

A Proposed Relationship between Management Practices and Safety Performance in the Oil and Gas Industry in Iraq

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Occupational accidents occur are either due to lack of knowledge, training, lack of supervision, and lack of rules implementation. In addition, a human error leads to negligence, carelessness of workers, recklessness of workers and lack of monitoring and controlling. The rapid growth in the industry globally has raised concern on safety and health issues at the workplace. As a result more occupational accidents and injuries at workplace make headline news all over the globe. The aim of this paper is to review related empirical literatures and highlight the need to investigate safety performance with respect to the oil and gas industry in Iraq. This paper discusses the role of management practices that may have an impact on safety performance in the oil and gas industry. Toward the end of the paper, a conceptual model depicting the relationships between management practices and safety performance will be offered.

Field of Research: Management

Keywords: Management Practices, Safety Performance, Oil and Gas, Iraq

1. Introduction

Occupational accidents occur are either due to lack of knowledge, training, lack of supervision, and lack of rules implementation. In addition, a human error leads to negligence, carelessness of workers, recklessness of workers and lack of monitoring and controlling.

All these factors have influence on safety performance or lead to the weakening safety performance and the high rate of accidents (Tharaldsen, Mearns & Knudsen, 2010). In addition, Occupational accident is defined as an occurrence arising from the course of work which results in non-fatal or fatal injury (ILO Code of Practice, 1997).

One industry that is likely to face occupational accidents is the oil and gas industry. According to Mearns and Yule (2009), the oil and gas industry all over the world is a high risk industry due to the nature of the industry and the difficult

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working conditions involved. Similarly, Kane (2010) indicates that the oil and gas industry is one of the industries that has a very high risk factor and has high workplace fatalities and injuries. Iraq, an oil rich country, is also not spared from occupational/industrial accidents. Based on a personal communication with CEO for Iraqi oil ministry, in 2009 the oil and gas sector recorded 322 accidents that include 34 fatal work injuries and 334 non-fatal work injuries. The term fatal injuries mean those deaths, which resulted from traumatic injury or other external causes that occurred on the workplace (Gong, Xue-feng & Xian-fei, 2009). While non-fatal injuries refer to those injuries which lead to physical or emotional damages. These injuries can be controlled by medical aid within a certain time period and these injuries do not lead to death (Cryer et al., 2008).

Oil and gas industry of any economy is one of the main sources of revenue and it highly contributes to the economic performance (Blanchard, 2009). Oil and gas export helps a country to earn a huge amount of foreign exchange, which in turn helps it to build its infrastructure. As mentioned earlier the oil and gas industry is considered it one of the most important industries in Iraq because it contributes 90% to government revenues and 74% to gross domestic product (GDP), and it offers tremendous employment opportunities for Iraqi people (Looney, 2006).

According to the Iraqi Congress Report (2008), the oil and gas accidents were said to be caused by insufficient tools, poor technology, poor organizational management, lack of precautions, lack of adequate services, employee misbehavior towards safety regulation and inadequate training. But according to Al-Moumen (2009), given the fact that the entire infrastructure has been damaged due to global sanctions imposed on Iraq and the American invasion of Iraq in 2003, oil and gas accidents seem to be inevitable. Whilst such external factors are largely true, the safety issue in the oil and gas industry in Iraq is very important because of Iraq's dependence on oil production and exports. In addition, Iraq possesses more than 115 billion barrels (bbl) of proven oil reserves. Therefore, it ranks second in oil inventories worldwide after Saudi Arabia (Klare, 2007; Jaffe, 2006; Kalha, 2009). But Iraqi former Oil Minister, Thamer Ghadban, said in August 2004 that Iraq's oil is a much of 214 billion barrels, placing Iraq in the first place in the world in oil reserves (Blanchard, 2009).

This study is base on the management perspective to investigate the safety performance. The reason because safety related issues in Iraqi oil and gas industry, has the high rate of occupational accidents which is due to many reasons; mainly the failure of these occupational accidents and injuries is management negligence, which is explained in term of human errors, overload, and lack of development of management capacity building in addressing occupational accidents (Al-Moumen, 2009). Additionally, the main focus of this study is to explain the management perspective in addressing these occupational accidents, with maintaining or improving Iraqi oil and gas industry's safety performance. In addition, this study is designed to study the relationship between management practices and safety performance in Iraqi oil and gas industry.

