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

Key Words: 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

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the world is a high risk industry due to the nature of the industry and the difficult 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, 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 earns 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 Importance of Safety and its Implications on Improving Competitiveness

The workers protection to accident related work had been done since 1970's and it is continuously improving the protection of workers (Alli, 2001), but occupational accident and injuries are still too frequently recorded. The cost perspective to society and the enterprise as well as to the workers impacts and their family (emotionally and financially), continue to be unacceptable. As the study conducted in Indonesia by Gunawan (2006), found that there are more than 250 million works involve in accidents and injuries every year in Indonesia. Workplace hazards and exposures cause over 160 million workers fall ill annually, while it has been predicted that more that 1.2 million workers pay the death penalty as a result of occupational accident and injuries (Gunawan, 2006).

As per personal communication recorded with the CEO in the Ministry of Oil and Gas Iraq confirmed the high incidences of occupational fatal accidents reported as 2758 cases and 2121 cases for non-fatal injuries. The number of death penalty paid by is occupation accidents are recorded as 320 workers since 2005-2009. These social costs can no longer be tolerated as the inevitable price progress. Reducing the toll of occupational accidents and diseases has obvious implications in terms of the alleviation of human suffering (Alli, 2001).

The economic related cost place a considerable burden on the competitiveness of the oil and gas organizations. It is predicted that the annual losses resulting from work related accidents and injuries, in terms of compensation, lost work-days, interruptions of production, training and retraining, medical expenses, and so on. As Miller, (1997) found that these compensations are over 4% from the total gross national product (GNP) of all the countries in the world. He further predicted that every year U.S employers pay approximately 200$ billion in direct costs associated with accidents and injuries that occur occupationally and non-occupationally. The same compensation is 56$ billion is recorded in Germany and 40$ billion in Norway.

The occupational accidents and injuries in Australia, is estimates between AU$15 billion to AU$37 billion. As per reported by the European Agency for Safety and Health (EASH), that 2.6 to 3.8 percent is paid for the compensation to accidents and injuries. The economic cost of occupation accident and injuries in Iraq is estimated as (440) million Iraqi dinar in 2009. These estimates have negative impact on national economic of Iraq as if these accidents are prevented will produce meaningful economic benefits, especially when the economic and infrastructure reconstruction is in progress. There is a need of oil and gas

industry to pay attention to these occupation safety and health issues. Government and oil & gas organization need to come up with forums and strategies to prevent occupational accidents and injuries in Iraq. Iraqi government and oil & gas organizations should therefore give high priority to these occupational accident presentational programs and strategies not only morally by on the economic grounds (Looney, 2006; Kraemer, 2006).

To survive and grow in today global marketplace, Iraqi oil and gas companies must be competitive, especially when the pressures of competing become intense and critical, it is not uncommon for safety and health to be given a lower priority. Not only it is wrong from a moral and ethical point of view, but it is also wrong from the perspective of competitiveness and profitability as compare to other Arabic Gulf oil & gas companies (Report of Oil & Gas Directory Middle East, 2009; Blanchard, 2009).

On other hand, these days worker are the assets for organization and the most important qualification of the worker is their physical strength and stamina. If a worker was injured, several equally qualified applicants were waiting to replace him or her. However, with the dawning of the age of high technology and the advent of global competition, this situation changed. In fact, whereas the workplace is becoming increasingly technical and complex, the literacy level of the labor pool is actually declining (David, 2002; Kelloway, 2003)

The qualification of worker not only depends on their physical description and illiteracy but they also need to coupled up with rapid and continual technological change and this is how they can scan occupational environment. Modern Iraqi companies are like modern sports teams and they are willing to compete with other company and likewise, they must recruit, employ, and develop the best personnel. Talented worker, working in a safe and healthy environment will be more competitive than equally talented who are constantly distracted by concerns for their safety and health. In addition, the most talented employees cannot help a company compete if they are slowed by injuries. The aging workforce also has serious implications for global competitiveness. They bring invaluable experience and a positive work ethic to the job, but they also have special needs that introduce a whole new set of safety and health concerns (Christian, Wallace, Bradley & Burke, 2009).

The Iraqi oil & gas organizations should invest heavily on workers compensation, medical claims, product liability litigation, and environmental cleanups but these days the trend is showing the companies are more investing to upgrade the technological part of the company (Zedalis, 2009).

If the management of Iraqi oil & gas have able to invest in these direction the worker should be more to secure and will have strong commitment to their workplace due to safe and healthy working environment. Iraqi Oil & gas organization worker should still need to follow the ethical codes and compliance

arguments. However, health and safety professionals must not stop there. They must convince companies that committing to safety is not just the right thing to do in term of competitiveness. As discussed by Gunawan, (2006), that factors which relies directly on safety and healthy workplace are categorized as:

a) Productivity and Cost
b) Quality
c) Response Time
d) Service
e) Image

2.1.1 Productivity and Cost

The productivity and cost, productivity is function of people, technology, and management strategies and it explains the organizational competitiveness. The oil & gas organization is the most highly paid industry and the Iraqi oil and gas companies attract and keep the best talented people. The talented employees have many important features such as they focus on their skills more efficiently and remain productive rather than worrying about accident or health problems. On the cost perspective, Iraqi oil & gas, companies with a record of safe and healthy practices will be better able to reinvest in equipment upgrades than those who must divert finds into such nonproductive cost as medical claims, environment cleanups and health and safety oriented law regulations.

