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Safety, Occupational Health (K3) Communication System to Increase the Maturity of a Safety Culture in the National Oil and Gas Industry, Indonesia

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Abstract— *Communication System to improve Safety Culture (Safety Culture) through the concept of mistem or communication model to achieve the goal of improving Safety Culture (Safety Culture) in the work area of the National Oil and Gas industry. The research uses qualitative methods. Risk communication is very important to avoid risks that occur in a company. which from an action, is very useful to ensure the achievement of goals, minimize losses, can improve safety culture, work productivity and provide company security, and aims to analyze and evaluate the implementation of the communication system process, build a communication system used in the implementation of internal organizational communication and to be more effective in improving the safety culture, analyzing the barriers in the communication process in the implementation of risk communication. There is still a miscommunication that needs to be monitored, evaluated, and immediately followed up. This study uses the system theory of Karl Weick which consists of 3 (three) system concepts, namely (1) system components, (2) system processes and (3) system properties to further analyze the communication process where the communication process has not run optimally so that additional concepts are needed. the 4th (fourth) system which is a continuation of the system process, namely the analysis of the system concept consisting of: monitoring, evaluation and follow-up. This concept functions as a communication process to detect problems, communication barriers related to hazards, risks and control hierarchies in the field. The results of the study that the communication system that can accommodate the interests of workers in the completion of communication. The communication system has not been running effectively, this can be seen from several system concepts such as system components, system processes and system properties that have not run optimally, It is hoped that effective, interactive communication will be well established to minimize miscommunication so that organizational communication is good internal communication, external, vertical and horizontal running well so that evaluation in the implementation of safety culture (safety culture) can grow and develop harmoniously and complement each other*.

Keywords— *System Concept, OHS Risk Communication, Safety Culture*.

I. BACKGROUND

The impact of the ease of communication and information in the era of globalization is marked by the development of technology in the field of communication that facilitates the communication process within a company organization. Communication is a process of sharing meaning with others while the elements of communication consist of the sender of the message and the receiver. When the receiver provides feedback or response, there is a transaction between the communicator. Communication according to theoretical and practical approaches is an important thing that cannot be separated from human life because it is a process of sharing meaning with other creatures. According to Severin and Tankard (2005) using a model to systematically think about, visualize, or discuss any structure or process in the past, present or future. The effectiveness of such an activity largely depends on the extent to which the existing model fits the model to be created. A model can be used to help formulate a theory, a model helps to formulate and suggest a close relationship between the model and the theory. So, from the definition of communication, the function of communication in an organization is to interact and to convey messages from superiors to subordinates or workers in the institution by using communication models. The main purpose of the model is to simplify thinking systematically and logically, in the context of communication, the communication model that shows the relationship between one component of communication with other components. Effective communication is also an important element in developing a positive safety culture. Mike Sopp (Introduction to Health, Safety and Business Continuity SLA, 2019), discusses the importance of developing and implementing effective communication processes that tell the right stakeholders what they need to know in a positive way about OSH in the organization. In carrying out its function as an industrial place that accommodates workers, it is deemed necessary to pay attention to aspects of safety culture (safety culture) to protect its workers. In order to anticipate these problems, there are many factors in communication, both internal and external, that can lead to the success or failure of building a safety culture, and of course, consistency between action and communication is required. For this reason, the communication strategy is in the form of a communication model carried out by industrial work areas

Organizational communication system is divided into two, namely internal and external communication, a model that can be implemented to improve safety culture, described as follows: 1. Internal communication, internal communication is carried out by communicating policies, commitments, responsibilities, SOPs/government regulations, or companies for the purpose of

communication between the highest leadership and subordinates. Internal communication is divided into two: (a) vertical communication, namely the interests of communicating from the leadership to subordinates and vice versa. In vertical communication, the leader gives instructions, instructions, and information to his subordinates. On the other hand, subordinates provide reports, suggestions, complaints, and others to the leadership. (b) horizontal communication, namely communication at the same level between fellow workers, both superiors and subordinates. This communication facilitates the exchange of knowledge, experiences, methods, and problems. Internal communication system

2. External Communication, external communication is communication that is communication between the head of the agency with stakeholders (stakeholders), and the community around the company's operations. External communication: (a). in the National Oil and Gas Company or industry as communicators, and stakeholders or stakeholders, the community around the field as communicants. Communicators and communicants each perform message processing, namely encode and decode messages. This communication process is carried out in an informative manner, which is carried out in such a way that stakeholders feel ownership, involvement between communities around the company's operational field areas.

