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DARK SIDE OF LEAN OFFICE

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Purpose: The aim of the study is to determine the nature of the relationship between working conditions, creating an environment for creativity, and the manner and scope of implementation of 5S practices. This leads to the identification of the goals set for the implementation of 5S in the perspective of working conditions and the analysis of their potential and real impact on employee creativity.
Design/methodology/approach: The authors conducted a bibliographic query, in-depth interviews with managers and employees of companies and analyzed the documentation of the implementation of the 5S system. The research was a case study. The survey was conducted in three companies from the Lower Silesia region in Poland, which introduced the 5S method.
Findings: The analyzed implementations of 5S practices did not take into account the context of working conditions. The potential impact of the implementation on the mental comfort and creativity of employees was also not taken into account. The guiding principle of 5S implementations was to organize "everything" regardless of the specificity of the company's organizational units.
Research limitations/implications: The main limitation of the research is the lack of comparison of the ingenuity of departments operating in the LO regime and those operating in a more individualized way, tolerating a certain level of disorder. Future research should address, m.in this issue.
Practical implications: We notice that the creative process requires a certain amount of autonomy of employees, which often manifests itself in a certain disorder. This means that overregulation of the Lean Office can weaken the creativity of the employees, orienting them from solving problems to organizing the desk/laboratory, etc.
Originality/value: In the literature on Lean Management and Quality, the issue of the impact of 5S practices on employee creativity does not appear. On the other hand, this issue cannot be seen in the literature on creativity.
Keywords: Lean Management, Lean Office, 5S practices, employee creativity.
Category of the paper: Research paper.

1. Introduction

This article presents the results of research on the mechanisms of the relationship between the introduction of Lean Management (LM) tools such as 5S into an organization's creative space and employee personal creativity. The research findings presented in this article are part of a broader project on the impact of implementing 5S practices on working conditions, employee health, and their creativity. This section focuses on the potential and actual impact of working conditions on employee creativity shaped by the implementation of 5S practices. The aim of the study is to determine the nature of the relationship between creativity and the method and scope of 5S implementation. The main focus of the research is the analysis of issues arising at the intersection of Lean Manufacturing and the working conditions that shape creativity. The authors can be said to examine the sequence: 5S implementation – working conditions – creativity. It is common practice to transfer LM principles and adapt LM tools such as 5S to non-production areas (Becker, 2001, pp. 29-31; Gapp, Fisher, Kobayashi, 2008, pp. 565-579). There is even a new concept of LEAN OFFICE and a lot of literature promoting this approach, including (Schipper, 2019).

One may ask whether such an approach is justified in the case of: creative industries, R&D departments and other organizational units whose goal is to create innovative solutions, such as: algorithms, business models, products, sales models and others. Proponents of "putting everything in order" claim that organized reality organizes thinking, while the issue of activating the mind to look for new, unconventional solutions is used in practice to a very small extent. Rather, the organization focuses on increasing productivity and improving "what is" (Zimon, 2012). This concept can be a hidden internal block to novelty. Another problem is that if an organization wants to be creative, should it be a "mess"? What is the acceptable level of clutter and in what positions? The commonly emphasized innovation of the concept of Lean Management/Manufacturing lies in the fundamental Confucian philosophy expressed for the purposes of management as the Kaizen philosophy. Kaizen is a philosophy of continuous improvement. One may ask whether a strong emphasis on improvement makes radical innovation easier or more difficult.

We should also ask ourselves: isn't excessive organization of the work environment, especially in departments related to creative activity (using creative potential) the greatest waste? This waste is not noticeable because it is a potential, vague and deferred benefit, and therefore has the character of lost profits. The waste that LM focuses on is concrete, visible and immediate. It can be said that LM consumes the reserves of ordinary efficiency, long-term efficiency seems to be the result of creative solutions coming from outside or from within the company. What better stimulates order or clutter to create new, creative solutions. This question is particularly important in the era of the triumphant march of the LM philosophy and its tools through industrial organizations and attempts to adapt it to other activities of the organization.

