



ORGANIZATIONAL CULTURE X WORK SAFETY: INDICATIONS FOR IMPLEMENTATION

ORIGINAL ARTICLE

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ABSTRACT

Although there are several initiatives aimed at occupational safety, millions of cases are identified annually, causing damage not only to the organization, but also to society, the State, and the Health System. In this way, this material has as its guiding question: How can implementations of tools that enable an organizational culture focused on work safety occur? Thus, this study sought to demonstrate through theoretical basis the importance of safety at work, the

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numbers and some propositions for its implementation, finally suggesting best practices for the implementation.

Keywords: Work safety, Safety management, Safety culture.

1. INTRODUCTION

According to Brazilian social security data, in a period of 8 years, Brazil registered 5.6 million illnesses and accidents at work, with a social security impact above 100 billion reais. It is estimated that, in the world, every 15 seconds a worker is killed by an accident at work or occupational disease (BASILIO, 2021).

It is noted that a great evolution has occurred in all industries with the adoption of safety management system measures and engineering improvements implemented in machines and equipment. In view of this, the number of work accidents has been stabilizing over the years. In Brazil, between 2002 and 2019, most accidents (15%) occurred while using machines and equipment (BASILIO, 2021). The impact of these accidents is tremendous on the lives of workers, their families, the community and the industry.

Brazil has about 8 deaths for every 100,000 people employed. In other countries, such as Argentina, the figure is 3.7 deaths per 100,000 people employed. In Canada, 1.9 deaths per 100,000 employed persons, and in Japan, 1.4 deaths per 100,000 employed persons (SANTOS, 2021).

However, these numbers show that even if there are several initiatives, the numbers of deaths indicate that it is still necessary for companies to establish an organizational culture capable of reducing and even zeroing the number of morbimortality caused by accidents at work.

This time, this material has as its guiding question: How can implementations of tools that enable an organizational culture focused on work safety occur?

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Therefore, this study aims, through a literature review, as well as statistics, to clarify the general and conceptual aspects of a safety culture, and, from there, to establish subsidies for the implementation proposal.

2. GENERAL ASPECTS ABOUT SAFETY CULTURE

Safety culture has its origins in the concept of the safety triangle, from 1930, which was perfected by Frank Bird in 1969 and revised by the British government in 1993, in which the conclusion is presented that for every serious incident there are of 189 and 300 minor incidents. The safety culture is related to the identification and elimination of risks of occurrence of these accidents (BRITTEN, 2011).

Figure 1 – Illustration of the pyramid proposed by Frank Bird in 1969



Source: Cyrino (2017).

Although Bird's pyramid theory is old, the concept of safety culture is something that only began to be discussed in the 1980s (HARRIS, 2015), with the *Piper Alpha* accident as a landmark (BURNS, 2003).

Within this context, it is noted that the safety culture, that is, the one that involves the level of commitment to safety (ALKAZIMI; ALTABBAKH, 2015), is a phenomenon that influences the decision-making of workers (HARRIS, 2015) and reflects on the security maturity level of the organization (SPADACCINI; ROBINSON, 2007).

One of the ways to measure the maturity level of companies is through the Bradley Curve, which is a curve that visually shows the maturity stages of the organization. As can be seen in Figure 1, according to the safety maturity level of the organization, the accident rate will be lower (WALDHELM NETO, 2021).

Figure 2 – Safety culture maturity curve.



Source: Waldhelm Neto (2021).

In an organization rich in safety culture, unsafe behavior is not acceptable. Incidents are considered preventable and it is up to each individual to demonstrate awareness of the importance of their contribution to safety inside and outside the workplace (AL-KUDMANI, 2008). Beliefs and values shared in a group generate a



feeling, not of obligation, but of care of an individual with the other, which affects the levels of maturity, generating a progressive increase (ROBERTS, 2012).

Attitudes and perceptions regarding safety come from observation, something that remains in the subconscious (BURNS, 2003). Individuals tend to replicate habits and behaviors of a group (LAWRIE, 2002), in this way, the example is the best way to move towards a higher level of maturity.