To anticipate problems in the communication system, internally and externally that can lead to success or failure in building safety culture maturity, of course consistency is needed between action and communication, so the communication strategy is in the form of a communication system carried out by the company or industry. The communication system compiled and developed is the best step in achieving the goal of increasing safety culture, in building the safety culture, of course the Company or the National Oil and Gas industry experiences various communication dynamics that occur which are very important, because without effective communication it is impossible to have a part / function within the organizational system of the Company or the National Oil and Gas industry will synergize well.

Problems in the field area, including the problem of job factors related to communication and information problems, work standards, unclear and inadequate command and control structures which can be explained as follows: (1). Lack of information, socialization, coordination regarding reporting of accident investigation incidents, after the incident, as lesson learning to all workers so that similar incidents do not happen again; 2). Information on work instructions in the area where field operations are located has not been fully socialized and communicated to field frontliners when carrying out work. Lack of communication and coordination about hazards, risks during work handover (crew change) in drilling work; and production between supervisors and implementers (frontliners), when there is a change in the work plan due to the limitations of existing equipment, it does not go well; (3). The lack of effective communication and information between the implementer and the leader (supervisor) occurs because the applicable SOP (standard operating procedure) does not work; (4) Supervisors and frontliners have not fully implemented work safety aspects before the activity begins (conducting safety induction/safety talk) , ensure work with safe environmental conditions, safe actions during work, There is still a lack of openness between supervisors and frontliners (recipients) in carrying out work. Supervisors sometimes do not know and understand how to make the messages conveyed can be understood by frontliners and frontliners are sometimes afraid to give suggestions or opinions to the leadership, resulting in work accidents, which in the end, miscommunication occurs which will have an impact on the low completion of the company's internal work, it is necessary to do research to find the right communication system in overcoming communication barriers or problems to improve the company image and minimize work accidents with the target of "zero accident"

The communication system compiled and developed is the best step in achieving the goal of improving a safety culture, which is very important, because without effective communication it is impossible for parts of a company or industry organization to be well connected. For this reason, the communication process in a company or industrial organization requires planning that uses the right communication system in communicating, where good communication between one and another must be interconnected.

II. Literature Review

1. Karl Weick's Theory

Karl Weick's organizing theory is a very different type of systems theory and emphasizes different aspects of the general systems approach. In the books The Social Psychology of Organizing (1979) and Sensemaking in Organizations (1995), Karl Weick had a major impact on organizational theory, particularly in the area of organizational communication. The essence of Weick's organizing theory is that organizations exist in an environment, this environment is not only a physical environment but an information environment.

In the Weick system, the main goal of organizing is the reduction of ambiguity in the information environment. Equivocality is the uncertainty inherent in the information environment of an organization. In an environment of nebulous information, there are many interpretations that can be used for a particular event. For example, in the "go to the boss" example, one might be able to attach many logical (and possibly many illogical) explanations to the requested meeting. According to Weick, reducing ambiguity or making sense is central to the organizing process (Pepper, 2008). Selected assembly rules and communication cycles are sometimes effective in reducing ambiguity in the information environment and sometimes ineffective. When sensemaking is effective, Weick proposes a retention process in which rules and cycles are stored for future organizational use. Rules and cycles can be maintained in the form of causal maps that are used to understand future obscurity in the information environment. Through the communication cycle, organizational members introduce and react to ideas that help to understand the nebulous environment. The use of assembly rules and the communication cycle is most prevalent during the selection phase in the Weick model, although the sense process makes it an ongoing one. The communication

rules and cycles chosen are sometimes effective in reducing ambiguity in the information environment and sometimes ineffective. A number of his innovative ideas about the processes by which organizational members understand their environment.

Karl Weick used general systems theory to underlie his theory of organizational information. Weick sees that a system will change as a whole if one part changes (Giray, 2019). This means that organizations depend on information to function effectively and to achieve goals. Basically, information has two main tasks to perform in order to manage various sources of information successfully, namely first, organizations must interpret external information that exists in their information environment and second, organizations must coordinate information to make it meaningful to organizational members and organizational goals. In running an organization, good communication is needed in order to transfer information appropriately. However, there are many obstacles in its implementation. To minimize these obstacles, knowledge of organizational information theories is needed. Organizational communication in general is related to human interaction, structure, organizational function and how the process of organizing as message flows in an organizational network.

