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LEADERSHIP STYLE AND EFFECTIVENESS AND ENGAGEMENT IN A MANUFACTURING ENTERPRISE – CASE STUDY

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Purpose: The purpose of this article is to attempt to assess the impact of two different leadership styles, coercive and democratic, on employee effectiveness and engagement, using a selected manufacturing enterprise as an example.
Design/methodology/approach: The study was conducted in a small manufacturing enterprise. The primary data came from personal interviews with an operator and a leader, observations, and paper-based surveys (direct survey), while the secondary data used came from measurements taken by the health and safety department and the quality department in the enerprise under study.
Findings: The study showed that leadership style has a significant impact on the effectiveness of improvements in the production process in the enterprise under study. The democratic leadership style proved to be particularly effective in increasing employee engagement and improving performance.
Research limitations/implications: Due to the small number of respondents and observations conducted in only one small manufacturing enterprise, it is not possible to determine the strength of the influence of leadership style on employee engagement and effectiveness, therefore future research may cover a wider group of enterprises.
Practical implications: The article provides information on how employees of a manufacturing enterprise perceive changes in leadership style.
Originality/value: The article provides empirical evidence of the importance of the leadership style represented by the leader and the ability to adapt the leadership style to the specific nature of the enterprise and the organizational situation.
Keywords: leadership, coercive leadership style, democratic leadership style.
Category of the paper: Case study based on scientific research.

1. Introduction

Contemporary manufacturing enterprises operate under increasing pressure to improve process efficiency, product quality, and optimize operating costs. In this context, more and more attention is being paid not only to technological aspects, but also to organizational and social factors, in particular leadership style and its impact on the functioning of production teams.

The leadership style represented by a leader can significantly affect employee engagement, motivation, and effectiveness in performing tasks. However, these relationships are not always clearly analyzed in real production processes. Previous research on leadership style has focused mainly on declarative analyses or general indicators of organizational effectiveness. Empirical studies conducted directly in the production environment, which combine leadership style analysis with measurable technological parameters of the process, such as cycle time, machine efficiency, or product quality, are much less common. In particular, there is a lack of research showing the impact of leadership style change on the effectiveness of machine operators in specific, repetitive production processes.

The research problem addressed was to determine whether changing the leadership style of a production team leader from coercive to democratic affects the parameters of the packaging process and the commitment of machine operators. In addition, it was considered whether a change in leadership style could be an effective tool to support the implementation of improvements to the production process.

The analysis was conducted in the real-life conditions of a manufacturing enterprise and was based on objective process data, such as the cycle time of packaging machines, the number of packaged products, and the number of defects. Another key element was the observation of the effects of a real change in leadership style.

The aim of this article is therefore to attempt to assess the impact of two different leadership styles, coercive and democratic, on employee effectiveness and engagement, using a selected manufacturing enterprise as an example. The expected scientific contribution of the article is empirical confirmation of the impact of the democratic leadership style on measurable parameters of the production process. The study provides evidence that leadership style can be an important factor in supporting the effective implementation of improvements in the production environment.

2. Literature review

The concept of leadership has been the subject of debate in academic literature for many years. There are many definitions of leadership, which have evolved alongside the development of theoretical thinking and management practice. Concepts of leadership focus on the behavior of leaders in the process of organizational change and processes such as creating a vision for the future or gaining employee commitment to the changes being made. (Van Seters, Field, 1990). According to B. Bass and J.M. Burns, leadership is the ability to shape employee behavior in order to achieve specific goals, and the basis of leadership is authority and power that employees willingly accept. Leadership is a combination of specific character traits and talents that allow a leader to persuade others to act in accordance with expectations (Bass, 1990;

Dźwigoł-Barosz, 2013). It involves evoking emotions in employees that determine their commitment to cooperation, creation, and achievement of common goals, and focuses primarily on the relationship between the leader and the employee, building team relationships, motivating, and resolving conflicts. An effective leader is someone who can mobilize a team to overcome challenges while building an atmosphere based on trust, support, and mutual understanding (Karaszewski, 2011). Leadership is therefore a type of social influence in which a leader can influence the behavior of others in order to stimulate them to act effectively; it is a kind of art of mobilizing people to act (Wang, Hou, Li, 2022; Drewniak et al., 2023).

