	.990	.324	.643	1.555
Accident reports & investigation	-.019	.054	-.031	-.359	.720	.479	2.090
OHS training	.290	.056	.431	5.218	.000	.527	1.899

Dependent variable: Employee engagement

R = 0.567, R Square = 0.322, Adjusted R Square = 0.304, F = 17.952, P = 0.000, D-W = 1.485



Table (6) shows that the model is significant ($F = 17.952$, p value < 0.000). VIF values are found to be lower than (10), and it can be said that there is no multi-connection problem. In addition, the value of D - W was found to be 1.485. This indicates that there is no autocorrelation. There is a positive relationship between occupational health and safety practices and employee engagement ($R = 0.567$). The value of adjusted R Square is (0.304), indicated that occupational health and safety practices explain 30.4% of the variation in employee engagement. These results indicated that there is an impact for occupational health and safety practices on the employee engagement. So, H1 was accepted.

In addition, when the model was examined OHS policy, top management commitment, maintaining a healthy work environment, accident reports & investigation and OHS training, which are the sub-dimensions of occupational health and safety practices scale. It was found that the two independent variables which are OHS training and top management commitment have an impact on employee engagement, where the (t) values of them were (5.218, 1.969) respectively, with probability values (0.000, 0.050) respectively, which are less than or equal to (0.05), and the values of beta coefficients for these two variables were (0.431) and (0.176). In contrast, the independent variables (OHS policy, maintaining a healthy work environment and accident reports & investigation) have not an impact on employee engagement. Where the values of (t) for them were (0.036, 0.990, 0.359) respectively, and the probability values were (0.971, 0.324, 0.720) respectively which greater than the level of significance (0.05), and the values of beta coefficients for these dimensions were (0.003, 0.074, - 0.031) respectively. Therefore, sub- hypotheses H1.2 and H1.5 are accepted. While the sub- hypotheses of H1.1, H1.3 and H1.4 are rejected.

The regression model can be constructed to predict the employee engagement in five-star hotels in the city of Sana'a by using two dimensions of the occupational health and safety practices (top management commitment and OHS training) according to the following equation:

$$\gamma (\text{employee engagement}) = \beta_0 + 0.176 (\text{top management commitment}) + 0.431 (\text{OHS training})$$

10. Conclusion

The aim of this study is to investigate the impact of occupational health and safety practices on employee engagement in five-star hotels in the city of Sana'a, which is considered one of the most service establishments dependent on human resources. As the success of this industry depends on the efficiency, ability, and distinction of employees in a good treatment of the guest and perform the required work in a high spirit and activity, with



the availability of the personal components of the human element such as sincerity, honesty in work and other good qualities. For this purpose, the data obtained from the questionnaire distributed to the participants were subjected to the necessary analysis. A high reliability score was found for scales used in the study, where the reliability coefficient value for occupational health and safety practices was 0.941, employee engagement was 0.813, and the whole questionnaire was 0.937.

As a result of this study, it was seen that occupational health and safety practices positively affect employee engagement in five-star hotels in the city of Sana'a. This result compatible with the studies of (Gyensare et al., 2020; Gyensare et al., 2018; Wachter & Yorio, 2013), which found that occupational health and safety has a significant effect on employee engagement. It was also seen that top management commitment has a significant effect on employee engagement and this result compatible with the study of (Yeshitila & Beyene, 2019) which found that a positive relationship between leadership and the employee engagement's dimensions: vigour, dedication and absorption. In contrast, the results of this study showed that (OHS policy, maintaining a healthy work environment and accident reports & investigation) have not effect on employee engagement. This results contradict with: the study of (Phillips, 2008) which found a positive relationship between workplace safety and employee engagement; the study of (Ayalew & Demissie, 2020) which found that unreported or recorded incidents may negatively impact employees behavior in work environment, including employee engagement; the study of (Bilal, 2010) which found that the lack of training for workers and their lack of rehabilitation in their workplace negatively affects them, leads to the emergence of injuries and reduces productivity; and the study of (Gao et al., 2018) which found that the organizing responsibilities/procedures has positive mediating effects on safety culture.