According to Weick, organizational activities are activities to reduce information uncertainty, or what is referred to as equivocality which means uncertainty, complexity, ambiguity, and lack of predictability. All information from the surrounding environment is ambiguous, and organizations are carried out to reduce it (Weick & Richard, 1984). Organization is not just a structure, but a process that improves itself continuously in order to survive. Organizing is an effort to be able to understand one's own environment both outside and inside, through information processing, as raw materials that are processed in it to get certainty and clarity. In reality, the message or information circulating in an organization is often vague, which means that there are always two opposing interpretations. Weick's organizational system model explains that in an organization, members in it will always try to reduce the ambiguity in the ambiguity. Organization is a way to make sense of vague information. Uncertainty is a lack of information, where to cover it up, people look for facts and how to interpret them, while ambiguity, on the other hand is a situation where people face two or more interpretation options, one of which makes the most sense to explain what happened. According to Weick, in an organization diversity and complexity cannot be avoided, but all of them must remain united in one clear information or communication.

2.2 System Concept

Katz and Kahn, 1978 argue that organizations must be conceptualized with complex open systems, interactions between component parts and interactions with the environment to survive. In the field of communication, one of the first comprehensive applications of systems theory came with Farace, Monge, and Russell's (1977) Communicating and Organizing, the application of structural functional systems theory to communication processes in organizations. Katherine Miller in her book Communication Theories: Perspectives, Processes, and Contexts, 2015, defines perspective as a way or method to see or observe various phenomena/circumstances/situations around us. Until now, system theory has been developed by Katherine Miller with her system concept, describing system theory in 3 (three) system concepts, namely system components, system processes and system properties.

In short, the 1960s and 1970s were marked by widespread attention to the systems metaphor as a way of understanding organizational behavioral and communication processes. However, almost all systems theory embraces certain aspects of the systems metaphor, and considers a number of concepts supported by various systems theories. Finally, discuss the unique characteristics of these components and processes - system properties. Finally, it can be found unique characteristics that arise from system components, system processes and system properties which can be fully explained as follows:

1. System components

There are three characteristic concepts of system components, namely hierarchical ordering (hierarchical order), interdependence (dependence), permeability (openness),

The explanation is as follows:

a) Hierarchical ordering (hierarchical order)

There are several hierarchical levels of the system, namely subsystems, systems and supersystems. A system level can be viewed also as a subsystem, system and supersystem, system components are arranged in complex ways involving subsystems and supersystems in a hierarchical order. When thinking of the body as a system, the body is made up of a number of subsystems—cardiovascular system, digestive system, nervous system, and so on. The same hierarchical order can be seen when considering an organization as a system. Note that the concept of hierarchy has a different meaning here than when the same term was used by classical management theorists. Hierarchical order is a system component that is arranged in a very complex way involving subsystems and supersystems, how a system consisting of smaller subsystems and embedded in a larger supersystem.

b) Interdependence (dependence)

This dependence can be found everywhere even among multinational companies. All parts of the organization are interconnected with each other, the interdependence that characterizes the system components is dependence. At a higher level than individual organizations interdependence can be seen by considering the complex relationship between organizations and the business sector. In order for an organization to work effectively, all organizational units must coordinate, interdependence or depend on each other. All parts of the organization are interconnected with each other. This coordination can only be done using communication. This interdependence is also concerned with the interrelationships between the system and its surrounding environment.

c) Permeability (openness)

The characteristic of system components is that they have open boundaries that allow information and materials to flow in and out. The degree of permeability varies from system to system, some are relatively closed, and others are very open.

The openness implies that organizations must be careful of environmental changes, because the environment can hinder organizational activities, organizational members must actively communicate with relevant organizational representatives in the system environment to determine the nature of obstacles that affect organizational activities. Permeability refers both to the whole system which must be open, which is not to the environment and the components in the system. For example, the human body must be open to its environment in order to breathe the air, food, and water necessary for survival. Of course, greater environmental permeability can cause system problems as well. For example, if the body inhales toxic gases, the permeability of the environment can be very detrimental.

2. System process

How hierarchical components, independence and permeability function in the system. At the most basic level the system is characterized by an input-throughput-output process (Farace, Monge & Russel (1970) in Miller (2015: 63) means placing input material or information from the environment through its permeability constraints. The system then works on this input with this type of process transformational, this process is throughput. Finally, the system returns the output (output) to the environment.

(1) exchange process. That is, both the input and output of the changed material and information require a regulatory exchange process outside the system. Obviously, this exchange process is related to the permeability of the system boundary. Some organizations have permeable boundaries to facilitate exchange processes, while others are relatively closed. The system process in Miller (2015, p. 63) system works through the input - throughput-output process. The process of exchanging clear both inputs and outputs. requires an exchange process with the environment outside the system. Thus, companies can increase their chances of survival in rapidly changing organizational environments.