This is called Lean Office (LO), which is the implementation of lean manufacturing philosophy in offices and administrative processes (Yokoyama, de Oliveira, Futami, 2019, pp. 67-77). LO helps streamline the flow of information in any administrative function by focusing on reducing the overall cycle time Wang (2010). According to Davim (2015), companies can only experience process improvements and the benefits of lean manufacturing principles if their implementation is successful. The difference in the application of lean concepts in research and development is also pointed out by Reinertsen and Shaeffer (2005, pp. 51-57). Researchers point to the possibility of simple application of selected LM methods, but the limited possibility of using many other balancing departmental activities, unfortunately, do not address the issue of creativity. First of all, we present the issue of 5S and creativity. Then the research results were presented, a discussion was conducted, and conclusions were drawn.

2. Literature Review

2.1. 5S Practices as an LM tool

In Poland, as Walentynowicz (2013) claims the lean management concept is usually described as "lean production", "lean manufacturing", "lean management" or "lean organization".

The literature indicates the entire range of LM tools from basic TPM, through SMED, JiT, 5S. It is worth mentioning the 5S system is considered to be particularly related with shaping and even improving working conditions. Gapp, Fisher, Kobayashi (2008, pp. 565-579) proves the 5S system (practice) is considered to be a tool used to support solving problems related to work organization. Some researchers e.g. Karaszewski (2009) indicates, that this helps not only enhance the work organization but also improve the conditions and safety at work. Therefore, attempts are being made to extend this system with another S, i.e. safety, viewed as safe and healthy working conditions. As a consequence, many researchers have proposed the concept of 5S + 1 and even 6S. This approach is noticed in publications Gajdzik (2013), Becker (2001, pp. 29-31). This approach was revealed in the first decade of the 21st century, but it is still valid. The issue of LM implementation in workplace ergonomics and safety is addressed by Tortorella, Cómbita-Niño, Monsalvo-Buelvas, Vidal-Pacheco, Herrera-Fontalvo (2020, pp. 276-283), Rose, Rashid, Mohamed, Jubri (2019), Tortorella, Vergara, Ferreira (2017, pp. 3407-3418) and many others.

The 5S practices, as argued by Zimon (2012), have an especially positive effect on physical working conditions, thus offering opportunities to minimize the costs of reorganization at workstations. In the book by Karaszewski (2009) we read he reference to 5S requires consideration of:

- seiri, as sorting and elimination of what's unnecessary,
- seiton, as an expression of systematization, setting in order and segregation,
- seiso, as sweeping and cleaning category,
- seiketsu, which favours standardization and thus order,
- shitsuke, relating to self-discipline.

As a consequence of using 5S practices, safe working conditions result directly from the essence of the discussed system. Szatkowski (2014) states, that 'Good organization in and around your own workplace' which is the term used to define the 5S system, also means management that is safe for human, taking into account meeting human interests in this respect.

2.2. Creativity

According to Amabile (1988, pp. 123-167), Kanter (1993), Drazin, Glynn and Kazajian (1999, pp. 286-307) and many other authors, creativity is usually associated with generating new ideas as a goal in itself, while innovation is the ability to apply new ideas to solve specific problems. The creativity of individuals and teams drives organic innovation in organizations. Without creative ideas, there is nothing to implement. Gong, Huang and Farth's (2009, pp. 765-778) research shows that employee creativity is related to overall work efficiency. This has specific and obvious implications for the innovative operation of an organization. The ability to encourage employees to innovate, to have appropriate innovation management mechanisms and resources necessary to develop innovations builds a broadly understood work environment that influences individual and group creativity. At the same time, it determines the company's ability to use individual creativity. Creativity is needed not only when creating ideas for new products and technologies, but also during their development and when solving various problems. 5S practices directly affect working conditions. The question that can be asked in the light of creativity is: does 5S stimulate creativity or not? Holistic and crosssectional studies conducted by Amabile (1988, pp. 123-167), Amabile and Pratt (2016, pp. 157-183), Geynor (2002) Cooper (2017) Golej (2013) led to the definition of proposals for innovation management models that take into account the relationship between individual creativity and organizational innovativeness.