Effective leadership is based on the use of leadership skills that facilitate rapid adaptation to changing conditions in companies. Each leader has individual characteristics that determine their leadership style (Głębocki, 2021). The overall leadership style consists of three key elements: management style, action style, and work style. These three styles are strongly interrelated, creating a comprehensive leadership style. The action style, which refers to the method of carrying out purposeful activities, influences the leader's effectiveness. The working style, on the other hand, which encompasses the approach to tasks and relationships with others, is directly related to the practical performance of a leader's duties. Leadership style, on the other hand, is a set of interactions between the leader's personality, their team, and the context in which they operate. Action style clearly influences work style, which in turn has a significant impact on leadership style. All these interactions make up a leadership style that can be developed through learning and adaptation (Korcz, 2006). D. Goleman identified six leadership styles (Table 1), noting that each of the identified styles has its source in different elements of emotional intelligence (Goleman, 2000; Olechnowicz-Czubińska, 2014).

Table 1.
Characteristics of leadership styles

Leadership style	Characteristics of leadership style
Coercive	It is characterized by strong leadership, with the leader giving orders and expecting unconditional obedience from team members. The key principle of this approach is "do as I say", which promotes quick decision-making but can also limit creativity and team engagement. A leader using this style demands immediate and unconditional obedience, expecting strict compliance with orders. Maximizing work efficiency becomes a priority, often at the expense of team relationships and atmosphere. Decisions are made at the highest level of management, and criticism is not accepted. The lack of flexibility and respect for employees limits the ability to show initiative and reduces the sense of responsibility for results. This style stifles team creativity and reduces internal motivation to act, negatively affecting morale and job satisfaction.
Authoritative	It is characterized by a leadership approach that encourages the team to cooperate, guided by the principle: "follow me". A key element of this style is promoting a vision and motivating the team to take action towards common goals. The leader acts as a visionary, inspiring the group to carry out the mission. They set standards for effectiveness and indicate the overall goal, while allowing freedom in choosing the methods to achieve it. This flexibility encourages experimentation, risk-taking, and innovation. The leader emphasizes the importance of each team member's individual contribution to the common mission, showing actions in the context of the organization's development. In addition, they offer constructive feedback, mobilizing the team to maximize their commitment to achieving the organization's goals and strategies.

Cont. table 1.

Affiliative	Also known as people-centered leadership style, it is based on the key principle that interpersonal relationships are the most important factor in managing a company. This approach assumes that a leader's success largely depends on prioritizing the needs and expectations of employees, fostering harmonious interpersonal relationships, and building strong emotional bonds with colleagues. Focusing on employees has a positive effect on communication within the team and the organization. It allows people to perform tasks in the way they consider most effective, without imposing rigid procedures and methods for achieving goals. A leader is a master at building a sense of belonging, loyalty, trust, and satisfaction, becoming an architect of interpersonal bonds.
Democratic	A key aspect of this leadership style is the leader's involvement in the decision-making process. Building consensus through cooperation fosters an atmosphere of respect, trust, and commitment. The leader gives employees the opportunity to participate in decisions regarding their work goals, methods of operation, and evaluation criteria, and seeks their support. This increases flexibility in operation and deepens the sense of shared responsibility for the organization and its results. It is also crucial to listen to employees' suggestions, including their concerns, and to gather their ideas and opinions on actions that can help maintain high team morale.
Pacesetting	He is characterized by a leadership style that requires subordinates to follow his instructions without room for reflection or independent thinking. The leader sets high standards for work quality and gives his all to be a role model. He demands commitment from his employees, eliminating the weaker ones, introducing discipline, and ensuring that tasks are completed. He expects independence from the team, which often leads to unclear expectations. His approach limits flexibility and trust, resulting in routine and burnout. He does not provide feedback, focusing on minor details and taking over responsibilities when employees do not meet his expectations.
Coaching	Employee development in the context of their professional aspirations helps them identify their strengths and weaknesses and recognize their advantages and disadvantages. This allows them to combine their strengths with their personal and professional ambitions and reduce their shortcomings. This process encourages the setting of ambitious goals and the development of plans to achieve them, supporting employees in their endeavors. It requires ongoing dialogue, which allows employees to understand expectations and the importance of their efforts to the organization. Leaders work with employees to define roles and responsibilities, regularly discuss results, and motivate progress while avoiding frustration. They listen to employees' concerns, share insights, and offer advice. They support both individual and organizational career management, willing to take risks for long-term growth. Their attitude positively influences engagement because they believe in the potential of employees and invest in their development, avoiding punishment.