2. Literature Review

2.1 Factors Affecting Safety Performance

There are many factors which can affect the safety performance as the safety at work is a complex phenomenon, and the subject of safety performance in the oil and gas industry is even more complicated to understand. Given below are the many factors which could affect the safety performance. These factors are human factors, behavioral factors, economic factors, psychological factors, organizational factors individual and social factor and environmental factors, which are discussed below:

2.1.1 Human Factors

Human factor is important sub dimension to explain human involvement towards safety behavior and its nature how human deals in with life. The workplace safety can be improved the workers need to give importance to safety measure and related issues. It is a combine effort to recognize and then feel the responsibility to improve the safety conditions. When dealing with large number of worker in oil and gas industry, it is not a professional approach to completely rely on management staff to direct the workers to safety, as at that time, time is a critical factor to negotiate (Subramaniam, 2004). On the other hand, human factor deals in with the discipline, which refers to human operations, and work environments so that they match capabilities, limitation and needs base on human behavior (Bellamy, Geyer & Wilkinson, 2008). When the organization and job factors, and human and individual characteristics which influences behavior at occupation in a manner that can help the occupational safety and workers health (Fabiano, Curr & Pastorino, 2004; Fahibruch, 2010).

2.1.2 Behavioral Factors

The behavioral factor of safety refers to employee motivation and performance improvement through behavior constrains. Behavior factors base on safety provide more focus on effort of behavior rather than results such as accidents recorded. The behavior base safety refers to the behaviors which lead to reduction of risk behaviors and as a result reduce accidents and injuries. As discussed by Krause and Russell (1994), reported that the workers who have riskier behavior are commonly present in most injury situations where people are case accidents and injuries. When the accident or injury is recorded which is related to behavior occurs, it is highly likely that the similar attitude has not caused injury when previously experienced. Behavior based safety involvement are workers more emphasis on group observation of workers performing regular work. If safety oriented programs are encouraged works can change their behavior and mold their attitude to act safely (Cooper et al, 1994; Cox et al, 2004)

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2.1.3 Economic Factors

Apart from the human cost of suffering an accident, the economic effect can be devastating. As a research conducted in UK found that every £1 of an accident cost, that an insurance company has to pay out, could cost the contractor between £5 to £50 in indirect costs. These indirect costs will range from product and material, to legal costs (Crocker, 1995). Other hand it is found the 370 million lost working days due to incapacity at work and over 15 million days are lost due to occupational accidents and injuries (Health and Safety Executive Report: 1987; Sawacha, Naoum & Fong, 1999). However, the economic factors are very important and have high contribution on safety performance. The economic factors deals in term of monetary values which are associated with safety such as, hazard pay. Compensation base on the accident is very important. In most of the cases money can never compensate the life of any worker who lost his life but can only temporarily relief the pain of one who had losses one. The economic factor depends on the organizational polices and may vary from company to company. Therefore there is a difference procedure for payment to individual in term of overtime, bonus or profit sharing, which likewise motivate worker or encourage the workers operational duties within the organization. The economic factor can also improve the occupational safety by providing appropriate equipment and other relevant safety prevention tools (Socrates, 1978).

2.1.4 Psychological Factors

The worker psychological is the significant factor to contribute safety performance noted by Crocker, (1995), found that the worker psychological very complicated and it depends as he added that “workers will work more safely with a supervisor who is seen as someone who respects their workers and their contribution, and who is stimulated by a distinct company policy on safety. Because they see that their supervisor regards safety equally important as production. They can also expect operatives to react positively, when they work safely. (Samra et al, 2009).

Base on the study conducted by Sawacha, Naoum & Fong, (1999), concluded that psychological factor have found to have a significant relationship with safety performance. Operatives who showed concern for personal safety had a better safety record than those who neglected safety in the course of their work. Furthermore the author cited that “operative's expectation of their supervisor's safety attitude was relatively high and they see their superintendent's attitude towards safety as being a major source of influence upon their behavior on site". (Sawacha et al.,1999).

2.1.5 Organizational Factors

The term organizational factor under the context of safety performance is explained as those factors that could cause accidental condition. Base on the past empirical studies we have found to make a relationship between the

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organizational factors and workers safety behavior (Neal, Griffin & Hart, 2000; Zacharatos, Barling & Iverson, 2005), and safety outcomes such as injuries, incidents, and accidents (Hunag, Ho, Smith, Chen, 2006; Hsu, Lee, Wu, & Takano, 2008; Siu, Phillip & Leung, 2004; Varonen & Mattila, 2000).