Creativity, although based on individual potential, benefits and is inspired by interaction with others. This statement clearly indicates that being creative depends on the conditions and interactions with the social environment. The more social contacts at the level of discussion and ideas, the more inspiration and ideas. In practice, this means creating a space for the exchange of views and discussion. Discussion often takes a form that has little to do with order, but is full of passion. If, in the light of the previous considerations, creativity is an individual trait, does order and order really promote creativity? Or maybe a little mess can be a creative leaven for creativity. Below are some comments on clutter and creativity. According to American scientists, a cluttered desk is supposed to stimulate the mind to work hard. Researchers Vohs, Redden, and Rahinel (2013) concluded that: structured environments promote conventions and

healthy choices, which can improve life by helping people to comply with standards and increase well-being; Unstructured environments stimulate creativity, which is of great importance for culture, art, and business (e.g. creative industries).

Abrahamson and Freedman (2007) argue that "Organization and over-organization entail high costs that we do not notice, ignoring the fact that disorderly people or organizations are often more effective, creative and flexible". The research by Whittaker and Hirschberg (2001, pp. 150-170), who examined the structure of archives with the information processing strategy, is important from the point of view of the conducted considerations. They identified two groups of behaviors, the first group organized data, put them in binders, devoting a large part of their work to this. The second group arranged data in piles, in which the necessary data were on top, and the less important ones at the bottom of the pile. Archivists keep their desktops clean and prevent the accumulation of documents. The second group, on the other hand, has a messy desk, littered with piles of paper, which makes it rare for them to try to organize the information they store. Although archivists seem to have easier access to information, they do so at the cost of accumulating large archives that they then have to organize and manage

Extreme disorder will not improve creativity, just like extreme ordering. The 5S method seems too restrictive for creative activities, but some order is needed. This requires a flexible approach and adapting the 5S method to a specific situation, the deployment of employees and adapting to their temperament. One of the basic conditions for being creative is the ability to go beyond patterns and beaten paths. In this context, many methodological suggestions have appeared regarding being creative. We can mention here: the concept of horizontal thinking, lateral thinking or creative intelligence.

Other authors point out that the work environment, creative departments should have objects that inspire employees, are close to them and of course are not a threat in any way. Such objects mean that there will be “unnecessary” things on the desk, but in terms of stimulating creativity they are very important (IDEO), in a way triggering the imagination.

This leads to the determination of the research hypothesis H: The Lean Office method, and in particular 5S practices, do not work well as a tool to strengthen the creativity of employee.

3. Methodology

Two research questions were asked in the study. Has the impact of working conditions on employee creativity been taken into account when applying 5S? Does shaping working conditions using the 5S method take into account the goals and specifics of work at different positions? The next part uses empirical material on Lean Management (LM) implementations collected in three production companies in Lower Silesia, which implemented LM in the form

of 5S practices. Taking into account the qualitative nature of the discussed problems, the case study method was chosen to present them, placing greater emphasis on their in-depth understanding of the phenomenon. Wójcik (2013, pp. 17-22) argues that this was to find what only qualitative results can suggest. The data sources concerned the analysis of documents concerning the implementation of the 5S system in the enterprises of three manufacturing companies. Observation and free interviews with managers and employees involved in the implementation of the system were also used. In particular, in-depth interviewing (IDI) was used, which is a direct method of primary research in which the respondent is the active object of measurement and respondents remain in direct contact with the interviewers (interview). The interview was conducted in detail according to the rules proposed by Kaczmarczyk (1999).

