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Strategic Simulation in the Industrial Sector - Exemplified by a case study in the Shipping Industry

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Publication date:
2015

Document Version
Peer reviewed version

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Citation (APA):

Hansen, M. S. (2015). Strategic Simulation in the Industrial Sector - Exemplified by a case study in the Shipping Industry. Abstract from 7th Global Supply Chain Management Conference 2015, Hangzhou, China.

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Strategic Simulation in the industrial sector

-Exemplified by a case study in the Shipping Industry

Keywords: shipping; strategic simulation; resilience, global logistics, decision making

The aim of this paper is to develop methods to enhance decision making in the shipping industry regarding resilience in global logistics combining qualitative and quantitative analyses of near- and long-term resilience challenges.

The future offers both opportunities and pitfalls for the shipping industry. The rise of emerging economies is changing the structure of global trade making it important for shipping companies to efficiently evaluate and operate their business to remain competitive. It is necessary for shipping companies to consider emerging issues and trends related to global logistics as the challenge companies' face today is how to strengthen resilience in the face of increasing systemic turbulence caused by resource and environmental stresses – posing new risks to business continuity. Strategic tools are crucial for decision makers in organisations in particularly in rapid changing environments. Resilience is the capacity of business to adapt to and learn from change and uncertainty related to disturbances, whether they are caused by chronic societal or resource stresses and/or acute events. Traditional risk management for example “Value at Risk” calculations assumes that risk distributions are normal. However, most systems have non-normal risk distributions that undermine the very essence of traditional risk management tools. Hence, resilience management focuses on combination of simulation methods that include the search for both normal and non-normal risks. It helps a company to deal with both systemic changes and acute, unforeseen events. The acute event stress dimension deals with the exposure of the system to sudden stresses that may jeopardize or severely challenge its dynamics. Resilience research and actions include methods to increase the absorption capacity, the speed of recovery and the ability to respond to chronic trends and acute events.

Strategic Simulation is a way to explore these opportunities and pitfalls in a systematical and creative manner. The paper will focus on scenario analysis as a participatory tool to analyse possible futures of an industrial sector, in this case the bulk section within the Danish shipping in-

dustry. By combining different stakeholders' observations, insights, experiences, and imaginations and transform them into narrative and numerical simulations of possible futures it is possible to develop strategic, tactical and operational tools relevant for decision making in this industrial sector. Based on interactions between researchers and stakeholders in the shipping industry, the paper demonstrates and discusses how it is possible to enhance more resilient decision making in an industrial sector, here exemplified by the shipping industry.