Although the reproduction of a behavior presented by the group is something common, when observing how the safety culture occurs within an organization, it is clear that it is not something uniform, but something complex, influenceable, which results in work practices, that is, in the way things are done in the organization (NESA; HADIKUSUMO, 2017). "Culture corresponds to a set of habits, beliefs and knowledge of a people or a certain group" (PORFÍRIO, 2021).

Similarities can be verified between the definitions of different authors and organizations, and with that one can reach the conclusion that culture is the way things are done in an organization. It is influenced by the environment, the attitudes of managers (not just those related to security) and the degree of involvement of all levels of the organization. Safety culture can be clearly observed by attitudes, types of accidents, and can even be measured through surveys to understand beliefs and how group members would react to certain situations.

In addition to the human and social impact, a good safety culture generates repercussions in reputation and productivity gains.

That said, it is possible to agree that both the oil and gas industry and other industries have been evolving a lot in recent years with the introduction of engineering solutions in equipment and the introduction of government and market standards, however, the accident rate remains high. Something more needs to be done to improve human performance, since, today, 90% of accidents are related to

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unsafe acts (GADDIS, 2012). Therefore, the greatest benefit of implementing a safety culture is accident prevention.

3. IMPLEMENTATION OF SAFETY CULTURE

Since 90% of incidents occur due to unsafe acts, one of the ways to prevent these incidents would be to control variability. It is necessary to carry out a control of the environment so that people can comply with the rules, as an employee cannot be asked to act safely if, at the same time, there are no adequate barriers installed on the machines and equipment. In other words, it is necessary to eliminate these 'system disturbances', defined here as variability, in order to draw the worker's attention to the safety issue. The organization must show that safety is indeed important (GADDIS, 2011). Figure 3 exemplifies an unsafe act associated with an unsafe condition.

Figure 3 – Illustration of unsafe condition.



Source: (USP, 2018).

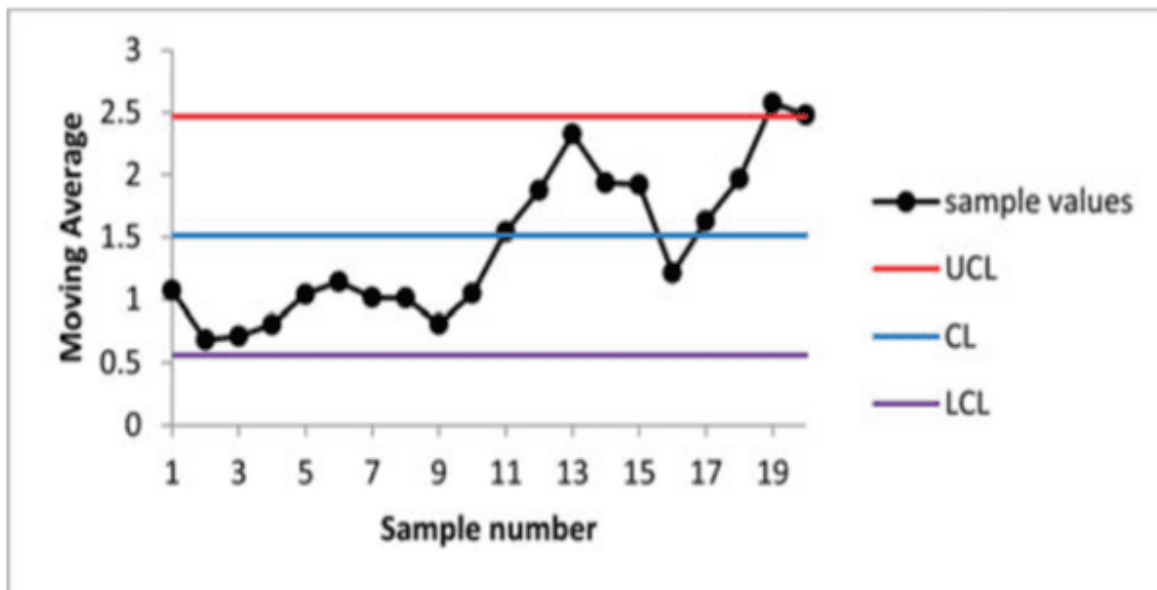
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The implementation of a safety culture starts from a well-developed organizational vision, since a very broad organizational vision can lead to different interpretations and confuse the worker, which can end up putting the business above safety. An adequate vision is straight to the point, has purpose and values, engages and animates the workforce, which must be well supported by leadership and communicated by the organization (GADDIS, 2011).