Źródło: Based on: Goleman, 2000; Olechnowicz-Czubińska, 2014, p. 119.

A competent leader is able, despite numerous difficulties and dynamically changing conditions, to create an optimal working environment within the organization, conducive to both the effective implementation of tasks and the development of the company. One of the key elements of effective leadership is providing employees with opportunities for continuous professional development, including both mandatory training and additional forms of education that support the process of self-education, internal motivation, and self-fulfillment. A leader who invests in the development of their team's competencies builds an organizational culture based on trust, commitment, and a sense of shared responsibility for common goals. By acquiring new skills and experience in a learning-friendly environment, employees begin to identify with the organization and perceive their own contribution as essential to its success. As a result, not only does job satisfaction increase, but so does employee loyalty and effectiveness, which translates into long-term stability and growth for the company (Wang, Hou, Li, 2022; Drewniak et al., 2023). Leadership plays a key role in managing production

teams, where process efficiency and product quality depend not only on technology, but above all on people. In the context of manufacturing companies, an effective leader should be able to motivate the team, support employee development, and ensure effective communication and engagement. The right leadership style not only increases productivity, but also builds a stronger and more effective organization (Kopertyńska, 2012; Turay, Salamah, Riani, 2019).

In order for a leader to effectively implement changes in the process, it is necessary to create a team that will support them in this endeavor. Building such a team requires not only the right skills, but also commitment and trust, which will enable effective cooperation. Only a strong, motivated team can contribute to the success in achieving the intended goals (Szczęsna, 2021; Wang, Hou, Li, 2022). The leader's tasks obviously go beyond team building alone; they also include managing the team in a way that promotes the achievement of the organization's goals. By setting standards and supervising compliance with procedures, a leader shapes a culture of improvement within the team. A leader's effectiveness does not end with managing the team, but also includes active participation in operational processes and striving to optimize them (Lizak, 2019). The implementation of process improvements largely depends on employee motivation and organizational culture. Leaders who involve employees in decision-making processes create a sense of shared purpose, which significantly increases their motivation. The reward system is also an important element in this context. Recognizing employees' achievements, e.g., through praise or public recognition, strengthens their commitment and bond with the organization. In addition, leaders who build an environment of cooperation and mutual support make employees feel responsible for achieving common goals, which further strengthens their motivation. An organizational culture based on cooperation, innovation, and open communication significantly increases a company's ability to adapt in a dynamically changing environment. Leaders play a key role in shaping it by introducing values that encourage knowledge sharing, promote transparency, and strengthen commitment to the organization's development. A democratic leadership style enables the creation of a work environment that supports creativity and collaboration, giving employees a sense of real influence on the company's activities. In addition, through effective communication, leaders help teams better understand the organization's goals while streamlining internal processes (Miao, Newman, Huang, 2014; Rahbi, Khalid, Khan, 2017; Jing et al., 2017; Guterresa, Armanu, Rofiaty, 2020; Drewniak et al., 2023).