(2) process-feedback critical to the throughput stage of the organization's functional outcomes involves the interdependent components of a system acting together. Feedback is information that helps facilitate the functioning of interdependent system components. Two types (feedback) are essential to the functioning of the system. (a). negative feedback, or corrective deviation-reduction feedback, this helps maintain stable system function. For example, suppose a restaurant supervisor notices that one of the waiters is telling customers about yesterday's specials instead of today's specials. The supervisor may notify the waiter of the error so he can change his message to the visitor. It is this corrective feedback that serves to keep the organization functioning on a steady track. (b). The second type of positive feedback is known as positive reinforcement, growth or deviation reinforcement or feedback deviation. It is information that serves to change the functioning of the system through growth and development

3. System properties (system properties)

According to Miller (2015: 63-65) System properties that arise from the interaction of system components and processes in which there are 4 (four) very relevant properties are: holism, equality, negative entropy, and required variation. The explanation is as follows:

a) Holism

The nature of holism indicates that a system is "more than the sum of its parts." The system has this property because of its interdependent nature of components and information derived through feedback and exchange processes. For example, five people are asked to solve an organizational problem. These people may come up with lots of interesting things and original ideas while sitting alone in their respective offices. However, if all five people are placed in an interdependent system, it is likely that many different problem-solving ideas will emerge from their interactions.

b) Equality (Equifinality)

The system property of equifinality states that "a system can reach the same final state from different initial conditions and by various paths". (Katz & Kahn, 1978), is the result of the interdependent operation of system components, because the system components are integrated in different ways. complex, multiple ways exist to achieve the goals of any system. In short, because a system is complex and interconnected, there is more than one path to system outcomes. The idea of equality is becoming very important in today's competitive world of organizations.

c) Negative Entropy

Entropy is the tendency of a closed system to run. For example, if the body is completely covered by its environment and does not receive food, water or oxygen, the condition will quickly deteriorate. Open systems are however characterized by negative entropy, or the ability to sustain themselves and grow. Negative entropy is possible due to the flow of information and matter between the environment and the system. According to Buckley (1967). The system means open, not only involved in exchange with the environment but this exchange is an important factor that underlies the continuity of the system. For example, US car companies in the 1960s were relatively closed to their environment, ignoring information about world conditions and consumer preferences. If the car companies stay closed, they will go out of business. It was only through the intake of information from the environment that the automaker was able to survive. In the 21st century, USA, auto companies again seem to be ignoring conditions outside their own walls, while other automakers are centered on fuel-efficiency hybrids), and by the end of the decade, government funding is needed to keep some US companies in business. This is the principle of negative entropy in the action of the system's success and survival is highly dependent on active exchange with the system's environment.

d) Required variety (diversity)

The variation required for a system is related to the relationship between a system and its environment. The property or state of variation required that the internal workings of the system be as diverse and complex as its embedded environment. This "fit complexity" allows organizations or groups within the organization to deal with information and problems in the environment. Morgan (1997, p. 113) argues that a team or unit that cannot recognize, absorb, and deal with variations in its environment, is unlikely to thrive and survive.

In short, when looking at an organization as a system, seeing it as a unified selection of system components that are

hierarchically arranged, interdependent, and permeable to each other and the environment. The organizational system is characterized by an input-throughput-output process that requires an exchange with the environment and a positive system feedback and negative system. Due to the openness and interdependence of organizational systems, characterized by the frequent traits of holism, equality.

2.3 Risk Communication

Risk communication is often defined in a way similar to that offered by Covello (1992), who wrote about the process of exchanging information among interested parties about the nature, magnitude, significance, or control of risk. According to Vaughan (1978), risk is the possibility of loss arising from uncertainty, which is the level of probability of an incident/accident due to exposure to a hazard. Factors that influence the success of risk communication are:
(1). messenger risk (source) has focused on the issue of trust that the effectiveness of communication increases as trust in the communicator increases, (2). trust can be related to the level of expertise of the communicator but is more often determined by other factors such as the objectivity of the messenger and accuracy of previous communications by this messenger or another messenger representing the same organization. (3). The content and form of messages are also important, and it has been demonstrated that the same risk expressed in different ways can have different impacts. (4). communication strategy, factors come into play if a risk is presented in comparison to other risks. (5). The communication channel is also an important variable in the communication process. including print, radio and television, magazines, and advertising, and have found differences in the level of trust people have on each channel.

Effective communication is important for all organizations, healthy communication is needed. One of the means of communication within the organization can be in the form of organizational culture, which is a communication model that regulates values and norms within the organization. The model or communication system is the process of individuals sending stimuli which are usually in verbal form to change the behavior of others. In the context of the organization, it acts as a communicator, and important information or company policies are messages to be conveyed, through organizational culture as a communication channel, which is addressed to all workers in the organization.

Occupational Health and Safety Communication (K3)

Safety and Health is a dynamic state of life that involves a degree of personal risk, functionality and satisfaction.