Based on these results of the study, the following suggestions may be made:

- 1- Maintaining a high level of employee engagement in order to increase the level of desirable organizational behaviors in the hotels under study and reduce undesirable behaviors.
- 2- Hotel enterprises should make the necessary effort to provide their employees with occupational health and safety, through the permanent commitment of top managements to implement occupational health and safety procedures and related policy, provide a healthy work environment for their employees, investigate work accidents and injuries, and train employees on an ongoing basis.
- 3- Work to review and develop the internal regulations of the hotels under study in line with the conditions and procedures of occupational health and safety.



- 4- The hotel managers under study should intensify training programs related to occupational health and safety, to enhance employees' awareness of occupational health and safety risks, pathogens and occupational injuries and how to deal with them.
- 5- Grant material and moral incentives for employees who are more committed to the rules and conditions of occupational health and safety and who submit development initiatives and proposals in this regard.
- 6- Pay attention to the periodic maintenance of devices and equipment and dispense with those who have exceeded their life span.
- 7- The necessity of providing all means of personal protection for workers to ensure their safety from the transmission of infectious diseases, and to dispel their fears of the dangers they may be exposed to due to the nature of the work they do this is in turn enhances the engagement in their work.
- 8- The necessity of conducting periodic medical examinations for employees to ensure that they are free of diseases and transmission viruses to improve their health status.
- 9- More research should be conducted on all 5-star hotels in the Republic of Yemen, as well as 4 and 3 star classes in order to obtain a more detailed understanding of the impact of occupational health and safety practices on employee engagement.
- 10- The researcher recommends studying the impact of occupational health and safety risks on the employee engagement in 5-star hotels.
- 11- Conducting more studies on the impact of occupational health and safety practices on other variables such as job satisfaction, job performance, and organizational commitment.

References

- Abu Nawas, O. M. (2018). Implementation of occupational safety and health systems on employee performance: a field study on Jordanian and Swedish companies for medical and sterilization products in Jordan. Master's thesis, Universiti Sultan Zainal Abidin, Malaysia.
- Albanchez, J. S., Resino, J. J. B., Broncano, S. G., & Estevez, P. J. (2021). Occupational Health and Safety, Organisational Commitment, and Turnover Intention in the Spanish IT Consultancy Sector. *International Journal of Environmental Research and Public Health*, 18 (5658), 2 – 13.
- Alli, B. O. (2008). *Fundamental Principles of Occupational Health and Safety* (2nd ed.). International Labour Organization.
- Al-Sufyani, A. M. A. (2010). *A Comparative Study of Management Functions in Selected Travel and Tourism Agencies in Yemen and India*. PhD Thesis, Management Studies and Research, Aligarh Muslim University, India.



