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SAFETY CULTURE AND BASIC RISK MANAGEMENT PRINCIPLES

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ABSTRACT

A lot of work has been done on the hardware and software part to reduce accidents in industries but still accidents are happening and almost 88% accidents are because of human error. Most of the organizations are becoming aware of the importance of transforming organizational culture in order to improve safety. Growing interest in safety culture has been accompanied by the need for assessment tools focused on the cultural aspects of patient safety improvement efforts. In this paper an attempt has been made to discuss the use of safety culture assessment as a tool for improving safety in an oil and gas sectors.

INTRODUCTION

Safety Culture is the set of enduring values and attitudes regarding safety issues, shared by every member of every level of an organisation. Safety Culture refers to the extent to which every individual and every group of the organisation is aware of the risks and unknown hazards induced by its activities; is continuously behaving so as to preserve and enhance safety; is willing and able to adapt itself when facing safety issues; is willing to communicate safety issues; and consistently evaluates safety related behaviour.

To support the assessment and management of Safety Culture, the six main components (called Characteristics) of Safety Culture are described:

1. Commitment
2. Behaviour
3. Awareness
4. Adaptability
5. Information
6. Justness

The various types of organisations have their own specific organisational structure, processes and operational environment. These domain-specific circumstances necessitate a domain-specific approach to Safety Culture. For this reason, the paper provides guidance on how the Characteristics may be assessed though the use of domain-specific questions. This approach allows for a domain-specific assessment and management of Safety Culture based on a framework that is common to all organizations bearing a responsibility for aviation safety.

By adopting the definition and main components of Safety Culture described in this paper, a common understanding and language of Safety Culture is established. This will facilitate the ability of different types of organizations to communicate about Safety

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Culture, to learn from each other, and to work on safety culture together

Objectives for Research

- The Technology associated with all types of Hazards is being well advanced in Safety Management.
- Human factor, however, is by far the most important factor in safety management,
- The Human Factor is mainly attributable to Values, Attitudes and Beliefs which constitute Individual and Group Culture,
- Evaluation of Individual and Group Culture specifically with respect to HSE in turn influences the safe behavior of the employees and subsequently improves the productivity of the organization.

METHODS AND MATERIALS

Safety Culture Assessment Technique

Ronny Lardner discussed in his Safety Culture Application Guide – Final Version 1.1 – August 2003, that there are a variety of methods that can be used to assess safety climate, and identify the main issues that need to be addressed. It is important to note that the very act of assessing the safety climate can have an impact on the culture. When people participate in the process they will wonder what is happening and how it is going to change their working environment. Frontline workers are likely to look for signs that indicate that management are doing this because they are truly interested in their safety, as opposed to some ulterior motive. The assessment method chosen can either reinforce the negative aspects of the current culture or be the beginning of the improvement process (Carroll, 1998). The assessment process should be consistent with the positive culture that is desired, for example one which gains a high degree of employee involvement.

The potential assessment methods can be divided into three main types:

- Quantitative (e.g. safety climate survey tools).
- Qualitative (e.g. interviews, workshops and focus groups, observation, ethnographic methods
- Triangulated methods, which combine quantitative and qualitative methods.

One difference between these methods is the degree of confidentiality and security they offer to the participants. Another difference is the degree of structure they impose and the ease of analysing the output. Irrespective of the specific assessment method used there are a number of tips and good practice guidelines, which are outlined below, followed by a description of the three main types of assessment methods.

The appropriateness of the assessment technique depends on the requirements of the organisation. Table 2 given below provides a summary to aid selection of the most appropriate method. Remember that methods can be triangulated, for example by combining quantitative and qualitative methods.

Five steps to risk assessment aims to help to assess health and safety risks

Risk assessment is an important step in protecting your workers and your business, as well as complying with the law. It helps you focus on the risks that really matter in your workplace – the ones with the potential to cause harm. A risk assessment is simply a careful examination of what, in your work, could cause harm to people, so that you can weigh up whether you have taken enough precautions or should do more to prevent harm. Workers and others have a right to be protected from harm caused by a failure to take reasonable control measures.

The law does not expect you to eliminate all risk, but you are required to protect people as far as is 'reasonably practicable'. This guide tells you how to achieve that with minimum fuss.