Communication problems in K3 are not only between humans and humans, but also in other ways.

This type of K3 communication is carried out to convey K3 messages to all elements in the organization, both internal and external. is as follows:
a) Personal Communication, Personal communication is K3 communication that is given directly to workers. For example, communication between supervisors and their subordinates. OSH messages can be given directly through face to face.;
b) Group Communication, Group communication is K3 communication given to certain or general groups, for example in the form of Safety Talks, Tools Box Safety Meetings, group meetings, training, and socialization.

Safety Culture

According to Gunawan (2013:11), OSH culture tends to be focused on how workers think and behave rather than acting. The concept of OSH culture refers to the perception of policies, commitments to procedures / SOPs and their application related to OSH in the workplace. The term K3 culture on the other hand, refers to attitudes, beliefs, and perceptions within the group about shared norms and values, in order to react to hazards and risks (risk) as well as control systems / supervision and control of risks.

Cooper's model describes three interacting factors that make up a safety culture. The first factor is internal psychology, which is the subjective perception or attitude of the individual which can be measured using a safety climate questionnaire. The second factor is behavior which is an observable level of effort by which all members of the organization direct their attention and actions towards improving safety on a daily basis. The third factor is situational which is the safety management system applied to the organization. Situational factors can be measured through safety management system audits/inspections.

III. METHODOLOGY

The sampling technique used for the qualitative method, the Non Probability method is purposive sampling, with certain considerations: a). each individual as a sample of informants was selected with certain considerations, namely workers who have become permanent workers (already worked for at least 2 years), on the grounds that workers with years of experience already know the situation of the work environment, operating targets and recognize potential hazards and risks in his job; b) each individual selected with consideration as an example of the least recent education at least high school (for implementing staff).

2.1 Data collection techniques

Techniques for collecting data and compiling data on facts through in-depth interviews, FGDs, documentation with participants.
a) Interview (Interview), In-depth Interview (WM) in this study using interview techniques (interview) which is then followed by an in-depth interview (in-depth interview). b) FGD (focus group discussion), Focus Group Discussion (FGD): FGD (focus group discussion) is a discussion technique used by researchers to gather a group and discuss one specific topic. Focus Group Discussion (FGD). c) Documentation, Documents obtained from sources in the form of regulations, procedures, letters, memorandums, conclusions, conclusions from meeting results, articles, research studies. and others.

IV. DISCUSSION

1 Miscommunications that occur in the Oil and Gas Industry include:

There are several cases, such as MWT (Management Walk Trough) which is considered to convey information to the frontline, especially when holding an MWT conveying or

asking the frontliners such as small things such as whether information on this incident has been obtained, because sometimes the information is not evenly distributed but because incident information and lessons learned have reached the field, the miscommunication workers are not fully informed or do not receive information at all for different reasons. After being evaluated, it is very important the way of communication from the communicator which requires talents and knowledge which is sometimes lacking or difficult to understand from the language aspect by frontliners in the field so that a Supervisor seems to have to be able to place or feel that the frontliner is the level of knowledge, the level of capture have to adjust too. Leaders by using high language so that frontliners when conveyed information or forms of work instructions do not understand and do not understand the language, miscommunication will occur. Communication without a leader's example is also less effective, meaning that when the leader conveys there is an example communication, it must be from the leader, because culture must start from the leader / leader how to exemplify culture as a role model. Where a Leader maintains his behavior so that what is conveyed is communicated in accordance with what is done as a Leader.

Communication that is well-established often causes problems that eventually cause difficulties in communicating or in other words the occurrence of miss communication. Therefore, every company needs to maintain the flow of communication with each of its members in order to create effective communication.

Effective communication will occur when the message conveyed by the communicator can be well received by the communicant and the communicant provides feedback on the message received. With the creation of effective communication, the relationship between members in an organization will also be well established so that it will create a positive work environment and more open communication between superiors and subordinates as well as with fellow workers. When things are interdependent, it means that they affect each other

1. The concept of a communication system to improve the safety culture of the industry or national oil and gas company

The concept of system theory consisting of system components, system processes and system properties in the implementation of improving the safety culture in the National Oil and Gas industry