An employee who is committed to their work identifies with the company, seeks challenges and the fulfillment of their professional ambitions, fulfills their duties, thinks innovatively, and takes actions that will improve the competitiveness of the entire organization (Antonic, Hisrich, 2003; Robertson, Birch, Cooper, 2012; Chang et al., 2021). Engaged employees experience positive emotions more often and enjoy better mental and physical health, which also translates into higher productivity at work and better results. (Salanova, Agut, Peiro, 2005; Wright, Cropanzano, 2000). However, employee engagement requires moving away from the relationship of dependency that exists between employer and employee in favor of an equal

relationship where responsibility is bilateral. Employee engagement stems from their positive attitudes toward their superiors and a sense of responsibility for the results of their own work (Burns, 2005). The most commonly mentioned components of engagement include: job fit, task variety, rewards and recognition, development opportunities, senior management involvement, leadership, teamwork, communication, training, gratitude, and measurement. Engagement is a positive attitude of an employee towards the organization and its values, expressed through awareness of the organizational situation and cooperation to improve performance and for the good of the organization (Crawford, LePine, Rich, 2010; Robinson, Perryman, Hayday, 2004; Drewniak et al., 2023).

Despite numerous studies devoted to leadership styles, there is still a lack of empirical analyses conducted in real-life manufacturing companies that would link changes in a team leader's leadership style with measurable technological parameters of the production process, such as cycle time, machine efficiency, or number of defects. Studies on leadership style rarely involve analyses in real production process conditions.

3. Research methodology

The study was conducted in a small manufacturing enterprise operating in the medical industry, specializing in the mass production of disposable filters used in diagnostic devices for measuring lung function. The name of the enterprise is not disclosed in order to maintain anonymity.

The change in leadership style at the enterprise under study was the result of the need to solve problems that were negatively affecting the plant's operations. The eneterprise noticed a marked decline in employee engagement and motivation, which had a negative impact on the quality of work performed. The previous leader represented a command style, characterized by a dominant approach to team management, including strict control over subordinates, decision-making without consulting the team, and an emphasis on following established procedures. As a result, there was an unpleasant working atmosphere on the production floor, and no significant initiatives were taken to increase production efficiency. The introduction of a leader representing a democratic style was aimed at improving relations between employees and management, increasing team commitment, and creating conditions conducive to work efficiency. The new leader is open to the opinions and needs of employees. He makes decisions in a consultative manner and emphasizes building a positive work atmosphere and involving the team in decision-making processes.

The research problem addressed was to determine whether changing the leadership style of a production team leader from coercive to democratic affects the parameters of the packaging process and the commitment of machine operators. In addition, it was considered whether

a change in leadership style could be an effective tool to support the implementation of improvements to the production process.

The study included an analysis of the work parameters of packaging machine operators before and after the change in leadership style. The study involved employees directly involved in the final product packaging process and the production leader. The study was conducted at a packaging station equipped with four packaging machines, each operated by one operator. The team of operators consists of four people on the first shift and four on the second shift.

Both secondary and primary data were used for the analysis. The secondary data came from measurements taken by the Health and Safety Department and the Quality Department at the enterprise under investigation (table 2).

Table 2.
Secondary data used

	Who performed the measurements	**Parameters that were examined**
Secondary data	Health and Safety Department	• measurements of lighting conditions using a lux meter, • comparison of lighting condition measurement results with the requirements specified in the PN-EN 12464 standard, • UGR coefficient parameter.
	Quality Department	• product compliance with quality requirements, • percentage of defective products.

Source: Own work.

