

Leadership As Strategy: Impact On Productivity In A Mining And Crushing Company

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Abstract:

Background: Leadership Within Organizations Is Performed In Different Ways, In Addition To Defining Strategies And Processes, It Is Responsible For Motivating The Team In Aspects Related To Moral, Emotional, And Interpersonal Relationships. Considering That Leadership Also Assumes The Role Of Strategy, It Can Interfere With The Use Of Available Resources And Better Productivity. Thus, This Article Aims To Demonstrate Through A Case Study The Impact That Leadership Assumes On The Operational Result In Organizations And Whether Leadership Can Be Considered A Business Strategy.

Materials And Methods: In This Case Study, A Systematic Comparison Of The Operational Productivity Of A Mining And Crushing Company Is Carried Out Between The Performance Of Two Production Managers, Considering Two Distinct Periods. The First Period Considers The Management Of Production Manager 1 From 2019 To 2020; The Second Considers The Management Of Production Manager 2 During 2022.

Results: The Productivity Analysis In The First Period Reached An Average Of 91%, After The Replacement Of The Production Manager, The Average Productivity Dropped To 67%. The Results Showed That Leadership Directly Interferes With Productivity.

Conclusion: Leadership Greatly Influences Operational Productivity Rates In Organizations And Plays A Key Role In Team Management. It Is Possible To State That Leadership Plays A Strategic Role Within Organizations.

Key Word: Leadership; Strategy; Productivity; Companies.

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I. Introduction

Leadership becomes crucial for organizational performance. The leader is responsible for motivating their team, and a well-motivated team is better equipped to fulfill their assigned tasks and achieve the organization's goals¹. Therefore, leadership is an important factor in increasing productivity within organizations.

The current economic scope demands an incessant increase in the competitiveness of these business organizations, and consequently, this factor promotes changes within the organizations, making it necessary for the level of productivity to also increase more and more. It is within this context that the role of the leader becomes crucial, acting with interpersonal skills toward their employees, and creating a pleasant, efficient, and productive work environment.

The use of leadership as part of the strategy to increase productivity within organizations is still little discussed in the literature, as these concepts are usually examined individually. One of the few authors in the literature who contributed to integrating these two concepts was Fernandes and Silva. In their study, they aimed to analyze the possibilities of conceptual integration between strategy and leadership².

Strategic leadership can be evidenced when leadership assumes a role in implementing innovative changes within a company³. Thus, strategic leadership aims at multifunctionality and the collaboration of heterogeneous teams.

According to Souza, leadership consists of a continuous process of motivating all individuals and groups involved in activities to achieve the desired results⁴. Therefore, leaders are responsible for the success or failure of the organization, as the organizational well-being and group motivation depend on them⁵. For Bennis⁶, "the presence of the leader is important for the effectiveness of organizations, for the frequent turbulence and changes in the environment, and the integrity of institutions."

Starting from these concepts and the importance of leadership, this article aims to measure the impact of changing the leader on the productivity of a mining and crushing company in the state of Santa Catarina, Brazil. Thus, demonstrating the impact that leadership has on operational results in organizations. The company founded more than 35 years, and for several years managed by the owner, with little flexibility and low monitoring of production processes, for many occasions were the production employees themselves managed the process, and for this and other reasons, always occurred stoppages in the process, be it for lack of raw material, or for breaking some equipment, or even the lack of tires or fuel to carry out the process activities, with approximately 20 employees between administrative and operational.

II. Material And Methods

This case study was conducted in a mining and crushing company, located in the North of Santa Catarina, Brazil between March 01, 2023, and July 08, 2023.

Study Design

This research, as the approach is classified as qualitative because the investigation is focused on the qualitative characteristics of the phenomenon studied, considering the subjective part of the problem focusing on understanding and explaining the dynamics of social relations⁷.

As for the objectives, the method used is exploratory, because the dynamics that were intended to investigate provide greater familiarity with the problem to make it explicit^{8,9}.

As for the procedures, this article uses the case study to provide greater familiarity with the problem¹⁰ to achieve the proposed objective.

