



PERCEPTIONS OF WORK SAFETY: DIFFERENCES BETWEEN HIERARCHICAL LEVELS

Alexandre da Silva Leite – alexandre.leite@vale.com - Universidade Federal Fluminense – UFF

Fernando Toledo Ferraz – fernandoferrazuff@yahoo.com - Universidade Federal Fluminense – UFF

Summary: Investments in employee safety, aiming to reduce work accidents and the possible problems they may cause, are important, however, the sets of information relating to prevention measures may have different understanding at the hierarchical levels of the company. This research aimed to investigate the perception of work safety in the operational area, in addition to comparing this information at different hierarchical levels of a company. The methodology used included the analysis of bibliographic sources and an interview guide with 111 people, including leaders and operators of the port complex of a large mining company based in Rio de Janeiro. The data collection instrument used to survey employees' perceptions was a questionnaire, based on an agreement scale and where comparisons were made in the proportions of responses. The results of this research point to some significant differences in perception between leaders and operators, as well as showing varied perceptions on different issues. Diagnosis based on these results provides relevant information for formulating and reformulating the company's security policies.

Keywords: Work Safety, Accidents, Hierarchical Levels, Perception.

1. INTRODUCTION AND OBJECTIVES

Work safety within the company is an issue that is related to both the activity carried out by the employee and the employer's management. When a work accident occurs, different areas are involved in the event. For the injured person there is a human cost for themselves and their family, due to the possible physical and psychological trauma that can be caused by the accident. On the other hand, it is possible to imagine the cost of accidents for companies, due to their labor obligations and even their exposure as an institution.

Most companies have a hierarchical structure, with different levels of autonomy, each of which has its importance within the organization. Despite the difference between them, the groups are interconnected, as they partly depend on each other.

Therefore, the author of this study considers the need and importance of researching the perception of work safety at different hierarchical levels, in order to understand possible aspects that guide the occurrence of work accidents in companies. Regarding these aspects,

below are the specific objectives of this work:

- Compare perceptions of work safety at different hierarchical levels of the company;
- Identify possible discrepancies in perceptions of work safety at different hierarchical levels of the company.

2. THEORETICAL FRAMEWORK

Work accidents in Brazil cause several repercussions, including legal ones. In less serious cases, where the employee has to be absent for a period of less than fifteen days, the company will not be able to count on its workforce being away due to the accident and will have to bear the economic costs of this employer/employee relationship. In the most serious cases, accidents generate costs for the State, as the National Social Security Institute – INSS has to manage the provision of benefits and even a death pension.

As provided in art. 19 of the Social Security Benefits Law No. 8,213/91, an accident at work is one that occurs during the performance of work, in the service of the company or due to the performance of the work of the insured persons referred to in item VII of art. 11 of this law, causing bodily injury or functional disturbance that causes death or the loss or reduction, permanent or temporary, of the ability to work.

According to Brandão (2009, p.08), work accidents can compromise the competitiveness of companies and even their survival, as they increase costs, reduce productivity due to the low availability of personnel and organizational climate, in addition to being able to affect the image of the company. organization towards society. They create major problems for people (injured people) and their families, as well as for the country.

For Hilion (2011, p.10), it is necessary to analyze the ways of thinking (perceptions) and acting of workers (behaviors), in order to understand the relationship between reality and the symbolic constructions made by each individual.

Almeida (2008) understands that in the analysis of adverse events, concepts relating to workers' tasks and activities are fundamental. One must always seek to understand the task and activity of the workers involved in the event, including those furthest from what happened, such as those who designed the system and those who manage it. A work accident never involves only the victims. Comparing what happened with what should have happened does not allow us to understand the situation or implement prevention. Accidents signal the occurrence of constraints in work situations (Lima et al., 2015).

According to Bley (2014, p.42), the safe behavior of a worker, a group or an organization can be defined through the ability to identify and control the risks of the activity in the present so that this results in a reduction in the probability of undesirable consequences in the future, for oneself and for others. These concepts can be applied to understand and act on human behavior and its interfaces on aspects of safety at work.

Along with all this, there is also the issue of commitment from interested parties in the process, which is defined by Ferraz (1999, p.58) as “an attitude or way of acting or behaving of people in a work context, that is, People can have different types of attitudes in relation to the contextual elements of their work (colleagues, company, sector, supervisor, task, career, etc.)”. Thus, commitment is an attitude of bond, adherence, loyalty to or engagement in relation to something objective (person or group) or symbolic (a cause, a career, a profession, etc.).