The primary data came from observations, informal personal interviews, and a paper-based survey (direct questionnaire). During the observations, implemented by the new production process improvement leader, notes were systematically taken. These notes were supplemented with information obtained from informal personal interviews with the main operator and the leader. A request to complete a direct survey questionnaire was sent to all packaging machine operators. The questionnaire ensured anonymity and contained seven closed questions concerning:

- assessment of the leader's communication during the implementation of improvements,
- assessment of the operators' involvement in the process of implementing improvements,
- assessment of the leader's support in solving problems,
- perceived differences in the leadership style of the current leader compared to the previous one,
- operators' preferences regarding the current leader continuing to work in a similar style,
- assessment of the impact of a good relationship between the leader and the employee on work at the workplace,
- the impact of a change in the leader's leadership style on motivation to work during changes in the position.

The study was designed at the Department of Organizational Innovation Management, Faculty of Management, Bydgoszcz University of Science and Technology by Urszula Słupska and Natalia Górecka, and was conducted by Natalia Górecka under the scientific supervision of Urszula Słupska.

4. Empirical results

Attempts to assess the impact of two different leadership styles, coercive and democratic, on employee effectiveness and engagement were based on observations of the actions of a new leader in a manufacturing enterprise and the improvements he introduced in the packaging process, as well as on the responses of employees directly involved in the final product packaging process, who referred to the leadership style of the previous leader.

As a result of the observation, it was noted that the new leader first organized a meeting to identify the needs of machine operators and obtain detailed information about the difficulties associated with the packaging process. By organizing the meeting, the leader sought to involve employees in the process of implementing improvements. This strategy increased acceptance of the proposed changes and employee motivation, which translated into their more effective implementation. During the discussion, the operators unanimously pointed out that the main problem in their work was insufficient lighting at their workstations, especially in the area where visual inspections were carried out. The leader then analyzed the operators' workstations and assessed the existing lighting and ergonomic conditions. The enterprise carried out precise measurements of lighting conditions using a specialized device – a lux meter. The results obtained were then compared with the requirements specified in the PN-EN 12464 standard, which defines standards for lighting parameters in the workplace. Analysis of these results enabled an accurate assessment of the lighting's compliance with applicable regulations and allowed for the identification of areas requiring modification. On this basis, it was decided to change the lighting so that it would meet ergonomic and technical requirements, taking into account the specific nature of the workstations. In addition, attention was drawn to the UGR coefficient parameter, the value of which needed to be improved. The enterprise carried out measures to change the setting of the main lamp above the workstation. The angle of the lamp was adjusted to minimize light reflection and reduce its direct emission towards the operator's eyes. The installation prepared in this way was implemented at one workstation and tested over several consecutive days. During this stage, the leader monitored the work process, paying particular attention to the operators' comfort level, reduction of visual fatigue, and improvement in the quality of visual inspection of filters. These observations were intended to assess the effectiveness of the changes introduced. After the trial period, lighting measurements were taken again, confirming that the lighting conditions complied with the

standards for workstations requiring high visual precision. After the test was completed, a meeting was organized with the main operator who tested the new lighting at his workstation. The purpose of the meeting was to discuss the change and its impact on working conditions. The operator shared his opinions and comments, emphasizing that the use of additional lighting significantly increased his comfort at work. He also noted that eye strain after several hours of work was less noticeable, which significantly affected his efficiency in performing his daily duties. The leader then took steps to ensure uniform lighting conditions at all workstations. A week after the implementation of the new lighting solutions, a survey was conducted using a direct paper-based questionnaire. Eight operators took part in the survey, which aimed to analyze the impact of the changes on work comfort and identify potential areas for further optimization. During the analysis of the results, it was found that the changes introduced in the workplace lighting had a significant impact on the comfort and efficiency of the operators' work. All respondents clearly confirmed that the new lighting improved their comfort at work. In addition, six respondents noticed a reduction in eye strain during long periods of work. Another important observation was the impact of the new lighting on the quality of visual inspection of filters. Seven operators confirmed that the change had a positive effect on the precision of their tasks, which was particularly important in the context of work requiring high accuracy. During the survey, operators also made suggestions for further adjustment of the lamp. Three respondents indicated that its current location made it slightly difficult to clean the workstation. The suggestions for improvements made by the operators were also a valuable part of the study. Two employees noted that thanks to the improved lighting, checking the filters took less time than before. These observations became the basis for considering further improvements to the workstation that could further optimize the tasks performed.