Additionally there are other organization factors which are found to be useful predictor of organizational safety (Flin et al., 2000). Based on the past studies on organizational factors have examined those factors which can prevent future accidents. On the other hand, organizational factors can be influenced by external factors such as economic, socio-technical environment and national culture (Helmreich & Merritt, 1998).

Therefore, organizational factors in different geographical location may vary in terms of producing differential effects on safety performance. In the recent era of globalization, production industries are facilitating their industry programs of overseas subsidiaries should effectively consider organizational characteristic differences and their influence mechanisms in different countries for safety performance. On the other hand, research attempts to compare cross-cultural differences of organizational factors on safety performance, and identifies unconventional behavior from those differences. (Hsu et al, 2008; Chang & Yeh, 2005). This study will be finding the effect of organizational factor on safety performance and it will also find the causal relationships between organizational factors and safety performance.

On the other hand, the effectiveness of organizational factors on safety is important to understand as how the industry functions. The management of organizations sets its goals and develops its strategies according to its mission and objectives. The organization also keeps updating and responds to requirements imposed by the changing environment. The corporate management makes policies to determine strategic goals and the means to achieve these goals toward the betterment of their workers. In the same setting middle level management formulates the operational procedures to provide tactical policy action guidelines (Zohar, 2000). Accordingly the line manager gives its feedback to execute policies and procedures, which give directives to the frontline workers, and supervise the work process to ensure safe and reliable operation within the safe and reliable environment (Zohar & Luria, 2005; Hsu et al, 2008).

The organization factor includes organizational climate, individual attributes, meaning, and work environment value to features of the work value (Hsua et al, 2008). The organization factor deals with the safety behavior of effective organizations in order to control and manage safety behavior. Organizations must participate in the exercise to manage safety in order to achieve high values of safety performance.

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2.1.6 Individual Level Factors

The individual level is combination of three factors which are integrated together that are: safety self efficacy, safety awareness, and safety behavior. Employee belief which is their practice competence and may affect employee perceived safety control, a mediator role between safety climate and self reported injuries is denoted as self efficacy (Hunag et al, 2006).

However, safety awareness reflects risk factor which incurred at the workplace. The safety behavior is represented as to employee risk-taking behavior and compliance to safety rules and procedures. Base on the discussion by Neal and Griffin (2002), found that organizational factors (such as supportive leadership and conscientiousness) may influence safety behavior, when evaluated through compliance and participation (Hsua, et al, 2008).

2.1.7 Individual and Social Factor

The Individual and social factors are the aspect of risk which depends on the motivation to encounter risk, or avoid risk altogether, and it is one of the influential determinant of safety which is related to behavior (Powell, 2007). Risk can be perceived base on the influenced by some biased and other factors that influence behavior options. The term bias is explained as a process of influence that tends to produce results that systematically varies from reality (Shannon, Robson & Guastello, 1999).

The risk which deals with the safe and unsafe practices depends on the cognitive biases associated with safety and for the workers who are facing risk, bias in the perception of risk which occur in a rational but this assessment of risk is unrealistic, in a result causing more higher level of risk (Powell, 2007), and higher levels of accidents and injuries causing death. Cognitive biases included melioration bias, rare event bias and optimism bias. The other factors that can influence the behavioral choices can include the cost factor of the safe behaviors and the unbalance between the demands for safety and the demands for performance. Melioration bias is the capability of individual to assign more weight to short term results, and to underestimate the potential for the occurrence of any uncertain event (Zohar & Luria, 2004; Luria, 2008).

2.1.8 Environmental Factors

The environmental factors are categorized into two main methods in which the environment has deal in with to improve the safety performance. These two categories are mainly the engineering and the behavioral intervention. The engineering factors emphasis on reducing and reducing physical hazards within the environment, while behavioral factors base on environment deals with the behaviors of the workers so that the hazardous environment can be improved through interaction (Gunawan, 2006; Chang & Yeh ,2005; Duijm et al ,2008).

