

## **Design organization to manage high-risk systems: the case of chemical industry**

The aim of this paper is to analyse the contribution of organizational design to the management of complex high-risk systems. Combining empirical and theoretical advances, this paper is based on a dynamic perspective, re-visiting and continuing Charles Perrow's works.

Research on the reliability of high-risk systems shows that there are failures in organisation which arise from the difficulties that engineers and technicians have in conceiving organisation in relation to the technology used. This paper treats the design process as a social, contingent and contextual construction. An analysis of the contribution of actors engaged in the modification of high-risk chemical installations shows that their anticipation of the organization in relation to the technical systems is partial. The social and dynamic perspective adopted reveals the strengths and weaknesses of organization and design practices in order to take account of the risks. Moreover it questions the human and socio-economic costs of design in highly regulated industries where demands of profitability and competitiveness are additional to the requirements for risk management.

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