1.1 System components. A system consists of smaller subsystems embedded in a larger supersystem which has system components consisting of Hierarchical ordering (hierarchical order), Interdependence (dependence), Permeability (openness) which is described:

a). Hierarchical (hierarchical). In the process of communication in The National Oil and Gas industry that influences unsafe behavior in order to avoid work accidents is effective communication that feels comfortable, safe, pays attention to the feelings of colleagues or colleagues who are reprimanded, and communication with a personal approach between superior and subordinate workers or vice versa, providing examples of appeals. role model for subordinates. Remind each other among co-workers if they behave unsafe (unsafe act) & unsafe conditions (unsafe condition), Always establish two-way communication with superiors, subordinates, and other departments. Seeing the organizational communication process in several units of the National Oil and Gas industry field area, the communication work atmosphere is still not effective, between leaders and subordinates is still not well established and has an impact on work, there is still a lack of openness between supervisors and subordinates in carrying out work, supervisors sometimes lack know and understand how the sender's message can be understood by his subordinates (recipients), and subordinates are sometimes afraid to give suggestions or opinions to superiors, which has an impact on work accidents, because the company involves many people, both superiors (supervisors) and subordinates (frontliners). In the field, a lot of things are related to vertical and horizontal communication between the operator (frontliner) and their supervisor so that there are obstacles to miscommunication in a job in the field, even if the miscommunication, even the slightest, must be avoided and needed for action so that it is necessary to improve effective communication in order to minimize incidents. As a leader, culture must be from superiors how to set an example as a role model. Where the Leader maintains his behavior so that what is conveyed is communicated in accordance with what is done as a Leader.

b). Interdependence (dependence), that the system, sub system and super system have interdependence. The National Oil and Gas industry organization is interdependent between the sub-systems of the system, which is much influenced by the positions attached to the existing system or organizational structure of the National Oil and Gas industry. Even in this communication process, each position level that communicates has a complementary role. For example, simple communication in the field that involves other functions starting from the application of SIKA (Safe Work Permit) which must be followed by JSA (Job Safety Analysis), where before doing work there must be an agreement on the shared responsibilities of several functions (K3, Operations and Operations). Maintenance) who will be responsible for incidents if they do not coordinate well and communicate effectively. The communication process in the National Oil and Gas industry, system components depend on each other between parts and between effective functions, which play an important role. And occurs in the system, subsystem and with the supersystem.

c). Permeability (System openness)

The openness of the system shows at the organizational level that it is willing to listen to its environment. From a macro perspective, each system is also a subsystem of a larger system, namely a supersystem that must work with other systems to keep the larger system alive. Therefore, all systems must interact with their environment which is known as relative openness. There is no system that is completely open or completely closed to its environment, it is impossible for an organization to completely ignore all news from its environment and it is impossible to appreciate all the information available in a given situation because of the limitations of the interpretation process. An organization is neither too open nor too closed in giving and receiving

information, but needs to adjust it to the level of openness of the system to the environment in responding to a situation.

1.2 System processes. Input and output processes need exchange between the system and the environment, while throughput requires exchange between system components. System control is maintained through feedback. Corrective (negative) feedback serves to keep the system stable. Growth feedback (positive) serves to shape or change a system.

In the process of positive feedback, growth, or deviation, reinforcement of feedback. This positive feedback hasn't gone completely well. The communication process has a tendency to negative feedback, which is more of a routine activity to complete work targets, but has not complied with the company's procedures and rules properly, there are still findings that do not realize the importance of complying and obeying the rules and procedures. If you take unsafe actions while working, carry out responsibilities if an incident occurs (accident, fire, explosion), positive feedback can be used by management to see further monitoring what is actually happening in the field related to organizational communication, both internal and external. external in the implementation of improving safety culture (safety culture).

1.3 System Properties (System properties). This system property that arises is based on the interaction of system components and system processes. There are 4 (four) properties that are very relevant, namely: Holism, equifinality, negative entropy, and required variation (variability).

a). Holism. In the nature of holism shows that because of the interdependent components, a system is more than the sum of its parts. In the field, there is work to do related to fire and explosion protection, namely upgrading lightning protection which contains dangers and risks from electrical aspects, we know that we must be able to map out weather conditions that change conditions that are not in accordance with the work we plan to do, which may have a strike hazard. lightning when working for lightning protection

b). Equity, Due to the interdependence of components, there are multiple paths for each outcome of a system. The system can reach the same final state from different initial conditions and by various paths. The conditions in the field are many things, in fact there is a relationship between humans and equipment and rules and procedures when equipment is getting better, meaning that workers' behaviors are also starting to change, even more or less the K3 function is often intervened and reminded by other functions. The principle in the nature of this equality system will experience different ways and perspectives from each function but remain in the same goal. Each will provide input in accordance with its designation.

c). Negative entropy, especially in the field, in certain cases, there is a tendency for communication to be a closed system which has an impact on business continuity, especially if there are problems. Open systems, not only involved in the arrangement with the environment, but this exchange is an important factor underlying the continuity of the system.