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However the safety engineering which involves environmental factors deals in term of devices such as mechanical guards, personal protective equipment, and ergonomically designed tools and equipment. Safety engineering has found to be successful tools to decrease hazards (Gunawan, 2006). They further argued that the engineering factor has major three problems. First, that it has extremely extensive and labor intensive, in order to find all the expected hazardous conditions in the occupational environment. Secondly, it may foster unsafe reliance on artificial safety controls and thirdly, the workers when ignore safety device (Chang & Yeh, 2005).

2.2 Empirical Studies with Dimensions of Safety Performance

Among the proponents of the attitudinal approach, researchers have started to view safety performance as a multi-dimensional concept that has different factors associated with it, outcomes, and implications for prevention of injuries and occupational accidents (Griffin & Neal, 2000). This study depends on two dimensions to measure safety performance, namely safety compliance and safety participation. Given below is the conceptual definition of dimension of safety performance.

Compliance is one among the important elements to explain safety performance. The term safety compliance refers to the core activities that workers need to carry out to maintain workplace safety. These behaviors include staying the standard of work procedures and wearing personal protective equipment (Neal & Griffin, 2006). Safety compliance deals with the activities of employees in order to maintain workplace safety by following the organizational safety based procedures, rules and regulations (Griffin & Neal, 2000). On the other hand, safety participation is defined as “helping co-workers to promote the safety program within the workplace, demonstrating initiatives, and putting effort into improving safety in the workplace” (Neal, Griffin & Hart, 2000, p.101). In addition, the term safety participation explained as a behavior that indirectly contributes to a worker’s personal safety but which encourages the development of an environment that supports safety (Neal & Griffin, 2002, 2006; Lu & Yang, 2010). However, safety participation explains behaviors, which do not directly influence employees’ personal safety but which can help to civilize an environment that supports safety (Neal, Griffin & Hart 2000). Additionally, safety participation involves helping the coworkers, to promote the safety program within the workplace, demonstrating initiative and educating employees to prevent workplace safety (Lu & Yang, 2010).

Previous studies by Boardbent (2004); Cigularov, Chen and Rosecrance (2010); Griffin and Neal, (2000, 2002); Jiang, Yu, Li and Li, (2010); Lu and Yang, (2010); Schutte, (2010); Vinodkumar and Bhasi(2010) used two dimensions to measure safety performance namely compliance with safety behavior and safety participation. For example, Griffin and Neal (2000) study explained safety performance via safety compliance and safety participation among two studies in Australian manufacturing organizations. The results indicated that there is a

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significant positive safety compliance and safety participation, with moderator as safety knowledge. Similarly, Neal, Griffin and Hart, (2000) examined safety performance via (safety compliance and safety participation) in Australian hospital. The results showed the positive relationship between safety compliance and safety participation with safety climate.

Zacharatos, Barling and Iverson, (2005) conducted a study on human resource company and safety directors across many organizations. The findings have suggested that high performance workplace safety was positively related to safety compliance and safety participation. On a similar note, Lu and Yang, (2010) conducted a study among five major container terminal companies in Taiwan. The results indicated that safety motivation and safety concern positively affect safety compliance and safety participation. Furthermore, Jiang et al. (2010) conducted a study based on work-units (including polyester, decomposition, maintenance, etc.) of two petroleum and Chemical Corporation in China. The study has presented a model which showed a significant cross-level interaction effects on unit-level climate and perceived colleagues safety compliance. Safety participation has a positive relationship between safety climate and perceived colleagues safety compliance and safety participation. In addition, Vinodkumar and Bhasi (2010) conducted a study on industries in India, he found that safety compliance and safety participation have positive significant relationship between safety knowledge, safety motivation. On a similar note, Tharaldsen, Mearns, and Knudsen, (2010) conducted a study on Norwegian and United Kingdom (UK) Continental Shelves. Their findings have shown that there is a significant effect on safety performance in all but the final stage in their five-step logistic regression model, indicating that the effect might be mediated by safety compliance and safety participation. While, Neal and Griffin (2006) findings suggested that safety participation has a positive significant relationship with safety motivation which has further shown an increase in safety participation but not in safety compliance.

2.3 Management Practices on Safety Performance

Management practices are aimed to prevent occupational accidents at work, which is an approach to control the workplace accidents (Cabrera, Fernaud, & D'iaz, 2007). In essence, some authors have established about management practices, According to Ali, Abdullah & Subramaniam (2009), stated that management practices are an important factor of an organization's and it plays an effective role in reducing workplace injuries.