The new leader decided to use the information obtained earlier. During a cycle lasting several minutes, the operator gained time to perform additional tasks not directly related to control. The leader, in cooperation with the operator, focused on another improvement, which was to analyze the machine parameters and identify those that could be optimized to shorten the machine cycle time. In order to better understand the problem reported by the machine operators, the team leader decided to get directly involved in the process analysis. He noticed that one of the main problems was the length of time it took to inspect and place items on the conveyor belt. This process led to downtime during which operators waited for the belt to move. The breaks limited the efficiency of the entire process, and the monotony resulting from the repetitive nature of the work led to a low level of engagement in daily tasks. The leader pointed out the need to collect detailed data on machine performance, such as cycle time, number of products packaged, and length of downtime. The information gathered became the basis for planning optimization measures. At the same time, the leader recognized that the active involvement of operators in the improvement process would be crucial to the effectiveness of the proposed changes. He therefore held regular consultations with employees, during which they had the opportunity to share their observations and ideas for improving the process.

This dialogue allowed for the creation of more tailored solutions that took into account the actual needs of the workplace. As a result of the analyses, the leader developed an action plan that included testing various machine settings and identifying opportunities to reduce cycle times. The application of the new operating parameters was subjected to a detailed assessment, which allowed for the determination of their impact on process efficiency and operator comfort. It was determined that the optimal operating speed of the packaging machine is 10 seconds (previously it was 13 seconds). With these settings, the machine's cycle time was reduced to 6.5 minutes, which was a reduction of 1 minute compared to the previous values. However, in order to permanently implement these settings, it was necessary to perform quality control on a test batch and test the packaging machine with the new settings for a specified period of time. The quality department carried out a detailed verification, assessing the compliance of the products with the quality requirements. The results of the analysis showed that 97.3% of the packaging met the quality requirements, while the percentage of defective packaging was 2.7%. This level of non-compliance was within the limits specified by the quality department's procedures. Based on the results of the filter quality verification, the leader decided that additional calibration of the machine was not necessary. The modified speed settings were accepted as compliant with quality requirements and permanently incorporated into the production process. The results of this stage clearly confirmed that the changes made contributed to the optimization of the machine's operation without negatively affecting product quality. Then, for five days, the team leader regularly contacted the machine operators, conducting interviews aimed at assessing the impact of the changes on their comfort at work and identifying any problems or suggestions. The results of these interviews, combined with technical data, indicated a significant improvement in work efficiency. The modifications to the machine settings contributed to a reduction in packaging time, which had a positive impact on the pace of task completion. Before optimization, an operator was able to pack between 5200 and 5400 filters during an 8-hour shift. After implementing the new machine speed parameters, the number of filters packed increased to between 6000 and 6200 per shift, representing an average increase of approximately 15%.

The impact of leadership style on employee engagement was assessed based on the results of a direct survey conducted among all employees directly involved in the final product packaging process. The survey used a questionnaire containing seven closed questions. To ensure that respondents felt free to express themselves, the survey was anonymous. It was conducted one week after the implementation of the improvements, which allowed operators to make a well-considered assessment of the changes introduced. The results indicate that communication from the leader was at a very high level, which proves his effectiveness in conveying information during the implementation of improvements. Six employees rated communication from the leader as very good, and two as good. None of the study participants chose the answers “average”, “poor”, or “very poor”. Employees also rated their involvement in the improvement process highly. Seven respondents indicated full involvement in the