3. METHODOLOGY

The research investigated employees' perception regarding the planning and

dissemination of safety information, the pressures that employees suffer while carrying out tasks or activities and how accidents and near-accidents are handled managerially. The business area chosen for the study were two parts of a large company in the mining sector in the state of Rio de Janeiro, publicly traded and operating on all continents.

The data collection instrument used to survey employees' perceptions was a questionnaire composed of thirty statements that incorporate concepts that in the literature are related to occupational safety, such as: knowledge about risks, time pressure, environmental conditions, changes, reactivity, analysis accidents, etc.:

1. All risks of a task or activity are disclosed to those involved before it begins;
2. There is always concern about raising risks when planning tasks or activities;
3. Formal risk assessment tools, such as ART and DSS before tasks or activities, have contributed to team safety;
4. Occupational Safety Technicians participate in the Task Risk Analysis whenever requested;
5. Risk assessments at the location of the task or activity, informal conversation with the performing team, technical knowledge and experience of leaders, have contributed to the team's safety;
6. I know of a case where an accident occurred with an employee because he did not comply with safety requirements in a task or activity;
7. The risks raised in the Task Risk Analysis - ART are adequately disclosed and understood by everyone on the team in a task or activity;
8. During a task or activity, employees act safely, regardless of the presence of Occupational Safety Technicians;
9. I know of cases in which the risk controls raised were not followed in full, as they interfered with carrying out the task or activity;
10. Sometimes, important risks are raised, but they are not recorded, as they would interfere with the execution of the task or activity;
11. The risks of weather conditions and interference are raised before tasks or activities;
12. I know of cases in which changes in the scenario, such as rain and wind, occurred, but the activity was not interrupted so as not to delay delivery;
13. I know of cases in which the interference of another activity created new risks, not raised in the ART, but the activity was not interrupted so as not to delay delivery;
14. Before carrying out a task or activity, the particular and personal emotional conditions of those involved are assessed;
15. I know of cases in which, during a task or activity, some security items were changed to improve delivery time;
16. I know of cases in which other people made decisions that reduced safety, in order not to jeopardize the delivery of a task or activity;
17. Sometimes I feel obliged to fail to comply with safety standards so as not to delay the delivery of a task or activity;
18. During some tasks or activities, planning is done without evaluating possible risk scenarios;
19. During the performance of a task or activity, the team's particular and personal emotional conditions are observed;
20. The pressures that occur during the execution of a task or activity do not interfere with safety;
21. The times planned for carrying out the tasks or activities are sufficient to carry them out;
22. Safety training helps to avoid accidents in tasks or activities currently performed;
23. The number of near misses recorded reflects the reality of what happens in the area;
24. I know of cases where near misses are not recorded;
25. I know of cases in which incident information is changed to make it possible to record near misses, in order to improve indicators;
26. Recording near misses is important to anticipate the occurrence of accidents.
27. After the occurrence of an accident, I know of a case in which actions to change the process prevented the occurrence of new accidents;

28. I am formally aware of accidents that occur in my area;
29. Publicizing the occurrence of accidents helps people to be more attentive in their tasks or activities;
30. The actions generated in accident analyzes help employees work safer.

The statements were evaluated using a Likert-type scale with five response options, which required participants to specify the degree of agreement with a statement: Totally disagree; I largely disagree; I do not agree nor disagree; I largely agree; I totally agree.

Data analysis was carried out considering the sum of the answers “I largely agree” and “I completely agree”.

In this research, the differences between the proportions of the two populations were analyzed: leaders and operators. These differences define the degree of agreement or disagreement about the same statement, in order to assess whether groups tend to have the same level of agreement or not. The difference between two sample proportions is given by $p_1 - p_2$.

$$H_0: p_1 - p_2 \leq 0$$

$$H_a: p_1 - p_2 > 0$$

Figure 1 - Right One-Tailed Hypothesis Test
Source: Anderson, Sweeney & Williams, 2011

Where:

H_0 -Null Hypothesis

H_a -Alternative Hypothesis

p_1 -proportion Category 1

p_2 -proportion Category 2

$p_1 - p_2 = p$ value

A hypothesis test was applied for $p_1 - p_2$, considering a significance level (alpha) of 0.05. According to Anderson, Sweeney & Williams (2011, p. 402), when it is assumed that H_0 is true as equality, we have $p_1 - p_2 = 0$, which is equivalent to saying that the population proportions are equal, $p_1 = p_2$. The rejection of the Null Hypothesis in the right (top) one-tailed hypothesis test leads to the conclusion of a statistically significant difference, which suggests that the degrees of agreement between the two populations differ when $p_1 - p_2 > 0$ and $Z < 0, 05$.