A study conducted by Geldart et al, (2010), on organizational practices, workplace health and safety on 312 workers in Canadian manufacturing firms. The study found administrative policies; practices and attitudes have a direct positive impact on safety in the workplace. In addition, Injuries are low on the administrators and workers skilled or highly experienced in working. And official policies and practices such as encouraging workers to meet the requirements of safety, issuing a reward, motivation, and participation in the decision have a

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positive relationship in the rate of injury in the workplace. Department's cooperation with the workers through the Health and Safety Commission is a prominent role in the nappy to make workplaces free from injuries.

The extract of the definition of management practice is to share the common beliefs and values that safety is at preference. The effectiveness of the safety depends on how it can be achieved when there is a proper management of the interaction between people and technology. However, occupational accidents in the workplace do occur when there is no proper integration between the people who are tends to be safe and unsafe behavior as per their feedback. The most import motivational factors for the worker is to create a safety culture in recognition to their attitudes and behaviors of employees are critical to workers attitude and their behavior at work (Ali et al., 2009).

According to the European Process Safety Center (1994) Basic safety management include important elements such as politics, organization, management practices, procedures, monitoring and auditing. As discussed by Vredenburg (2002), that there are many management practices which are appreciate to create safety culture. These management practices are rewards, training, management commitment, communication and feedback, hiring practices and employee participation. Base on the past literature the practitioners have found that these dimensions are key component to improve safety performance. These management practices are discussed below:

2.3.1 Training

Training plays most contributing role in explaining management practices to improve safety performance. As per argued by Ali et al (2009), that employees take decisions base on safety concerns, these decision are not being practice by the whole organization as these precautions are form employees rather than management. There is comparatively less impact on the over employees as the safety code of rules and regulation are not been enforced by the management. Their findings also suggest that the ineffectiveness of safety training may not help to reduce the occupational accidents and injuries (Ali et al, 2009).

On the other hand, the safety training is very useful as it provides the means for making accidents more predictable. The two categories between those who get hurt and who not get hurt can be recognize as hazards and hazardous actions and understand the consequences. In order to improve the quality of safety and health for all employees, organizations should implement a systematic, comprehensive safety program and health training program for new employees. To improve the awareness to these hazards and it will help provide orientation to new employees in safety and health quality systems (Randles et al, 2010).

Training helps to reduce and retain hazards it improves to tackle the safety issues (Roughton, 1993). Employee training and occupational safety depends on the level of risk, which is incurred and warnings and cautiously plays significant

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role to prevent from those hazards (Young, Brelsford & Wogalter, 1990). As discussed by Vredenburg and Cohen (1995) found that the level of perceived danger increased compliance to warnings and instructions; therefore, it is critical that entire employees are well trained to identify and react against the hazards associated with their workplace (Vredenburg, 2002). With the help of training programmers the organization can do the goal setting and goal-achievement, innovation and change, and improve technical and professional skills. With the help of training the organization can prevent from accidents and injuries as it inform their employees about adherence to safety rules and procedures, and at the same time detecting training needs, developing changes in work procedures and revising work goals, in order to make the work place more safe (Cabrera, Fernaud & D'iaz, 2007).

2.3.2 Reward

Rewards and incentives motivate the employees to prevent form hazards on the workplace. The employee motivation depends on how they behave is a manner that lead to desired consequences. Employees need to move according to the cultural norms in order to have the desirable outcome. Rewards culture is learned through behaviors and consequences. As discussed by Thompson and Luthans (1990), found that organizational culture take place in an atmosphere where there are numerous reinforcements and reinforcing agents, changing an organization engages to identify the various reinforcing gents in order to determine their effects on the change process.

On the other hand the rewards or safety base incentive program reinforces the reporting of accidents or any unsafe act that leads to an accident. The rewards or incentives programs must be a set of package which runs parallel to safety education and training. The organizational structure must include the prevention of accidents, not punishment after any accident take place (Hofmann, Jacobs & Landy, 1995).

However, informational feed back or self recording, social factor such as praise recognition, and tangible reinforces such as trading stamps, cash bonuses, are some on the important way how the employees can be motivated (Komaki, Barwick, & Scott, 1978).

As discussed by Cabrera, Fernaud & D'iaz, (2007); Bentley, Haslam (2001), that there are motivational patterns which organizations use in term of applying intrinsic rewards, related to job content, and extrinsic rewards, connected with economic rewards and social recognition. (Cabrera et al, 2007).