2.1.2 Quality

Quality is an important factor to explain safety and health competitiveness. The workers who practice to either maintain or improve the quality also intend to enhance the safety at the work place. Quality is a factor that need to strictly adherence to establish production practices and at the same time the operation need to be very committed to the safety and health measures (Fuller, 1999; Wilkinson, Marchington, Goodman & Ackers, 1992).

2.1.3 Response Time

The term response time is explained as the time by which the workers respond to management strategies and technologies with in the occupation. It is specifically an important factor to explain the age of global safety and health competition because response time and quality, is taken together. The ability to be productive within the time contras is important to integrate the productivity and quality (Ford & Schmidt, 2000).

2.1.4 Service

Service is an important factor to explain the productivity and quality in a competitive environment. As service particularly deals in term of delivery service

and the apart from other industries service is oil and gas industry is also very important, the reason because it can have a significant impact on customer satisfaction and, in turn, on corporate image. Base on the past studies (Rourke & Connolly, 2003; Gunawa, 2006; Hovden et al., 2008), found that service is not closely related to safety and health.

2.1.5 Image

The image is very important and when image is particularly discussed in term of worker safety and health will help the oil and gas organizations to attract and keep the best workers. As if there will be a high reputation of any company the workers will be automatically attracted to work in with that company. An image of being concerned that the corporate image is the factors which reads the market standing and external viewers look at the organizational image to further take decision, as it is very sensitive fact, and have indirect effect on safety performance (Mearns &Yule, 2009; Zedalis, 2009).

2.2 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´ıaz, 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 Canadaian 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 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 Vredenburgh (2002), that there are many management practices which are appreciate to create safety culture. These management practices are rewards, training, and management commitment. Base on the past literature the practitioners have found that these dimensions are key component to improve safety performance.

Razuri, Alarcón, & Diethelm (2007), found that safety best practices as an independent variable and project Injury rate as dependent variable in Chile construction industry among the 60 project managers, were found to Influence safety performance on management practices specific guidance, training, project planning, the participation of workers, a positive relationship between the injury rate in the project and management practices and there is a considerable impact of management practices on the development management model which is base safety performance and integrated production.

Choudhry, Fang & Ahmed (2008), found that a management practice has influence on safety management. They conducted the study on 20 construction projects using primary data in Hong Kong. Results of the analysis showed the importance of training to prevent workers from injuries and accidents. In addition, the importance of training in first aid at the time of injury. Importance of using an integrated system for the safety of the incident, professional and provide the best means to achieve safety performance.

Study Dorji & Hadikusumo (2006) addressed relations among Management practices (Worker insurance scheme, Safety incentive a providing PPE to workers, accident recordkeeping, safety orientation for new workers, safety and health training, safety plan on safety performance (accident cost and accident frequency rate) for 40 construction contractors in Kingdom of Bhutan. This study uses, a questionnaire and interview and discussion. The study found Lack of training programs for workers and supervisors the most important reasons for the high accident rates, in addition, the lack of a means of providing training programs in the future. Weakness participation of workers in the decisions of safety.

Study Arboleda et al (2003) examined relations management practices on safety culture for 116 trucking firms in USA. The study showed a statistically significant relationship between training and its impact on the safety culture in achieving safety performance. In addition, Training is an indicator of culture in achieving safety performance. Confirmed by the indications that there was no statistical difference between the importance of safety training for managers and employees.

3. Proposed Framework

The frame work of this study has proposed management practices as independent variable and safety performance as dependent variable. 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 achieve better safety performance. These safety performances can influence the behavior of workers to prevent accidents.

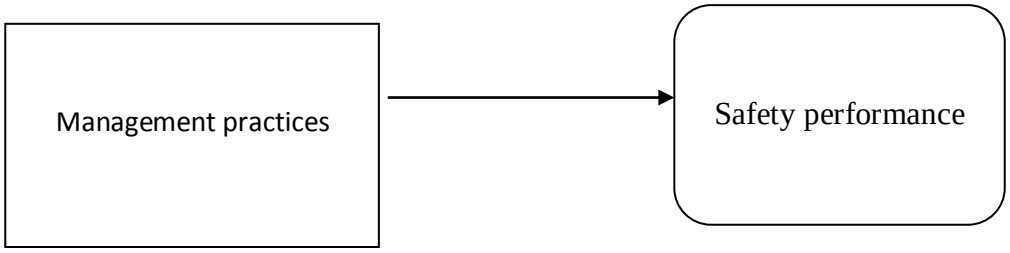

Figure 1: Theoretical Framework

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. 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 (Vredenburgh, 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 seems to be the factors which can help to prevent work place injuries. (Kennedy & Kirwan, 1998; Cabrera, Fernaud, & D´ıaz, 2007; Cox et at., 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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