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A culture of improvement supports continuous change

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When Vulcano, a leading Portugal-based water heater manufacturer, wanted to implement changes in the workplace, it turned to the Bosch Production System (BPS) which strives to combine enhanced innovation and production capabilities. Its aim is “to increase customer satisfaction and value contribution through overall improvement of quality, delivery and costs” and one of its attractions lies its claim to be deliverable in diverse national contexts.

Vulcano’s objectives were to integrate management of the value chain; reduce waste; make all the processes simpler, clear and more flexible; and involve all employees, in order to surpass customer’s expectations and improve the company’s profitability.



Using the BPS model of developing and delivering the right part, at the right time, in the right amount and with the required quality, Vulcano aimed to:

- know what employees regularly needed in their daily work, what they only needed sporadically and what they didn’t need at all;
- ensure that regularly needed objects should be as close as possible to the work area, and the ones that are not needed should be removed as quickly as possible.

The changes they introduced were based on three factors:

- *Production and work arrangements* (restructuring production and efficiency processes, business re-engineering, flexible work arrangements, greater integration among functional lines, and decentralization).
- *Human resources* (management practices, flexible job design, employee involvement, and improving employees’ skills).
- *Products/services* (quality-related practices, total quality management and improving coordination with customers/suppliers).

Striving for constant improvement



Vulcano fully understood that successfully applying BPS requires constant observation and assessment of the production environment. Where do they see forms of waste? Can the production, as well as the administration processes, be further improved?

They equally recognized that these questions are never fully answered, that there is always a need for new solutions. Vulcano employees consistently demonstrated creativity and innovation – activities that placed an emphasis on the ability to engage in continuous learning and a deep knowledge of the organisation.

In other words, they are always in a process of change. Although management guided the process from preparation into implementation, it was fundamental that the continuous improvement programme (CIP) was seen as the responsibility of all – shop floor operatives, team leaders, department managers and plant managers. In this way, innovative practices were focused on results, ensuring a clear and effective organisation supported by processes and leadership who encourage workers to take the initiative. With senior management taking on a special responsibility for transferring the expertise and enabling an environment for innovation, it was the beginning of the creation of an innovation culture with workplaces characterized by high levels of functional flexibility and autonomy promoting innovative behaviours - including the generation of new ideas and the participation in their implementation.

They were striving to put in place structured problem-solving based on commonly acknowledged standards, recognition and immediate reporting of problems and jointly developed standards and procedures.

The reality check

The main goal was to make the company more efficient and optimize all the resources in order to improve product and service quality and the performance of the business on a multi-national scale.



The Vulcano experience was one of modest but continuous positive steps although it proved not to be without challenges. Employees did not always have the same perceptions as managers and they did not always follow the same definitions or standards. Managers also confirmed that they had a poorly structured leadership around problem-solving and target achievement, but they were developing strategies to overcome this kind of situation.

Problem solving routines needed to be continually improved, made more systematic and sustainable. The implementation of CIP must be fully disseminated in order to help develop the innovation culture and it is a never-ending process.

Impacts on the Organisation

Organisational Actors	Traditional Production	Continuous Improvement
Team Leader	Dependent on the leader's personality	Structured problem solving
Team Members	Dependent on worker's personality	Standardized work
Leadership ratio	Large	Small
Problems	Not transparent: possibility of circumventing standards	Transparent due to standards and automatic response systems
Structured communication	Daily meetings discussing results	Support for problem solving, problem oriented
Leadership on the shop floor	Irregular, event driven	Permanent
	Sporadic, project based	Triggered by deviations
Qualification training	Technical and social skills	Problem solving skills
Standards	Defined by experts, rarely confirmed by leaders	Developed together with associates, daily process confirmation.

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