2.3.3 Management Commitment

The management practices concerning the safety culture including management commitment help organizations to create safety culture. As discussed by Zohar (1980); Arboleda et al, (2003); Choudhry et al, (2008), found that management's

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commitment to safety is a vital factor influencing the success of an organization's safety programs. At the extent to which management give values to safety measures expressed in its way to give importance to the risk. These safety measures are undertaken to motivate employees to remain committed to perform a job in a safe manner. The individual employees who concern with safety as well as management's expressed concern for safety. Commitment and safety concerns are integrated so that the employees should support the management or the administrators, to achieve its safety base success (Garrett & Perry, 1996).

2.3.4 Communication and Feed Back

Communication and feedback is another important factor to influence the safety performance. (Arboleda et al., 2003 & Bentley, Haslam 2001). The role of feedback is important for the worker's performance as it is critical because employee behavior depends on new occurrence. Based on efficient communication and feedback the management can track the hazards to prevent accidents and injuries (Vredenburg, 2002).

Regular feedback on performance can be good to communicate to employees through sign boards, caution signs, and other indications. The data which is collected as a feedback will not only help the organization but it will also help the organization to have the behavioral data in maintaining safety. In order to encourage communication, it is very necessary not to blame worker for the accidents which occur. As management will gain experience with the techniques utilized to increase the quality of safety. The managers on the other hand, learned to improve the process of production. There are many managers who now work to solve production problems and they inspect for defects along with the worker (Roughton, 1993; Vredenburg, 2002; Cabrera, Fernaud & D'iaz, 2007).

However, the finding of the study conducted by Cabrera, Fernaud & D'iaz (2007), shows that communication and feedback is an important variable to control the work place hazards. Efficient communication and feedback helps the upper management to take decision towards any possible hazards. Similarly, communication and feedback encourages the workplace safety behavior and through proper reporting the management and the workers can interpret to improve safety performance (Cabrera, Fernaud & D'iaz, 2007).

2.3.5 Hiring Practices

In the process to bring safety Excellencies, the management needs to recruit potential employees and these employees need to hire according to procedure base of safety rules and regulations. If an organization promotes a safety-conscious image, the recruitment committee task will be influenced because those with similar attitudes and expectations would be more likely to seek out this company, presumably in part due to a need for a safe working environment (Zohar, 1980). However, Eckhardt (1996), suggest that the interviewers can

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never be influence whether some is an inherent risk-taker or not. The management can categorized this type of application which is divided in the high rash tasks to the lower risk tasks. Recruiters can also choose candidates with a lower tendency to take risks and the recruiter need to see the applicant temper and attitude towards a job. The other factor that can influence the is the gender, age, stature, and body weight are possible risk factors for work-related injuries, or other experiences from the past job can help the management to create a safe and healthy environment. However, the recommendation of medical report or any warning regarding a career choice might be disregards by any worker who is applying for the job (Vredenburgh, 2002).

2.3.6 Employee Participation

Employee participation is base on employee interest towards a certain job. It is the technique to involve individual or groups of employees to change their behavior upwards according to the communication flow and decision-making process within the organization. The amount of participation can be categorized form no participation, where their managers, supervisor or other central authority take decision, to complete participation, where all the individual are involved in decision making.

When the employees are involved in taking decision they provide suggestion and feedbacks about internal and external improvements. The empowerment of employees depends on both management style and attitude. Empowering workers have the authority, responsibility, and accountability for the required decisions and ensures that both employees and management are involved in setting goals and objectives. It encourage employees to do their best work as individuals and as a team, while relieving the manager to plan, monitor, lead, mentor (Cohen & Cleveland, 1983).

On the other hand over the last few years, a variety of approaches have been implemented to improve the employee participation and involvement. Past literature review provide a deep understanding to the recent developments on employee's involvement and management to have safety as a core concern along with the participation. The past literature review offers an evaluative perspective, and weights up the pros and cons of employee's participation interventions in order to inform a more rational basis for future work which is under taken in the field of safety performance (Shearn, 2004).