A closed system if an incident occurs in the field, learning from events must be carried out, lessons learned as lessons that must be socialized and communicated to all workers then take advantage of the lessons learned and implement what mitigation is from the potential hazards and risks that exist, so not only informing the root causes (root caused) incident but must be able to draw lessons and how to mitigate it from the incident.

d). Necessary variation (diversity), due to the openness of the system, a system must maintain the internal complexity required to deal with and overcome external complexities. System properties relate to the relationship between the system and its environment. The nature of requisite variety implies that the internal workings of the system are diverse and complex in which the system environment is embedded. Ways to improve the safety culture, it is required that the pattern of effective communication with field workers, for example, if implementing MWT (Management Walk Through) in the field, it is carried out effectively where if the Management finds that the policy has not been fully implemented so that immediate follow-up is carried out by the system by the department or function concerned. related issues in the National Oil and Gas industry and if they are not effective, what are the obstacles and there is feedback from frontliners in order to find a suitable and appropriate formulation. The resolution of problems that exist in the field resulting from management findings must be monitored, evaluated and reviewed so that violations do not continue and the National Oil and Gas industry business ecosystem always goes hand in hand. Rules and procedures must be adjusted through the communication process between management and workers, superiors (supervisors) and subordinates (frontliners).

2. Discussion of the Communication Process Weick theory (Weick Theory) relating to Risk Communication to improve Safety Culture (Safety Culture)

This study uses organizational communication, and Weick Theory system, which is closely related to the system metaphor which in Katherine Miller's book is called Weick Theory (system theory) so that the system theory test, which is analogous to the systems approach, works from the metaphorical concept that organizations are like organisms, looking at a number of concepts. basic system, including the properties of the component system. Systems processes, and the properties that emerge from conceptualizing organizations as a collection of interdependent and open components that interact with each other. Weick's organizing theory, is an attempt to be able to understand his own environment both outside and inside, through information processing, as raw materials that are processed in it to get certainty and clarity. In reality, the message or information circulating in an organization is often vague, which means that there are always two opposing interpretations.

Based on the results of the study recommending a Communication System for improving work safety culture in the National Oil and Gas industry that in the process of internal and external organizational communication systems there is an addition to the concept of system theory through the system concept of Weick's theory. This study uses the system theory of Karl Weick which consists of three system concepts: (1) system components, (2) system processes and (3) system properties which aims to further analyze the communication process both internally and externally, where the communication process is

not fully running optimally. so that in this study it is necessary to add the analysis of the communication system which consists of 3 (three) activities to further analyze the communication process where the communication process has not run optimally so it is necessary to add a fourth system concept which is a continuation of the system process, namely System concept analysis consisting of:

Monitoring, Evaluation and Follow-up. This concept functions as a communication process to detect problems, communication barriers related to hazards, risks and control hierarchies in the field. The results of the study that the communication system that can accommodate the interests of workers in the completion of communication. The communication system has not been running effectively, this can be seen from several system concepts such as system components, system processes and system properties that have not run optimally,

1). Monitoring, K3 communication begins with knowing the intended recipient. The individual has identified and recognized the needs of the recipient (communicant) considering the need as a situation where a situation requires action, for that the purpose is not to prepare posters, hold workshops or design attractive brochures. Rather, the goal is to influence or facilitate motivation so that the content of knowledge, attitudes and/or behavioral intentions will be achieved or strengthened.

OSH communicators generally explore important issues related to hazard identification, risk reduction and control.

Monitor miscommunication barriers in the field that occur because they can cause the implementation of safety culture improvement to be less successful and less effective in both the internal and external communication processes. Communication barriers are a top priority because there is often miscommunication between superiors and subordinates (internal), as well as between the organization and stakeholders, the surrounding community (external) in the field, must plan what actions the communicant wants. The safety culture strategy is based on a behavioral change theory in which messages need to penetrate superior and subordinate workers (internal) as well as stakeholders, communities around the field (external) and encourage recipients to consider the courage to change behavior to improve the status of safety culture (safety culture). Take an approach with certain OHS communication methods or media such as brochures or workshops. It needs to be designed by the communicator and then delivered to the communicant. Sometimes communicators choose more than one approach (approach) because one method can take advantage of another, each serving to reinforce the main message. which consists of several approaches (approach) such as print media, radio, public service advertisements and billboards, and others. Safety culture messages must be consistently and effectively communicated through an approach.

2). Evaluation, This step is based on daily evaluation, meaning that the communicator determines the impact of the message while ensuring continuous improvement of the overall effort and successful implementation or implementation in the field. It is not surprising that many OSH communication efforts have been unsuccessful, but trying to evaluate behavior change through messages is often challenging and difficult. this effort can be very useful, to be successful, the approach must be wise. For this model, review, revision and refinement are also carried out (reviewing, revising, and perfecting), because reviewing, revising, and perfecting efforts throughout the previous steps, these steps are not only carried out after the approach has been conveyed to workers and stakeholders.

