

The great nuclear fizzle essay



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Babcock & Wilcox was a well-reputed and respectable company, operating in the steel fabrication industry for over a hundred years. In addition to this the company had an early exposure to the nuclear vessel fabrication business and was ideally poised to exploit the changing trend from fossil fuels to nuclear fuels. However the failure of the Mount Vernon project of B&W proved otherwise, the company not only failed to meet the delivery schedules but also suffered from problems such as high employee turnover, high defect rates and delays in setting up plant and equipment.

Some of the major reasons for B&W's failure to deliver according to schedule were buried in the organizational culture as well as the decisions taken by the management, by failing to take a holistic view of the organization i. e. seeing the organization as a combination of social and technological factors the management destined its Mount Vernon project to failure. Firstly Babcock & Wilcox overestimated the short-term optimum capacity of their new plant and undertaking large number of orders, considering the fact that the plant was not fully operational at the time the orders were accepted.

Secondly the management set up the plant in an area where there was a dearth of skilled labor. This was a particularly poor choice keeping in mind the nature of the products i. e. highly unique and subject to high quality standards. This led to a high defect rates as well as high employee turnover because the company was not paying competitive wages. This caused a further problem since technically skilled and qualified labor had to be moved from other division and that labor force had competing priorities.

Finally a host of unforeseen factors such as delays in receipt and installation of key equipment and earthquake caused additional problems that the company was unequipped to handle at that time. In hindsight we can say that the blind approach of the higher management to shift towards leaner and efficient operations without keeping in mind the nature of the nuclear vessels business led to a classic failure of the system. While lean management and a certain degree of formalization and standardization helps to improve efficiency in most cases, sometimes the theory fails to deliver results as witnessed in the B&W's case.

It is essential to understand that such systems are more suited to organizations engaged in fairly standardized and routine operations, as was the case of B&W before the company initiated its Mount Vernon project, and the leaner management system in a standardized environment did yield result, in fact the system continued to yield results for other areas except the nuclear vessel project. This becomes a classic example of why organizations must not use a 'one size fit all' approach towards management; clearly what worked for other divisions did not work for the nuclear vessel's division.

By taking a Sociotechnical view of the project or organization the management could have averted this failure. As explained earlier a Sociotechnical view does not take into account the social and technical factors in isolation but as a combination and seeks a joint optimal solution. The Sociotechnical systems theory proposes that in face of increasing complexity and changing ground dynamics organizations must become adaptable and focus on whole task rather than single jobs. The notions of <https://assignbuster.com/the-great-nuclear-fizzle-essay/>

adaptability and whole tasks are centered on the idea of minimizing internal controls and giving more freedom and authority to people in charge.

This aspect was missing at B&W, which is evident from the fact that Craven complained that he could not be expected to take responsibility of the failures when all the strings were being pulled from the headquarters. A similar approach is explained in the case study titled 'Lean Manufacturing Case Study' which explains that by replacing the flow layout of production to the work cell layout, as well as internalizing all tasks to a cell i. e. forming cross-functional work teams Mechrol, was able to improve efficiency.

Another recommendation that can be taken from the Sociotechnical systems is that by internalizing all functions to particular work cells, defect rates or at least defect detection systems could be improved resulting in early warnings since products were inspected at each individual step rather than at the very end. The Lean Manufacturing Case Study identifies that the switch from flow layout to work cell layout enabled the organization to detect defects at an earlier stage and without affecting the entire production process.

This would have been particularly useful for B&W who suffered delays due to exceptionally high defect rates as high as almost 70%. Another important factor to be keep in mind must be the requirements of the end customer. In the case study titled 'Key Manufacturing Task Case Study' the authors identify that timely delivery and meeting specified quality standards for transformers are essential once the date and specifications has been decided. This point is similar to the B&W nuclear vessel business, where both quality and delivery schedule are important.

The case identifies that rather than trying to accomplish everything a company should focus on those steps and functions, which are valuable and essential for the end customer. Since these products i. e. nuclear vessels or transformers tend to be a small part of larger projects costs are not a very important factor, but for some reason B&W placed extra emphasis on cost and attempted to keep direct labor costs low and decided to experiment with untried technology.

This shows that the company did not understand the nature of its customer demands and requirements as a result suffered from unsatisfied customers. Finally a point of great importance to conclude with, all change initiatives must be led by people rather than technology. B&W's failure to take a people oriented approach to change caused them to fail, fundamental weaknesses were lack of understanding of customer demands and lack of authority and decision making authority with people who should have been making decisions. If the change process discounts the role of people then it is bound for failure.