- Andersen, J., Malmros, P., Ebbelhoej, N., Flachs, E., Bengtsen, E., Bonde, J. (2019). Systematic literature review on the effects of occupational safety and health (OSH) interventions at the workplace. *Scand J Work Environ Health*, 45 (2), 103–113.
- Armstrong, M. (2006). *Strategic Human Resource Management: A guide to Action* (3rd ed.). UK: London and Philadelphia
- Armstrong, M., & Taylor, S. (2014). *Human Resource Management Practice* (13th ed.). UK: London and Philadelphia.
- Ayalew, A., & Demissie, Y. (2020). The Effect of Occupational Health and Safety Program on Organizational Productivity: In Case of Bahirdar Tannery Factory. *International Journal of Scientific and Research Publications*, 10 (2), 779 – 798.
- Bielecky, A. R., Wang, A. M., Heidotting, T. L., Peters, R. H., Clarke, J. A., Cullen, K., Rotunda, C. J., and Grubb, P. L. (2012). A systematic Review of the Effectiveness of Occupational Health and Safety Training. *Scandinavian Journal of Work, Environment & Health*, 38 (3), 193 – 208.
- Bilal, M. (2010). The role of occupational safety programs in improving the performance of workers in Algerian small and medium enterprises: a case study of SATPAP ALIF for the conversion of paper and plastic. Master's thesis, Ferhat Abbas University – Setif.
- Buchanan, S., Vossenas, P., Krause, N., Moriarty, J., Frumin, E., Shimek, J. A. M., Mirer, F., Orris, P., & Punnett, L. (2010). *American Journal of Industrial Medicine*, 53, 116–125.
- Byrne, B. M (2010). *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and programming* (2nd ed.). Routledge Taylor & Francis Group.
- Kahn, W. A. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work. *Academy of Management Journal*, 33 (4), 692 – 724.
- Chesser, J. (2016). *Human Resource Management in A Hospitality Environment*. Apple Academic Press, Oakville, Canada, 19-147.
- Commission for Occupational Safety and Health (2005). *General Duty of Care in Western Australian Workplaces*. Government of Western Australia.
- Cohen, A. (1977). Factors in Successful Occupational Safety Programs. *Journal of Safety Research*, 9, 168 – 178.
- Dwomoh, G., Owusu, E. E., & Addo, M. (2013). Impact of Occupational Health and Safety Policies on Employees' Performance in the Ghana's Timber Industry: Evidence from Lumber and Logs Limited. *International Journal of Education and Research*, 1 (12), 1-14



- Fleming, M., & Lardner, R., (2002). Strategies to promote safe behavior as part of a health and safety management system, 1st Edition. UK: the Keil Centre 5 South Lauder Road Edinburgh.
- Frances, A. (2017). Lean Implementation: Applications and Hidden Costs. New York, USA: Taylor & Francis Group, LLC.
- Fuller, P. (2019). Global Occupational Safety and Health Management Handbook. London, New York: Taylor & Francis Group, LLC.
- Gao, Y., Fan, Y., Wang, J., Li, X., & Pei, J. (2018). The mediating role of safety management practices in process safety culture in the Chinese oil industry. *Journal of Loss Prevention in the Process Industries*, doi: <https://doi.org/10.1016/j.jlp.2018.11.017>.
- Garland, J. J. (2018). Accident reporting and analysis in forestry: guidance on increasing the safety of forest work. Rome: Forestry Working, (2), FAO.
- Gbadago, P., Amedome, S. N., & Honyenuga, B. Q. (2017). The Impact of Occupational Health and Safety Measures on Employee Performance at the South Tongu District Hospital. *Global Journal of Medical Research*, 17 (5), 13 – 19.
- George, D., & Mallery, P. (2019). IBM SPSS Statistics 25 step by step (15th ed.). New York, USA: Taylor & Francis Group.
- Glendon, A. I., & Litherland, D. K. (2001). Safety Climate Factors, Group Differences and Safety Behaviour in Road Construction. *Journal of Safety Science*, 3 (9), 157- 188.
- Greepherson, E. (2013). The Impacts of the Health and Safety Programmes on The Organization Performance: A Case Study of Arusha Airport Authority. Master's thesis, Open University of Tanzania.
- Gyensare, M. A., Anku-Tsede, A., Boakye, K. O. & Twumasi, O. (2020). Occupational Health and Safety and Employee Engagement: Evidence from the SMEs Sector in Ghana. Springer International Publishing, 202 – 216.
- Gyensare, M. A., Anku-Tsede, O., & Kumedzro, L. E. (2018). Occupational Health and Safety Dimensions and Work Outcomes in the Mental Hospitals in Ghana: The Moderating Effect of Job Satisfaction. Springer International Publishing, 564 – 577.
- Hair, J. F, Black, W. C, Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis, A Global perspective*: New Jersey, Pearson Education International.
- International Labor Organization (8102). Occupational safety and health management system: a training and practical guide for medium and large companies. International Labor Office, Cairo, 04-33.
- International Labor Organization (2016). Report for Discussion at the Tripartite Sectoral Meeting on OSH and Skills in the Oil and Gas Industry