Study Location: The study was carried out in a mining and rock-crushing company, located in the North of Santa Catarina, Brazil.

Study Duration: March 01, 2023, to July 08, 2023.

Procedure methodology

For data collection, the analysis of files recorded in the CRTI ERP Version 4.0 system of the company was used, as well as Microsoft Excel® spreadsheets and printed production tracking sheets, and the bibliographic research allowed theoretical and conceptual development of the theme of study.

The stages of the research were as follows:

Stage 1: Elaboration of the theoretical framework with the main themes of the study.

Step 2: Data collection in the company's CRTI ERP Version 4.0 system, Microsoft Excel® spreadsheets, and printed production tracking sheets.

Step 3: Survey of production results in two periods: the first with the performance of production manager 1 between the years 2019 to 2020 and the second corresponds to the performance of production manager 2 between August to December 2022.

Step 4: data analysis using Microsoft Excel® charts.

Step 5: Comparison of the productivity of the two periods with the performance of two different managers and conclusions of the study.

III. Result

First period: Performance of Production Manager 1

Graph 1 shows productivity analysis over 2 years of performance of a production manager with a good time of experience in production processes development and people management, which developed a team, with 8 operators in a crushing process, containing the processes of operation, transportation, and handling.

Demonstrating the results of the team, always using the same people, and evaluation of the same equipment

Graph 1: Productivity 2019 to 2020



When it comes to mining, we cannot fail to consider climatic phenomena, since humid climate conditions directly impact the results of the operation, and these are very well evidenced, precisely in the months that comprise summer and winter, seasons that have a slightly higher precipitation rate compared to the other seasons; fall and spring¹¹. The data show an average productivity of 91%.

Second period: Performance of the Production Manager 2

In December 2020, the Production Manager was replaced, the new Manager took over the administrative activities, but due to his low knowledge of Process Management and People Management and with little experience in motivating people and team development, he was unable to achieve productive rates with the same team, the first actions being the hiring of more operators and technical assistants to compose the team to reach the productivity levels necessary to meet the demand.

Unsuccessful in the actions taken, which made operating costs higher, immediately began cutting costs, the first of which was the elimination of overtime, and the benefits of snacks and food.

The days passed and new equipment, with greater production capacity was installed, with high investment and higher operating costs, however, having a production capacity 50% higher than the previous one. With this, mineral production stabilized, meeting the market demand that was already met by the previous equipment, this equipment worked for 15 months until June 2022, when it was replaced by the smaller equipment due to maintenance problems and premature wear, due to lack of maintenance and proper care.

With the return of the previous equipment, enabling productive comparison, the results were observed from July 2022, when the equipment under study was already installed and in operation.

Graph 2 shows the productivity achieved, now using 10 operators and with the same equipment observed in 2019 and 2020.

Graph 2: Productivity 2022



With the evaluation of the graph above, it is possible to identify that even with a greater number of operators to carry out the activities, it reached a productive average of 67% and it was not possible to reach a result close to that expected by the company, or even the productivity that was achieved with the same productive equipment in previous years, using even a smaller number of operators, it is worth mentioning that for the year 2021 and 2022, investments were made in the raw material vehicles, enabling even better stability in the feeding process of the equipment under study, generating full conditions for the improvement of the results that did not happen.

Not obtaining a minimum acceptable productivity index, the former Production Manager was called to conduct the process again.

On his first day back to activities, began work by performing a process mapping, basic activity for any production manager, using knowledge focused on Lean Manufacturing philosophy, observing the process as a whole, identifying a series of parallel activities that did not add productivity to the process, operational losses aimed at lack of monitoring and management of productive means, among them; waits, poor distribution of activities, lack of organization, delays in the arrival of raw material, due to not having basic stability in the processes that precede production.

Already on the second day of activity, the production manager started the day with a small meeting, explaining some activities that should change and explaining the reasons, giving an opportunity to operators to assist in conducting the process and indicating improvements, on the other hand intensifying its presence with the productive means, bringing the operators closer to the Manager. As expected, the activities became leaner and there was a significant reduction in waiting times, avoiding mishaps and activities that did not add value to the process. With the proximity of the Manager to the operators and the production process, several complaints were listed, including discontent due to changes made by the previous Manager who did not lead to the best use, making the necessary appointments and surveys, and even with the interruptions made in the process during the day, the operational results reached 81% productivity.

