Increasing manufacturing output by working with people

As part of an organisational initiative to achieve operational excellence, a large South African company wanted to improve the performance of its relatively new plant. The plant was already operating reliably with an established team of experienced operators, technicians, and engineers. However, after some research into potential areas for improvement ABB were engaged to improve shutdown performance and increase output.

Benefits
- £10 million of annualised and on-going year on year profitability improvements
- Plant running at its rated output
- Reduced shutdown times
- Improved shutdown schedule forecasting and adherence
- Created ownership of improvements by involving all levels of workers
- Culture change - problems are now treated as opportunities to improve performance
- Maintenance, operations, and engineering now have to confidence to work together

Solution
ABB’s ultimate objective was to bring about a sustainable organisational change that would stabilise the production processes and optimise shutdowns to drive costs down and output up. To bring about this organisational change we used the ABB i2i approach. The methodology is well proven for managing successful business change programs and based on our experience of what works in an operating environment and was developed by experienced line managers.

i2i considers all aspects of the business, involves all stakeholders and, crucially, delivers change that is sustainable. i2i operates 3 stages and considers 3 levels of an organisation.

The 3 stages (the 3 i’s) are:
- Investigate - understanding the opportunity to improve
- Implement - enacting the change through projects
- Integrate - sustaining the change

The 3 levels of the organisation are:
- Senior management - building leadership and ensuring strategic alignment
- Front line staff - delivering transformation projects
- Middle management - developing the organisational capability

At the investigation stage 3 tracks for improvement were identified; a technical track, an organisational track including shutdown performance, and a people track.

Technical track:
The aim of this track was to increase output by lengthening the plants online time. Manufacturing improvement teams were set up and facilitated by ABB.
The teams involved all 3 levels of the organisation; senior managers, front line staff and middle management to ensure a complete picture was gathered and pragmatic solutions were developed.

Following the i2i model helped senior management teams act as true teams and to be clear about the strategic direction that they needed the rest of the business to help implement.

i2i deliberately places the front line employees on the next level as a way of demonstrating that these people are directly responsible for delivering the strategic goals and they work on projects that will have immediate impact on the delivery and bottom line performance, e.g. increased output, reduced waste.

The third level is perhaps the most important of all. As middle management they are responsible for “Creating organisational capability”. This means ensuring that those employees on the front line have the systems, skills and ability to deliver to their customers and achieve the strategic direction as set out by the leadership.

Following a number of workshops, some key opportunities for improvement were identified and solutions implemented such as, modifying systems to improve the stability of the production process.

To allow the change to be fully integrated we ensured that the manufacturing team owned and drove the improvement process. This change in organisational culture was achieved through the people track.

**People track:**
The aim of this track was to effectively manage process systems to help employees work towards the common goal.

ABB implemented an engagement programme to help include all staff at each step of the process, allowing them to give their views and ideas. As well as generate pragmatic solutions based on actual plant operations it also provide ownership of the solutions to ensure that the improvements were sustained.

This gave the operations team the confidence to engage with “Experts” in the company’s technical department to jointly analyse and optimise the process.

**Organisational track:**
The aim of this track was to realise the business vision of achieving greater run times between shutdowns and shorter shutdown periods. The management wanted better control of shutdown safety, integrity, schedule and cost. The key here was knowledge sharing. ABB helped the team implement a management control and reporting system, define key performance areas, key performance indicators, and create a matrix of responsibility and accountability for their achievement.

To truly achieve operational excellence across these tracks the project required the support from all levels of the business. They all needed to understand the problems, opportunities and support the improvements to make sure benefits were sustained. ABB’s i2i approach brought alignment and involvement at each level of the business, making the organisation empowered and more capable.

Now that the people in the business have the capability to achieve continual plant improvements, future work will embed and sustain this culture change in the organisation. The company wants to do this by:

- Involving its people in defining the next steps for the business, and
- Equipping them with the processes to reach these next steps.

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