Graph 1 indicates the process control used in statistics, in which it is possible to observe the existence or lack of variation in a process and its amplitude (ADEOTI; OLAOMI, 2016). This concept can be easily applied to Safety Engineering, taking into account the different possible types of observations.

Graph 1 - Illustration of the process control graph used in statistics



Source: Adeoti; Olaomi, 2016.

The use of a stylus and the diversity of accidents with a stylus can be used as an example. After an accident, it was observed that the stylus had more than 100 uses in the factory, but instead of purely prohibiting the use of the stylus, work was done to understand which tools would be suitable for each activity, being these

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introduced, and where they were necessary to keep the stylet, a more suitable model was introduced (GADDIS, 2011).

Change, in an evolutionary and non-acute way, must be structured. It needs to start with leadership, so as to create reactive and proactive metrics, engage employees (as in Figure 5), empower security working groups, and see these groups generating security improvement projects and security campaigns (SIMON, 2002). In Figure 6, we can see a security campaign model that could easily be initiated by work groups directly related to the day-to-day tasks.

Figure 4 - Example of a security campaign poster



Fonte: Dupont Sustainable Solutions (2021).

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Adequate introduction or, in existing systems, revision of the incident reporting program is required. Thus, the program manages to eliminate the fear of retaliation (why report something and risk future problems?), lack of recognition (what good or bad happens to me if I report an incident?), lack of access to the reporting system, negative peer pressure, concern about the repercussion of the report, concern about the impact of the report at work, because the individual who is afraid of being marked as someone who only gets in the way does not want to blame anyone or be blamed for nothing (BRITTEN, 2011). There needs to be engagement with more intimate aspects of behavior and thinking and, through examples, showing that the system is trustworthy, so that over time the system gains credibility and encourages participation.

A safety culture starts with management, with leadership. The presence of leadership in everyday life is what forms a safety culture, that is, if a leader talks about financial results with more emphasis than safety, the team's focus will be on financial results and not on safety. Likewise, if this leader's engagement is greater in meetings with financial and commercial groups and not work safety or process safety, the focus of team individuals will not be on these disciplines either. To solve this problem, it is possible to focus on: creation of work groups, safety advice for leaders (various levels), rewards for work performed safely, always providing financial and moral support, constant measurement of the culture for the adequacy of solutions, root cause analysis with the participation of all and sharing responsibility and presence (HALVORSEN; LILAND; MIDDELTHON, 2006). Furthermore, the blame for accidents should not be placed on the worker, the responsibility should be attributed to the management or to the process itself (AL-KUDMANI, 2008).

The general state of attention must be maintained with chronic restlessness and promote the shift from the feeling that "if we haven't had accidents, it's okay" to "we haven't had accidents - what might we not be seeing? What needs to be done?".

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Routine causes people to lose the ability to see and react to danger. The individual or group becomes blind and deaf to small and weak signs that something might go wrong and cannot react energetically enough to prevent something small from surprising with an accident (EHI, 2014). Still following this same line of thought, another author indicates that, worldwide, there has been a stagnation in the reduction of accidents, and that the improvements of the last 20-30 years were not enough (LAWRIE, 2002). Furthermore, in some international and diverse groups, language can also be a barrier (LEVY et al., 2012).

