

Cooperation as a factor in improving the quality of work in an industrial enterprise

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Abstract. Modern industrial enterprises, introducing the most modern industrial Internet systems, robotization, big data, digital twins, continue to depend heavily on staff, team cohesion, and relationship building systems. High technologies require a transition to hybrid competencies and "smart simplicity", lean manufacturing and optimization of all business processes at the enterprise. But at the head of everything is the efficiency of employees.

Keywords: digitalization, industrial personnel, strategic leadership, hybrid competencies.

Even in the digital economy, the human factor remains the most important link in the value chain. This is especially evident in industrial enterprises, where not only the quality of products depends on the efficiency of the personnel, but also the prospects for the development of the company, the image of profit, etc. The complexity of modern production, the introduction of the industrial Internet, robotization, big data, digital twins cannot replace a person, but only increase the role of a close-knit team, forcing the transition to "smart simplicity".

An industrial company faced with a deterioration in the quality of its products decided to increase its investment in research and development. Consequently, she had to cut costs in other areas.

The company tasked the purchasing department to reduce costs by 20% without compromising the quality of supplies. The purchasing department consisted of two parts: "category strategists", who figured out how to buy goods, and "purchasing departments", which executed the strategy. Attempts to cut costs have been unsuccessful. The company needed help finding the source of the problem.

The concept of "smart simplicity" has been proposed to help eliminate unnecessary organizational confusion. Increasing regulatory requirements, new technologies and growing customer expectations are just a few of the challenges organizations face. In an effort to respond to these challenges, companies often increase organizational complexity, which can be defined as the number of procedures, hierarchical levels, structures for interaction and coordination, necessary approvals and other formal levers and tools.

Confusion leads to many of the problems that are all too familiar to any leader of a modern company - such as high costs, slow decision making, narrow thinking, lack of innovation, difficulty in solving real problems and achieving real results. While complexity is an inevitable reality in today's business, it doesn't mean that confusion is just as inevitable.

Smart Simplicity helps organizations identify and remove confusion and drive lasting, measurable change. The factors that determine human behavior are taken into account, i.e. the context in which employees work - and then the context is formed to achieve the desired behavior.

The six simple rules of smart simplicity are not solutions per se, but rather a set of strategies based on economics, game theory, and organizational sociology. These guidelines enable organizations to promote new behaviors and improve productivity.

The first three rules create conditions for individual autonomy and empowerment to improve productivity.

1. Understand what your people are up to. Track performance down to behavior and how it affects overall results. Understand the context of goals, resources, and constraints. Determine how the elements of the organization affect goals, resources, and constraints.

2. Strengthen your integrators. Identify integrators - those people or departments whose influence matters to the work of others - by looking for points of tension where people do the hard work of collaboration. Integrators bring others together and manage processes. They work where constraints and requirements are common. Give integrators the strength and interest to collaborate on complex challenges. Remove management layers that don't add value.

3. Increase your total energy. As you create new roles in your organization, empower them to make decisions without taking power away from others. Providing multiple instruments at the same time is more efficient than offering multiple instruments in sequence. Replenish power bases regularly to ensure agility, flexibility and the ability to adapt.

The second set of rules forces people to overcome difficulties and use their new-found autonomy to collaborate with others in order to radically improve overall performance, not just individual performance.

4. Promote reciprocity. Set clear goals that stimulate mutual interest in collaboration. Make each person's success dependent on the success of others. Elimination of monopolies, reduction of resources and creation of new networks of interaction.

5. Expand the shadow of the future. Let people experience the consequences of their behavior and decisions. Tighten the feedback loops. Reduce the duration of projects. Let people see how contributing to the success of others contributes to their success.

6. Reward those who collaborate. Increase the return for everyone when they work together for the good. Establish fines for those who refuse to cooperate.

If we consider a specific work with an industrial enterprise, then the following 4 steps apply for it:

1. Smart start: *What problems caused by complexity need to be addressed?* Top management and other stakeholders were interviewed to agree on key performance issues. Conversations with the various parties involved in this issue have produced some very eloquent results. The category strategists stated that the purchasing departments did not implement the strategies properly. The buying units complained that strategists were only concerned with strategy, not what the buying units really needed. In the meantime, the operating divisions bypassed the purchasing department entirely and procured themselves. This made it difficult for buyers to negotiate better prices.
2. Diagnosis: *What are the main causes of complications?* In-depth interviews focused on stakeholders and their respective behaviors in the hope of understanding why people behaved the way they did given their goals, resources and constraints. The real problem identified by these first two steps was that the three "players" - procurement strategies and divisions within procurement, as well as operational divisions doing their own procurement - were isolated from each other. They did not have common goals and therefore did not collaborate effectively.
3. Solution development: *What are the targeted interventions to reduce complexity and address the root cause of performance issues?* The solution was developed in the form of a three-step process. First, clarify the objectives for each business unit: Strategists had to develop innovative purchasing strategies. The purchasing divisions had to develop the skills of the team members. Second, create "overlapping goals." Third, cut back on the purchasing budgets of the operating divisions.
4. Implementation: *How do you implement the solution, make it sustainable, and ensure continuous improvement?* When the individual roles were defined, strategists had to be practical and buyers had to follow pricing strategies. Overlapping goals forced strategists and buyers to collaborate, and they formed a "community of practice" that upgraded

everyone's skills. Finally, shrinking procurement budgets for operational units meant they lacked the resources to procure their own. They were forced to cooperate with the purchasing department. Ultimately, all the players were forced to work together. Result: The purchasing department met its cost-cutting objectives and the quality of the supply did not decline.

As a conclusion, there are three main areas of improvement:

- Remove internal monopoly on information or processes. This kills collaboration because monopolies don't need to take into account the needs and constraints of others.
- Remove resources. For example, if you clean up excess televisions in your household, people will have to collaborate to decide what to watch on the one remaining television.
- Create "multiplex" or communication networks. Place people in situations (for example, in communities of practice) in which they must consider mutual performance requirements.

References

1. Smart simplicity <https://www.bcg.com/ru-ru/capabilities/organization/smart-simplicity>
2. Industrial company employees Collaborate and win
<https://www.bcg.com/ru-ru/capabilities/organization/smart-simplicity/cooperate-conquer>
3. Roadmap for digital strategy [Electronic resource] URL <https://www.bcg.com/ru-ru/industries/education/primary-secondary-education> (appeal date: 10.09.2021)
4. Assessment of digital maturity to improve efficiency [Electronic resource] URL <https://www.bcg.com/ru-ru/capabilities/people-strategy/talent-development> (appeal date: 10.09.2021)