4. RESULTS

Among the 30 statements proposed in the questionnaire, five were statistically significant, as pre-established in the methodology. The following table presents the results obtained in the analysis of the difference in these proportions. The p value is the significance found as a result of the hypothesis test carried out and the closer it is to zero, the greater it is.

Table 1 - Difference in Proportions in Perceptions

| AFFIRMATIVE | LEADERS WHO AGREE | OPERATORS WHO AGREE | p value |
|---|-------------------|---------------------|---------|
| 6- I know of a case where an accident occurred with employee because he did not meet safety requirements in a task or activity. | 100% | 88% | 0,0271 |

| | | | |
|--|-----|-----|--------|
| 7- The risks raised in the Task Risk Analysis - ART are adequately disclosed and understood by everyone on the team in a task or activity. | 43% | 92% | 0,0001 |
| 10- Sometimes important risks are raised, but are not recorded, as they would interfere with the execution of the task or activity. | 18% | 36% | 0,0359 |
| 15- I know of cases where, during a task or activity, some security items were changed to improve delivery time. | 11% | 30% | 0,0204 |
| 17- Sometimes I feel obliged to violate Security Standards in order not to delay the delivery of a task or activity. | 0% | 10% | 0,0441 |

Source: Author

In statement 6, it appears that 100% of the leaders interviewed reported that they knew of cases in which, due to not having complied with safety requirements, employees suffered accidents. On the other hand, there is no consensus among operators on this statement, providing statistical significance for this disproportion. It is possible to imagine that for the operators, other factors contributed to the failure to comply with safety standards that led to the accident. Attributing blame to the employee in isolation

tends to lead to a failure to identify other possible causes and thus accept the unsafe act as causing this non-compliance with safety requirements. The attempt to explain the accident through the concept of an unsafe act makes it impossible to expand knowledge of what really happened as it limits causality to the injured party.

In statement 7, the results suggest that for the majority of operators, their understanding of the risks of the tasks is adequate, while only the smallest part of the leaders see this adequacy. It is possible to imagine that for 43% of leaders, these risk analyzes are not being properly received/understood by operators as a source of information in controlling the risks raised. This discrepancy opens up the opportunity to delve deeper into the question of how to better measure operators' knowledge of the risks posed in the operational area to which they are exposed.

In statement 10, the proportion of operators who agree that important risks are not recorded is significantly higher than the leadership. This difference suggests a fragility in safety leadership, as this results in a lack of control actions when planning tasks or activities. This discrepancy in knowledge regarding the intentional non-registration of important risks in the operational area, as they interfere with the execution of tasks or activities, leads us to believe that there is a need to reevaluate this condition, in order to implement improvements from the perspective of leadership and operators in these areas. aspects.

According to statement 15, 11% of leaders agree that they have seen cases where safety items were changed to improve delivery time, while operators agree even more, with 30%. This discrepancy leads us to imagine that some of the leaders, who are responsible for carrying out tasks and activities, may not be aware of these practices, failing to act preventively to reduce accidents, as what is being planned in relation to controls of risks tends not to be fulfilled and opens up opportunities for accidents to occur in the operational area. In this way, it is possible to believe that, due to failures in planning the task time, non-compliance with safety items may exist.

In statement 17, the leaders suggest being aligned with compliance with the company's safety standards, contrary to what some of the operators responded. They assume the position that they could possibly fail to comply with these standards, if necessary, to deliver a task or activity. It is noted that the level of non-compliance with safety in this matter exists, leading us to imagine that part of the leadership is not aware of what is possibly practiced in the operational areas. As previously discussed, this difference in agreement must

be deepened in order to provide opportunities for improvements, both in planning and in the execution of tasks or activities.

5. CONCLUSION

This study's main objective was to investigate the existence of possible distortions in perceptions of work safety, resulting from the analysis at different hierarchical levels, through the work experiences of leaders and operators, which can be reflected in the operational area and in the company's results.

This fact was noticed in the results of the agreement on work safety perceptions between the different hierarchical levels, where statistically significant discrepancies occurred in five statements, in which the understanding of aspects

related to the perceptions of the risks that employees are exposed to varied according to the hierarchical position in the company.

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