This is not the only way to do a risk assessment, there are other methods that work well, particularly for more complex risks and circumstances. However, we believe this method is the most straightforward for most organisations.

RESULTS AND DISCUSSION

The objective of an effective safety culture is to go beyond compliance and drill deep into the inter-working of the facility to ferret out hazards and associated risk. Safety should be intertwined with all aspects of management commitment, employee participation, hazard recognition and control, and communication at a minimum. As the process is developed, a systems approach must also be implemented. The sum of all risk and the interrelationships between jobs may result in a cumulative risk higher than the individual risks.

If one uses the eight basic risk management principles, the safety process will start to move from a post loss or "crisis management" effort. It becomes a

Table 1. Comparison between Assessment Methods

	Assessment methods		
Criteria	Quantitative	Qualitative	Triangulated methods
Cost	Purchase of instrument/ development of instrument Staff time to complete questionnaire Analysing results Meeting with staff to identify interventions	Time to develop interview schedule External assistance Workforce time Time to analyse results and identify actions	External assistance Workforce and management time
Utility of results	Produces a large amount of numerical data Results may be difficult to link to interventions	Produces a large amount of written data Data can be difficult to analyse and interpret	Qualitative data can be difficult to analyse and interpret Can help with focus on solutions
Strengths	Efficient way of collecting data about employee's perceptions and attitudes to safety Can allow benchmarking and comparison between sites	High face validity – appears relevantInterventions can be directly linked to interviews Some employee involvement	High face validity – appears relevant Can compare and contrast different types of data Can lead to higher confidence in results
Limitations	Limited employee involvement Employees often do not see the link between the survey and interventionsHard to know exact meaning of results	Confidentiality can be a problem Results can be biased if level of trust is low Relatively time consuming Difficult to compare results across sites or over time	External assistance may be required Time- consuming Lack of comparable norm data for qualitative data

proactive decision-making format that can be prioritized.

The use of risk management principles should be incorporated into the job hazard analysis process as well. Simply relying on hazard identification is not enough. An attempt must be made to identify the risk (severity and exposure) at each stage of a job, its steps, and required tasks. The eight basic steps include:

1. Define the Objective - The first step is to define the objectives of the organization and ask yourself several questions: What am I trying to accomplish with our safety process? Do I have clearly defined goals and objectives for the assessment of risk. Are Job Hazard Analysis part of my safety process and are they being used effectively?

2. Define and describe the facility's components and activities - Each job will require people with defined skills, a management structure and hierarchy with necessary policies, procedures, rules, etc., as well as tools/equipment/materials necessary to complete the tasks. With these elements defined, the facility will have a work environment that reflects what is being done.

3. Hazard identification: identify hazards and consequences of exposure to those hazards - Hazards are identified by analyzing the jobs required grouped by function. During the identification of each job, the risk analysis assesses the potential consequence of exposure to hazards at each job step and task. The classic problem solving format, "Who, What, Where, When, Why, and How," is used to assist in the job review.

4. Risk analysis: analyze hazards and identify the risks - Assessment is the application of quantitative and qualitative measures to determine the level of risk associated with specific hazards. This process uses the estimated probability and potential severity of an injury. The risk analysis reviews hazards to determine what can happen. The lack of historical loss data on a particular hazard does not exclude the hazard from the need for analysis.

5. Risk assessment: Group steps/tasks and prioritize risks - Risk Assessment combines the impact of risks and compares them against defined acceptable level criteria. These criteria can include the consolidation of risks into categories that can be jointly

mitigated, combined and used in decision making.

6. Decision-making: developing action plans - Once a list of jobs has been prioritized based on its risk and type of hazards, the list is reviewed to determine how to address hazards beginning with the highest priority or most severe risk. Management develops an action plan to apply control methods that have been selected along with the resources and individuals needed to put these measures in place. The "hierarchy of controls" is used during this phase.

7. Validation and control: evaluate results of action for effectiveness and further planning needs - Evaluation includes the identification and review of data collected. "Residual" risk (any remaining risks) can be acceptable, unacceptable, or remain unknown. If acceptable, documentation is required to show the rationale for accepting the risk. If residual risk is unknown or unacceptable, an action plan is established for additional actions needed. This is an ongoing process!