improvement process, and one respondent indicated partial involvement. This showed that the implementation of improvements was not just another top-down idea from superiors, as had been the case previously, but a genuine initiative aimed at improving the comfort and efficiency of the team's work. The leader's behavior significantly influenced the sense of responsibility and commitment of the packaging machine operators. The surveyed employees also admitted that during the testing of new solutions, the leader always provided support, answered questions, and made sure that the employees were not left alone with the difficulties they encountered. Five of them rated the leader's support as very high, and three as high. It was also extremely important that most of the study participants noticed differences in the leadership style of the current leader compared to that of the previous leader, and assessed them positively. Six respondents indicated that these differences were positive, and two that they were neutral. None of the respondents assessed the change in leadership style negatively. This is due to the fact that the new leader, compared to his predecessor, showed greater openness and accessibility, creating a friendly atmosphere and engaging in cooperation with the team, instead of limiting himself to giving orders. In addition, employees expressed a high level of acceptance for the way the leader manages the team (seven respondents expressed a positive attitude, wanting the leader to continue working in the current leadership style, one respondent had no opinion on this subject). The respondents also recognized the key role of a good relationship with the leader in work efficiency, which is the foundation for further team development and maintaining a positive atmosphere in the workplace (all respondents noted the impact of a good relationship with the leader on effective teamwork). Another important aspect was that half of the employees surveyed (four people) indicated that the change in the leader's leadership style definitely affected their motivation to work, one respondent indicated that it rather increased their motivation to work, and three admitted that it had no impact on their motivation to work. None of the respondents indicated that the change of leader had reduced their motivation to work.

The introduction of a new leadership style therefore had a positive impact on the team's motivation. The results confirm that leadership style affects employee effectiveness and engagement in the enterprise under study. This impact is noticeable across the entire team and is certainly significant. However, due to the small number of respondents and observations made in only one small manufacturing enterprise, it is not possible to determine the strength of this impact.

The study showed that leadership style had a significant impact on the effectiveness of implementing improvements in the production process in the enterprise under study. Democratic leadership style proved to be particularly effective in increasing employee engagement and improving performance. The impact of leadership style change is presented collectively in Table 3.

Table 3.
The impact of leadership style change on key areas in the production process of the studied enterprise

Area of change in the production process	Situation before the change in leadership style (coercive style)	Situation after the change in leadership style (democratic style)	Consequences of the changes
machine efficiency	cycle time: 8.25 minutes	cycle time: 7.25 minutes	improved machine efficiency
productivity	5200-5400 pieces per shift	6000-6200 pieces per shift	15% increase in the number of packaged products
working conditions	poor lighting, lack of ergonomics	improved lighting, better ergonomics	greater comfort at work
precision of work	lower accuracy during visual inspection of filters	better visibility and greater precision thanks to optimal lighting	improved quality of work
employee engagement	limited—no consultation or co-decision-making	higher participation in decision-making processes, regular meetings	increased engagement, motivation, and sense of responsibility

Source: Based on the results of a study conducted in the enterprise.

5. Discussion

The results of this study confirm that leadership style plays a significant role in shaping the level of employee engagement in an organization. More extensive research on this topic was conducted by P. E. Esguerra and V. Padilla, who demonstrated a significant correlation between elements of transformational leadership and employee engagement. In addition, they pointed out that companies should also review and improve their current compensation systems and incentive programs, which leaders can use to influence their subordinates at work. They also pointed out that companies should develop and regularly implement leadership training programs that can improve managers' leadership skills and styles (Esguerra, Padilla, 2021).

A study conducted in a manufacturing enterprise provided results indicating that leadership style also affects the effectiveness of tasks performed. Similar results were obtained by K. Obeng-Asare and V. Korang, who examined the impact of democratic leadership style on the performance of administrative employees. In addition, their study indicated that democratic leadership promotes strong employee synergy through participation in decision-making, teamwork, and cooperation, which contributes to improved productivity. A democratic leadership style, characterized by employee engagement and empowerment, therefore significantly improves employee productivity (Obeng-Asare, Korang, 2024).