4. Results

The main goal of 5S implementations was indicated as improving efficiency. In each of the analysed implementations, efforts were made to organise everything perfectly. Starting from the production hall, through the technological process, to the offices of the accounting department, technologists, laboratories and research and development departments. In the analyzed companies, attempts were made to include the entire organization in 5S practices, regardless of the type and nature of work. First, selection was made, all employees of the Production Department, Laboratory and Office marked items with red and green labels. In the next step - seiton, as an expression of systematization, order and segregation. By giving the appropriate arrangement to the things available at the workstation, shadow boards were pre-pared, storage places and internal communication routes were designated. Desk photos were taken as standard and norm. Seiso should take into account the introduction of cleaning schedules.

Standardization consisted of developing documents that would allow for the regulation of all procedures. Self-discipline: among others, continuous improvement of cleaning methods, maintaining order in the workplace, compliance with the principles of the 5S method will be implemented. In the studies conducted in each company, instilling self-discipline in maintaining order and tidiness in each area of the company's activity was considered a success. Continuous training of employees in this area was proposed.

Control methods were defined: regulations, shadow boards, office order and other standardizing documents. The non-physical working conditions in the 5S method were shaped by rigorous regulations and high expectations in terms of order.

Concepts such as order, mess and waste reduction were repeated in the interviews. There were no statements such as innovation, creativity, problem-solving in the interviews.

Some employees gave textbook answers that were literally in line with the leading message of the training.

Their active participation in the 5S implementation project contributed to the at-tempt to stimulate the creativity of employees. Which was reflected in the expectations regarding: identifying things to be removed, proposing a workplace organization and/or accepting a new workspace layout, cleaning and cheerfully following many rules (a kind of court etiquette).

Then, employees (in accordance with the KAIZEN concept) are expected to: propose continuous improvement of "what is" and arouse in them a sense of responsibility for the costs incurred. It can be said that the main guiding idea of the entire implementation of 5S principles is the constant search for waste.

The surveyed companies did not measure the quantity and quality of submitted ideas before and after implementation. Entries describing work efficiency in the non-production sphere are also not recorded. The lack of this information makes it impossible to objectively assess the impact of 5S implementation on employee creativity. Some employees indicated that they were eagerly awaiting a systemic resolution of issues related to order. Employees explained that they could not stand to watch their colleagues' work in disarray. And they did not want to ruin relationships with co-workers by drawing attention to the mess. Others indicated that sterile order would depersonalize their workplace and make them feel like guests or intruders in the company who make a mess.

First question. Based on the conducted research, it was found that most of the activities were aimed at improving efficiency by reducing time loss. One of the most important conclusions is that when introducing 5S, companies did not aim to support employee creativity. Referring to the question of whether working conditions were taken into account when implementing 5S, working conditions were not indicated as the goal of this implementation. The effects of the implementation were not verified in terms of the impact of the changes on employees' creativity, their well-being at work or the level of stress they experienced.

Second question. 5S practices used in all departments did not take into account the specificity of positions and the nature of creative work. In companies striving for standardization, the aspect of adapting working conditions to different positions in light of the demand for creativity was omitted. Another effect of standardization and systematization is the depersonalization of the workplace in favor of its standardization. Many researchers indicate that tightening the requirements for order may be associated with loosening the bond between employees and the organization. The logical consequence of recognizing that order, standardization, systematization are perfect is uniformity. Such a view may and should raise doubts. One of the reasons for progress is the tension resulting from diversity. Diversity also means a different level of order that a given person considers order. Of course, as a place of conducting group activities, the company cannot accept excessive disorder. Further inter-views showed that the feeling of anxiety did not disappear, but was replaced by a habit that weakened

its effect. They showed that the 5S method was implemented in a way that raised many concerns among employees. Other results of 5S implementation observed during interviews include:

- feeling the pressure of perfect order and avoiding mess at all costs,
- feeling of guilt due to lack of order,
- high specialization of employees and lack of immediate replacement, but possibility of quick training of a new employee,
- high specialization and lack of ability to transfer knowledge from other fields – routine,
- higher assessment by management of perfectly orderly employees than those who solve problems.