- Operating in Polar and Subarctic Climate Zones of the Northern Hemisphere. Geneva, Switzerland.
- International Labour Organization (2016). Safety and health at work. Information Available on:
<http://www.ilo.org/global/topics/safety-andhealth-at-work/lang--en/index.htm>.
- Jeong, B. Y. & Shin, D. S. (2016). Characteristics of Occupational Accidents in Korean, Chinese, Japanese and Western Cuisine Restaurants. *Human Factors and Ergonomics in Manufacturing and Service Industries*, 26 (3), 318-321.
- Juliet, A. C., & Nkemdilim, E. A. (2019). Effect of Ergonomics Risk Factors on Housekeepers in Hotel Operations. *International Journal of Scientific Research in Humanities, Legal Studies & International Relations*, 4 (1), 1 – 20.
- Kaaviyapriya, K., & Xavier, P. (2020). A Study About the Factors Affecting Employee Engagement and Its Outcomes. *International Journal of Management*, 11 (12), 536-554.
- Kemei, R. and Nyerere, J. (2016). Occupational Accident Patterns and Prevention Measures in Construction Sites in Nairobi, Country of Kenya. *American Journal of Civil Engineering*, 4 (5), 254-258.
- Kim, Y., Park, J., & Park, M. (2016). Creating a Culture of Prevention in Occupational Safety and Health Practice. *Safety and Health at Work*, 7 (2), 89 – 96.
- Kronenfeld, J. J. (2007). Access, Quality and Satisfaction with Care: Concerns of Patients, Providers and Insurers, (Research in the Sociology of Health Care) (1st ed.). Elsevier Ltd, 24 (3-14).
- Lebeau, M., Duguay, P., & Boucher, A (2014). Costs of Occupational Injuries and Diseases in Quebec. *Journal of Safety Research*, 50, 89-98.
- Liu, S., Gyabeng, E., Sewu, G. J. A., Nkrumah, N. K., & Dartey, B. (2019). Occupational Health and Safety and Turnover Intention in the Ghanaian Power Industry: The Mediating Effect of Organizational Commitment. *BioMed Research International*, 1 – 10.
- Liu, S., Nkrumah, E. N. K., Akoto, L. S., Gyabeng, E., & Nkrumah, E. (2020). The State of Occupational Health and Safety Management Frameworks (OHSMF) and Occupational Injuries and Accidents in the Ghanaian Oil and Gas Industry: Assessing the Mediating Role of Safety Knowledge. *BioMed Research International*, 1 – 14.
- Lussier, R. N., & Hendon, J. R. (2018). *Human Resource Management: Functions, Applications, and Skill Development* (3rd ed.). USA: SAGE Publications, Inc.
- Maryjoan, I., & Tom, E. E. (2016). Effects of Industrial Safety and Health on Employees' Job Performance in Selected Cement Companies in Cross