3. Proposed Framework

The frame work of this study has proposed management practices as independent variable and safety performance as dependent variable. Safety performance is generally measured by compliance with safety behavior and safety participation (Lu & Yang, 2010). Scholars (e.g. Chang & Yeh, 2005; Enshassi et al., 2008; Griffin & Neal, 2000; Hsu et al., 2008; Mearns & Yule,

2009) have stressed the importance of improving safety to reduce occupational accidents.

Previous studies have indicated that safety performance is influenced by management practices (Ali et al., 2009; Arboleda et al., 2003; Dorji & Hadikusumo, 2006; Geldart, Smith, Shannon & Lohfeld, 2010; Mearns et al., 2003; Razuri et al., 2007; Skjerve, 2008; Tavares, 2009; Vredenburg, 2002; Vinodkumar & Bhasi, 2010; Westmorland et al., 2005). Management practices can be conceptualized as the practices that the management aims to achieve occupational safety to improve the capacity of workers to face accidents and injuries (Dorji & Hadikusumo, 2006; Geldart et al., 2010; Gordon, Flin & Mearns, 2005; Skjerve, 2008). Management practices can also mean proactive policies and measures for the prevention of occupational accidents (Gershon et al., 2000) such as having in place safety procedures, monitoring and auditing (European Process Safety Center, 1994). In addition, management practices have the capacity to address threats and situations that can promote the occurrence of human errors by raising the safety standards in an organization (Barling, 2001). Hence, this study adopts management practices as the independent variable, for the reasons above.

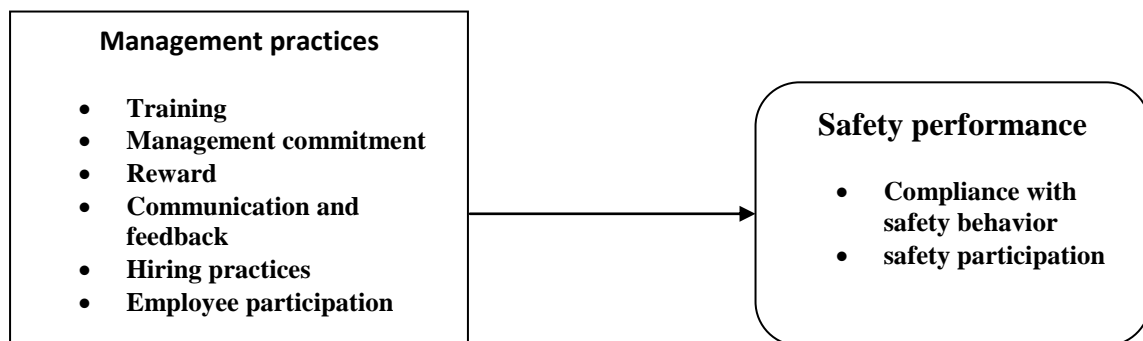


Figure 1: Theoretical Framework

4. Conclusion

The main objective of this paper was to review the related empirical literatures and highlight the need to investigate safety performance with respect to oil and gas industry in Iraq.

The reason for integrating management practices with safety performance, is as it supports human factors in control of human error, and achieve to maximum standard of safety, it appears the role of management practices that are also an important factor in achieving the safety performance (Tavares, 2009; Probst & Estrada, 2010). In addition, Cox, Jones, & Rycraft (2004), found that human factors and management practices if work in one direction in organization can

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achieve better safety performance. These safety performances can influence the behavior of workers to prevent accidents.

Base of the past literature it is concluded that there is a influence of organizational factors on the work place safety performance in the Iraqi oil and gas industry. In contrast with past literature (Vredenburg, 2002; Ali, et al., 2009) discussing that managerial practices has the similar view towards, safety performance and work place injuries, as there is a significant linear relationship between the managerial practices and work place injuries.

On the other hand the dimension of managerial practices such as training, reward, management commitment, communication and feedback, hiring practices and employee participation seems to be the factors which can help to prevent work place injuries. (Kennedy & Kirwan, 1998; Cabrera et al., 2007; Cox et al., 2004; Tharaldsen, Mearns, & Knudsen, 2009) found that, human factors and management practices if work in one direction in organization can achieve better safety Performance. These safety performances can influence the behavior of workers to prevent work place injuries. However, management practices in this study have investigated the nature of occupational injuries at work, which is an approach to control and prevent the workplace injuries. If proper procedures and knowledge for safety is provided to the workers the human error can be reduced and work place injuries can be controlled (Gordon, Flin, & Mearns, 2005).

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