Starting the third day of observation and monitoring of the process, the flow of activities was already well designed and being closely monitored by the Manager, who at this time was already integrated into the work team, actively participating in the necessary adjustments and improvements, for the good progress of productivity.

With the necessary interventions, he found support from the operators for decision-making, since he involved them in the best direction of the process.

At the end of the day, as expected, the results returned to the old levels left by management in previous years, with productivity at around 90%, still allowing room for improvement, but already meeting the specific demands, which were not visible due to a series of factors and actions.

IV. Discussion

With the observations made it was possible to identify the importance and especially the impact of the production strategy adopted by the various managers of the production process, using the same equipment and the same resources. Thus, it is identified as true the description of Kosieradzka¹² when indicates that a management model with contemporary concepts implemented in the organization becomes effective and thus improves productivity rates.

Strategic Management is currently one of the disciplines in the field of Management that has great relevance for organizations. Any organization adopts a strategy, whether conscious or not. It consists in constituting a set of administrative actions that enable the managers of an organization to keep it integrated with its environment and in the correct course of development, to achieve its objectives and mission¹³.

The main elements of strategic management are mission statement, business vision, internal/external strategic diagnosis, identification of critical success factors, definition of objectives, stakeholder analysis, formalization of plans, and audit of performance and results.^{14,15}

Another point observed throughout the research within the elements of strategic management is the importance of internal diagnosis, with the identification of stakeholders, explanation of the objectives in contrast the performance results being cited as critical factors for success as they define.^{14,15}

Among the results obtained, it is evident the role that leadership assumes and that becomes fundamental in the implementation of changes and innovations in an organizational environment, bringing to light the objectives and actions to be implemented by its operators, now identified as Stakeholders, exactly as cited by³.

Carroll, Levy, and Richmond discuss the concept of leadership focusing on everyday practices including aspects related to moral, emotional, and interpersonal relationships, in this perspective, the study approves what was stated by these authors¹⁶.

Rowesays that strategic leadership synergistically combines managerial and visionary leadership. The leader, in this case, emphasizes ethical behavior and value-based decision-making, oversees operational and

strategic responsibilities, develops strategies for immediate impact, and maintains long-term goals to ensure the survival, growth, and long-term viability of an organization¹⁷.

It is also evidenced by the importance of knowing the process, facilitating the understanding of the means, anticipating any abnormalities that may happen, and predicting typical and atypical situations, because they are often machine tools, which periodically need monitoring and proper techniques for production management.

Production management and work organization practices are indispensable factors for the success of modern productive organizations¹⁸ to maintain this success there must be a process of continuous improvement in production management to increase the company's productivity¹². The concept of productivity emerged in organizations to improve their performance, the productivity index was initially calculated by the ratio between the production result and the number of employees. Subsequently, other ways of measuring productivity emerged, relating the production result to the use of other resources such as energy, raw materials, and inputs, among others.¹⁹

To increase productivity within organizations, some authors have developed studies, tools, and models to improve production management.

Fukuda and Sase developed the Integrated Quality and Productivity Improvement Program where they used the production management tools, now widely disseminated as 5S, JIT - Just-in-Time, TQC - Total Quality Control, TPM - Total Productive Maintenance, and Kaizen²⁰. These methods and techniques, which, are properly implemented, help to achieve productivity improvement.

The possibility of allowing team collaboration, in the search for definitive solutions for process stability and productivity improvement, increasingly encouraging collaboration and creation of disciplined and increasingly heterogeneous teams, aiming at better flexibility, allowing multifunctionality exactly as defined by Fernandes and Silva: the ability to anticipate, predict, maintain flexibility and allow others to create strategic changes aiming at multifunctionality and encouraging collaboration with heterogeneous teams².

V. Conclusion

Leadership has a great influence on operational productivity rates in organizations and plays a key role in team management. It is possible to state that leadership plays a strategic role within organizations.

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