A study conducted by D.A.M.R.C.J Athapaththu and E. Rebecca confirmed the positive relationship between leadership style and employee performance. They confirmed that leadership style and a positive work environment have a significant impact on employee performance. They also showed that in order to retain high-performing employees, companies

should empower them by developing team spirit, providing appropriate and regular feedback, giving guidance through clear supervision, providing training programs for leaders, and empowering them to work independently. In addition, effective leadership encourages employee motivation. Effective support from leaders can generate motivation among employees. Increased motivation to work, resulting from the right leadership style, improves employee performance (Athapaththu, Rebecca, 2025; Guterresa, Armanu, Rofiaty, 2020).

Additionally, the results obtained in the study are supported by findings from a study conducted by P. Ewangelides and N. Karfakis on a large group of respondents from the banking sector in Cyprus. The study showed that although an autocratic, command-and-control style prevailed, employees believed that a democratic style could lead to more positive results than an autocratic one (Ewangelides, Karfakis, 2019). In the context of the results of the study, which noted an increase in employee engagement under the influence of a change in leadership style, it can be concluded that a democratic leadership style based on dialogue promotes both greater engagement and better work performance. It can also be concluded that leaders should be more conscious in choosing and developing leadership styles that are in line with the expectations and needs of their teams. The ability to adapt leadership style to the specific nature of the enterprise and the organizational situation may prove particularly useful.

6. Conclusions

A study conducted at the enterprise revealed significant effects of the change in leadership style on the work of packaging machine operators. The results clearly showed that the transition from a command-and-control to a democratic leadership style contributed to improved team performance and production processes. The cycle time of the packaging machines was reduced from 8.25 minutes to 7.25 minutes, which increased the number of products packaged per shift from 5200-5400 to 6000-6200, i.e., by approximately 15%. Operators emphasized that the changes implemented, such as improved lighting and optimized machine settings, made their daily work more comfortable and less physically demanding. In addition, these improvements increased the accuracy of visual inspection of filters, a key element of the packaging process. Greater precision during inspection has reduced the number of defects, which has had a positive impact on overall production quality.

Employees also noted that the change in the leader's leadership style had a positive impact on the workplace atmosphere and their motivation. The implementation of a democratic leadership style also contributed to closer cooperation between the leader and the team. Regular consultations and the involvement of operators in the change process made employees feel more appreciated and responsible for the results of joint activities. The leader's commitment to identifying the team's needs and cooperation in implementing solutions resulted in greater

acceptance and effectiveness of the changes. The new leadership style, based on open communication and cooperation, had a positive impact on employee motivation. Employees appreciated the opportunity to participate in decision-making and the fact that their suggestions were taken into account, which translated into a greater sense of responsibility for common goals. Before the introduction of the new leadership style, employees were less involved in work improvement processes, and changes were introduced top-down, without consultation with the team. After the change, however, the leader actively involved the operators in the decision-making process, which led to greater acceptance and effectiveness of the measures. By demonstrating greater openness and commitment, the new leader contributed to an improvement in the working atmosphere and the team's effectiveness.

The study showed that leadership style has a significant impact on the effectiveness of implementing improvements in the production process. Democratic leadership style proved to be particularly effective in increasing employee engagement and improving performance. However, it should be emphasized that the conclusions presented apply only to the enterprise studied and cannot be generalized to the entire population of manufacturing companies. Due to the small number of respondents and observations made in only one small manufacturing enterprise, it is impossible to determine the strength of the influence of leadership style on employee engagement and effectiveness, and it is impossible to generalize the observed patterns. In addition, the use of a direct survey questionnaire, which is a simple research tool, has certain limitations and does not allow for the capture of precise details. The subjectivity of respondents' answers and assessments is also not without significance here. The article provides only information on the perception of leadership style change in the surveyed manufacturing enterprise by its employees. This information can serve as a reference point for managers and production team leaders looking for effective tools to improve production processes. However, future research should cover a wider group of manufacturing companies, which will allow the identified research gap to be filled to a greater extent, and should take into account methods that eliminate the identified limitations as much as possible.

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