8. Modify Safety System/Process, as applicable - If the identified risk changes or action plans do not produce the intended effect, a determination must be made as to why. Was the wrong hazard addressed? Was a hazard missed? Does the safety system/process need to be modified? After controls are in place, the new process must be periodically reevaluated to ensure effectiveness.

Managers and employees must ensure that the controls are maintained over time. The risk management process continues throughout the life cycle of the facility or activity.

How to Create a Culture for Risk Management

Within the business arena, it is well recognized that the higher the risk, the bigger the reward. One of the key roles of leadership within any organization is to define the levels of risks that can be taken and to draw a balance between the maximum risk and lowest return acceptable.

To create a culture that combines healthy risk taking with effective risk management, the leaders need to set in place a risk-management system in place, promote and reward the right practices and most importantly employ the right people. The organization culture needs to promote risk taking whilst at the same time maintain risks under control without impeding the growth of the organization.

Successful companies develop and adhere to an effective risk management system that enables them to ride through difficult and uncertain times and help minimizing risk exposure across the organization whilst maximizing the return in any of their business activities. As far as risks are concerned, the most critical gaps are not related to the risk management tools used to monitor risk exposure, but rather rated to people's roles and the decision-making processes within an organization. Organizations need to realize and maximize short-term profits places and intense pressures on short-circuiting the risk management process to approve risky business dealing or transactions. Such behaviors undermine the core of the risk management discipline throughout the company.

Judging by the impact of the current credit crisis on companies across all sectors, it is evident that the severity level on businesses has varied significantly; companies possessing strong risk management culture have maintained strong positions and seem to weather the credit crisis fairly well. Such companies appear to be immune by building sharp and effective lines of defense against unnecessary risk taking, and support individuals who exhibit risk awareness and set an example for others to follow. Such organizations embrace risk management and view it as a competency that protect, if not create, value, as opposed to an obstacle to profits.

In order to understand, define, and actively manage risk appetite, organizations need to have a core of executive directors on the board with solid business and risk expertise. Such executives are expected to appreciate the risks being taken and understand the tradeoffs between risk and return during the decision making process. Furthermore, the board must be willing to take responsibility and accept the implications of major risk making decisions.

The risk management process is a collective responsibility and no single individual can solely be responsible for identifying and mitigating all possible causes of unacceptable losses. The goal is to ensure that no one assumes that risk is not his responsibility. One approach is to create a dedicated department for risk management and to consistently place risk management at the top of the executives' agenda, where they can check compliances, offer opinions and recommendations. The risk management department has two distinct responsibilities for (a) developing sustainable strategies and tactics to keep the right balance between risk and return and (b) providing senior management with an independent controlled

mechanism should managers fail to adhere to the risk management systems. To earn respect from their managers, risk managers must be competent and able to challenge non-compliances and help executives understand the risk scenarios.

The demise of many financial institutions is the result of poor business practices that have combined aggressive investments and a weak defense with little scrutiny, to decision making in the years leading up to the credit crunch, employed a strategy. Whilst a strong defense need not impede aggressive business growth, a robust risk management culture is what organizations need to embrace to avert similar future scenarios.

The leadership and managers dealing directly with customers (for example account and program managers) must demonstrate a clear understanding of trade-offs between risk and return. The management as a whole must have reliable and consistent information on the positions and risks they are taking. Discussions about new contracts, ventures, existing and new customers, and other issues must be broad in nature and not limited to quarterly routine meetings that discuss targets or other short-term goals.

The managers need to develop a deep understanding of their business activities and are able to determine what constitutes an early warning signal and what does not. If top risk management professionals do not have this authority and these tools, they will migrate elsewhere.

CONCLUSION

In any organization, on the auditing function alone is inadequate, as it often fails to provide an independent and objective oversight. Instead, auditors see their assignment as a box-ticking exercise which ensures compliance, with limited critical review of potential weaknesses. A strong critical approach to each functional discipline must also be developed, involving far more insight and internal consultation. For instance, after reviewing the securitization process, the internal audit team could identify and bring to the organization board's attention potential flaws such as over-reliance on auditors.

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