5. Discussion

We can say that the implementations were intended to program employees to maintain perfect order. The 5S control system leads to the consolidation of the belief that only order is the right state, and a dose of mess instead of inspiration leads to internal stress and guilt. It also leads to a sense of anxiety that a person will be judged not on what they have done, but on whether their desk is tidy. People who find it difficult to keep order are judged as people who lack order in their thinking. Therefore, in line with the need for recognition, they lower their self-esteem and focus on maintaining order, often wasting their creative potential. In the area of production, the restrictive 5S approach seems justified, but where the organization needs a bit of creativity and flashes of genius, it is not justified.

The assessment of the implementation of the 5S system largely depends on the temperament of the person making the assessment. There is a significant mismatch resulting from the different temperaments and personalities of people subjected to 5S pressure. For some, perfect order is not enough, for others, knowing what is where is enough. The considerations so far lead to the conclusion that these excessive demands, especially in the case of creative people, can lead to psychological problems. According to the version of the division of temperament introduced by Hippocrates-Galen, described by many researchers, including J. Strelau (1998). Phlegmatic and melancholic temperaments try to organize everything in the smallest details, devoting a lot of time to this task. Cholerics are goal-oriented. Sanguine people are interested in how others perceive them, and the concept of order is incomprehensible to them. An important conclusion can be drawn from the inverted U theory, which indicates that no extremes give the highest efficiency. This concept goes unnoticed Czakon (2012, pp. 7-10), Uzzi (1997, pp. 35-67). In this context, it is inappropriate to keep the creative work-place in excessive mess, similarly to an ascetic and sterile desk. Returning to the concept of creative thinking, it should be stated with full certainty that none of the implementations subjected to the study supported lateral or divergent thinking, creative intelligence or horizontal thinking.

The results of the study encourage the development of such solutions in the 5S system that, on the one hand, will ensure the stimulation of individual creativity, and on the other, will ensure a level of order in the workplace. Such a solution could be the adaptation of 5S principles to individual positions and then to employees. It can be said that this would mean the development of the 5S+P concept, where P stands for personalization (2019). Some researchers note the need to adapt the Lean concept to individual areas of the company's activity, pointing out, for example, the differences between Lean R&D and Lean Manufacturing.

6. Conclusion

Referring to the purpose of the work, it should be stated that the goals of the LO and the creation of conditions for creative work are often contradictory. The concept of 5S practices aims at organizing the workplace, which is justified in the production and office spheres (for repetitive/routine activities that do not require creativity). However, this concept does not fully work in the field of creative activities related to solving problems, creating something new, responding to the individual needs of customers. Here we need to release the creative potential and create conditions that will awaken this potential. Excessive demands on order can disrupt thought processes and creative processes. The important thing is that we want to solve the problem first and then clean up. We are talking about new solutions, products, services, organizational solutions that are critical to the survival of the company. As the work is of a team nature, the level of order will be a certain resultant of the expectations of individual employees. Of course, we also expect innovations from line employees, but incremental improvement innovations (KAIZEN) improving productivity/efficiency in the broadest sense.

The analyzed implementations are an example of ignoring the specifics of individual departments/workplaces, including "creative" departments such as R&D, marketing, related to strategy building. The consequence of this approach is also ignoring the fact that 5S practices create working conditions that affect the mental condition of employees. The analyzed implementations did not take into account the impact of 5S on the revealed creativity of employees.

The literature query and the research confirm the hypothesis that The Lean Office method, and in particular 5S practices, do not work well as a tool to strengthen the creativity of employee.

Future research should be directed at a deeper explanation of the phenomenon of individual and organizational creativity in the light of the work environment. An important aspect of research is the impact of cultural diversity on creativity, which manifests itself in multinational organizations.

Important for theory, entrepreneurs and companies implementing LO is the need to identify different requirements for different positions and departments. Leaving a significant dose of individualism for jobs related to problem solving, creative work, strategy building, etc.

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