The perspective of the antecedent of the ability to recognize and react to risks is addressed by Alkazimi and Altabbakh (2015), who suggest that these capacities should be developed during the training of the engineer, making him/her better able to face the risks of the industry (ALKAZIMI; ALTABAKH, 2015). Lawrie (2002) goes a little further and believes that this development should start in childhood and adolescence. He reports on work done with 10-11 year olds on risk recognition and with 15-16 year olds on risk introduction in the industry, in which these skills were developed through experimentation. Lawrie's (2002) belief is that this culture, if initiated at a young age, can prevent the individual from becoming a worker with inadequate attitudes towards safety (LAWRIE, 2002).

One cannot fail to differentiate child training from adult or professional training, since adults have other ways of learning. The adult is not passive in relation to training, the training needs to be experienced, and the adult must be motivated to be there. The learning environment has to be collaborative, so that the professional can understand how he can apply what is being studied in his daily life and make associations with his experiences, which also implies a more participatory assessment instead of a objective assessment (CARVALHO et al., 2010).



4. INDICATIONS FOR IMPLEMENTING A SAFETY CULTURE

In order to create a safety culture, some other aspects must also be considered:

- In terms of organization, it is necessary to have a clear vision and go straight to the point (GADDIS, 2012); It is necessary to avoid language barriers (LEVY et al., 2012);
- One should focus on proactive and non-reactive metrics (AL AZMI; ABDULLAH; BADAWI, 2014); It is necessary to take the focus off the worker's guilt and think about the process (AL-KUDMANI, 2008; BRITTEN, 2011).
- A strong, simple and credible observation management program must be maintained (BRITTEN, 2011); It is necessary to create a general state of attention, a chronic restlessness, to change the feeling from "we haven't had accidents, it's okay" to "we haven't had accidents, what can we not be seeing? What needs to be done?" (EHI, 2014);
- The safety culture needs to come from the formation of the individual, not only from the work environment (ALKAZIMI; ALTABBAKH, 2015; LAWRIE, 2002);
- Employees need to be active elements and encouraged to work on initiatives to improve safety in an evolutionary process (SIMON, 2002);
- A present leadership, with a focus on safety, is the main element (HALVORSEN; LILAND; MIDDELTHON, 2006).

Thus, it is possible to say that there are several ways to implement a safety culture, there is no single way. It is necessary to evaluate, understand and structure a solution for each environment (just like a doctor when treating a patient), without neglecting any of the aspects mentioned above.



The implementation of the safety culture will depend on very varied conditions that are related to the organization, among them, there is human nature itself. In addition, it was observed that it is not possible to differentiate the experiences of companies operating in different industrial or non-industrial branches. Both the motivation and the understanding of what a safety culture is and how it is implemented are very similar in all of them.

Each of the individuals within a company, their way of working (written and unwritten processes), the machines, the environment, the materials, the way in which a worker looks at the other, in short, each of the small gears that make up this complex system that is a company, so similar to a living organism, interferes in the process of implementing a safety culture. The effective training of professionals, which takes into account their adult nature, should not be neglected, in a way that allows the individual to have a deep and not a superficial understanding. The forms of evaluation used in training will dictate the behavior of the professional on a daily basis (GARCIA, 2009). It is not possible to say evolved in a safety culture if it is not part of everyone's daily life, much less if there is any disbelief in relation to the leadership's commitment to safety or if it is in any other position than the first, what is often observed by the worker in the lack of very simple things in everyday life.

5. FINAL CONSIDERATIONS

The implementation of the actions suggested in this work can contribute to the implementation of a safety culture and, consequently, to the reduction of accidents related to unsafe acts. But not only that. Since this is an interdependent culture, implementing safety and sustaining the context of non-acceptance of the “everything is fine” condition also collaborate to improve and resolve unsafe conditions. The method chosen for training will have a direct influence on the employee's daily life, however, it is important to remember that there is no single

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solution and that a detailed assessment needs to be carried out before designing a process to introduce a safety culture. The leader's attention and active participation in the smallest details of the organization is essential for the execution of any model that may be adopted.

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