Various efforts to evaluate internal and external communication can be carried out as follows: (a) forming an Evaluation Team for communication problems in the field consisting of various system functions or sections and at the same time inviting and involving the active participation of workers of all functions or related parts in the system, subsystem to can solve problems or communication barriers in every activity or work in the field, so that other parts or functions can provide input or feedback so that it is very helpful in terms of decision making and collective agreements taken, (b) preventing, reducing or minimizing the occurrence of miscommunication between leaders or superiors with subordinates and stakeholders, the surrounding community and the company's organization, especially if an incident occurs that has an impact on adverse risks to stakeholders, the surrounding community such as fire incidents, explosions. Thus, it is expected to be able to resolve problems with decisions in accordance with applicable rules and procedures or provisions, which are mutually agreed decisions, (c) a meeting must be held for discussion in terms of deciding various obstacles or obstacles in the field that are closely related to good communication on activities ongoing and ongoing work, especially the miscommunication that occurs from the findings of the monitoring or monitoring results so that they can be discussed in the meeting to find a solution, which can at least be followed up in the short term. (d) in the communication process, both internal patterns (informal and formal, vertical and horizontal) as well as external, the feedback factor has an important role in communication, the type of information or message that returns to the sender of the message or information is a form of feedback if a and miscommunication which can further correct the message sent (the communicator) to the recipient of the message (the communicant), because the feedback comes from the recipient. Feedback from subordinates (internal) to superiors as well as from stakeholders, the community around the activity (external) can be used as material for evaluation.

3). Follow-up. The need for positive action from the results of the communication evaluation process that can be immediately completed in the short term, so that it can quickly resolve the new policies that will emerge in the short term plan. The supervisor (supervisor) not only needs to talk about K3 by planning an effective K3 communication and promotion program and decide what needs to be done, but also needs to complete it with appropriate follow-up to resolve the communication barriers or obstacles encountered. By communicating, disseminating clear and effective rules and procedures (SOP) to workers, and implementing positive actions on how to take unsafe actions from workers in the field, creating a safe workplace (safe conditions) and an active OHS

culture so that safety culture is much more likely to be achieved and maintained.

V. CONCLUSION

The novelty of this research is obtained by combining Risk Communication (communication of organizational information) with the Weick Theory system theory approach.

1) The concept of the system in internal and external communication for the communication work area has not been fully effective, due to the existence of communication problems, where the role of the leader and position is dominant. The role of feedback from subordinates to superiors should be used as a tool the media conducts monitoring / monitoring and evaluation which is expected to get optimal results to be followed up so that it can run as it should.

2) With the existence of barriers to communication problems between supervisors and frontliners, it is deemed necessary to add to the concept of the communication system so that the concept of a communication system is required to be added, namely System analysis consisting of: Monitoring or monitoring, Evaluation (reviewing, revising, and perfecting), and Follow-up, where this additional concept functions to detect problems, communication barriers related to the existence of hazards and risks as well as how to control in the field for follow-up improvements in the future.

3) Barriers to communication problems will affect the effectiveness of the communication process. Therefore, communicators need to understand every obstacle, communication, in order to anticipate these obstacles in order to achieve the goals and improve the safety culture and targets of the National Oil and Gas industry company, namely "Zero Accident" (zero Accidents, Zero Fires, Zero Explosions. Process organizational communication in several units in the area of the National Oil and Gas industry the communication is still not working properly, not yet effective, both horizontal and vertical communication, between leaders and subordinates are still not well established and have an impact on misunderstandings in work, there is still a lack of openness between supervisors and subordinates (frontliners) In carrying out the work, supervisors sometimes do not know and understand how to make the message that the sender (supervisor) conveys can be understood by their subordinates (recipients), and subordinates are sometimes afraid to give suggestions or opinions to the leader (supervisor), which has an impact on the occurrence of work accidents, because the company involves many people both from superiors (supervisors) and subordinates (frontliners).

The flow of information and the type of information communicated by the leader (supervisor) to subordinates (frontliner) or vice versa, both vertically and horizontally internal communication. Interaction between supervisors and frontliners in the organization that can lead to interdependence between superiors or subordinates, sections or functions with other sections or functions within the organization. So that it can create a communication network within the organization in forming a conducive communication climate and organizational communication satisfaction. Risk communication factors are a concern related to the role of communication models and ways of communicating in solving problems, obstacles, obstacles and the use of communication media within the organization in implementing organizational risk communication both internally and externally, vertically and horizontally, which can improve safety culture. in the working area of the National Oil and Gas industry

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