- River State, Nigeria. *International Journal of Business and Management Review*, 4 (3), 49-56.
- Maslow, A. (1943). A Theory of Human Motivation. *Psychological Review*, 50, 270-306.
- Mathis, R., & Jackson J. (2008). *Human Resource Management* (12th ed.). USA: Thomson South-Western.
- McKinnon, R. C. (2014). *Changing the Workplace Safety Culture*. CRC Press, Taylor and Francis Group, Boca Raton, Florida, 25-140.
- Mcknigh, A. P. (2018). *Strategies Small Construction Business Managers Use to Reduce Safety Incidents in Their organization*. PhD Thesis, College of Management and Technology, Walden University.
- Medical Dictionary (2012). *Occupational Health and Safety*. Information Available on:
<https://medical-dictionary.thefreedictionary.com/occupational+health>.
- Michael, S. (2013). *Safety, Health, and Environmental Concepts for the Process Industry* (2nd ed.). U. S. A: Delmar Cengage Learning.
- Mkheimer, I., & Mjlae, S. A. (2020). Factors of Employee Engagement and Organizational Development: Are They Linked? *International Journal of Recent Technology and Engineering*, 8 (5), 788 – 797.
- Mohd, I. H., Shah, M. M., & Zailan, N. S. (2016). How Work Environment Affects The Employee Engagement in A Telecommunication Company. *The European Proceedings of Social & Behavioural Sciences*, 3rd International Conference on Business and Economics.
- Nassima, M. (2018). *Evaluating the Efficiency of the Occupational Health and Safety System in Reducing Work Accidents, a Case Study of the National Drilling Corporation*. Master's thesis, Kasdi Merbah University, Ouargla, Algeria.
- OHSAS (2008). *Occupational Health and Safety Management Systems Requirements - Guidelines for the implementation of OHSAS18001*, (2nd ed.). USA: OHSAS Project Group.
- Perera, G. D. N. (2019). *Occupational Health and Safety Practice and Job Performance: Role of Job Satisfaction*. *Sri Lankan Journal of Human Resource Management*, 9 (1), 1–10.
- Phillips, D. (2008). *Workplace Safety and Employee Engagement*. CIB W065/055 Commissions: Transformation Through Construction.
- Reese, C. (2016). *Occupational Health and Safety Management: A practical Approach* (3rd ed.). New York, USA: Taylor & Francis Group, LLC.
- Robson, L. S., Stephenson, S.M., Schulte, P. A., Amick, B. C., Irvin, E. L., Eggerth, D. A., Chan, S., Wachter, j. k., & Yorio, p. l., (2013). *A system of Safety Management Practices and Worker Engagement for Reducing and Preventing Accidents: An Empirical and Theoretical Investigation*. *Accident Analysis and Prevention*, 68, 117–130.



- Rovinelli R. J., & Hambleton, R. K. (1976). On the Use of Containt Specialists in the Assessment of Cretirian- Referenced Test Item Validity. Annual Meeting of the American Educational Research Association, San Francisco, California, 19 – 23.
- Salvendy, G. (2012). Handbook of Human Factors and Ergonomics (4th ed.). UK: John Wiley & Sons, Inc.
- Schaufeli, W. B., Salanova, M., Gonzalez-roma, V., & Bakker, A. B. (2001). The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. Journal of Happiness Studies, 3, 71–92.
- Şener S., & Balli, E. (2020). The Effect of Organizational Climate on the Affective Commitment and Job Satisfaction. Business & Management Studies: An International Journal, 8 (3), 3302-3327.
- Sheeba, M. J., & Christopher, P. B. (2020). Exploring The Role of Training and Development in Creating Innovative Work Behaviors and Accomplishing Non-Routine Cognitive Jobs For Organizational Effectiveness. Journal of Critical Reviews, 7 (4), 263 – 267.
- Stephen, P., & Timothy, A. (2017). Organizational Behavior (17th ed.). US: Pearson Educational Limited.
- Tomas, J. M., Melia, J. L., Oliver, A. (1999). A Cross Validation of a Structural Equation Model of Accidents: Organizational and Psychological Variables as Predictors of Work Safety. Work Stress, 13 (1), 49–58.
- Wagner, R., & Harter, J. (2006). The 12 Elements of Great Managing. Princeton, NJ, Gallup Press.
- Wambulwa, B. N., Makokha, E. N., & Namusonge, G. (2018). Effect of Occupational Safety and Health on Organizational Performance: A Case of Nzoia Water in Trans-Nzoia County. European Journal of Business and Management, 10 (11), 47 – 56.
- WHO (2010). Healthy Workplace Framework and Model: Background and Supporting Literature and Practice. Geneva, Switzerland.
- WHO (1995). Glabal Strategy on Occupational Health for All. Geneva, Switzerland: World Health Organization.
- Yeshitila, B., & Beyene, A. (2019). The Mediating Effect of Employee Engagement Between Transformational Leadership and Job Performance in the Commercial Bank of Ethiopia. European Journal of Business and Management, 11 (25), 33 – 42.
- Yusuf, R. M., Eliyana, A., & Sari, O. N. (2012). The Influence of Occupational Safety and Health on Performance with Job Satisfaction as Intervening Variables (Study on the Production Employees in PT. Mahakarya Rotanindo, Gresik). American Journal of Economics. Special Issue, 136-140.