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Lone Dalkjær Kavin (born 1971) is a researcher within the field of Supply Chain Management at the Department of Entrepreneurship and Relationship Management, University of Southern Denmark, Kolding. Her research and teaching areas are within innovation, supply network and international business development.

Lone has been affiliated to the international project Reducing Cost of Energy within the offshore wind energy industry (ReCoE) as a doctoral researcher. During her studies she was a visiting research scholar at Michigan State University, Department of Supply Chain Management, studying supply network enabled innovation.

She received her bachelor degree in Economics and Business Administration and Enterprise Development from the University of Southern Denmark in 2010, her master degree in Economics & Business Administration – Marketing and Innovation from the University of Southern Denmark in 2012, and her PhD degree in 2017 from the Faculty of Business and Social Sciences University of Southern Denmark.



PhD Dissertation of

## Lone Dalkjær Kavin

at the Department of Entrepreneurship  
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Supply Network Enabled Innovation  
within a Non-repetitive  
Manufacturing Context

Empirical and Theoretical Investigations

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# Supply Network Enabled Innovation

## Within a Non-repetitive Manufacturing Context - Empirical and Theoretical Investigations

The dissertation starts from the notion that innovation is an important aspect of being persistent and successful in a competitive, global environment and from the discovery that supply network enabled innovation does not always concern products intended for repetitive manufacturing developed through a dyadic relationship.

The fact that innovation increasingly is enabled directly or indirectly through the supply network in a non-repetitive manufacturing context, or is politically initiated in a non-repetitive manufacturing context, calls for new perspectives on fostering supply network enabled innovation. In the wake of this, the study takes a supply network approach which focuses on delineating the factors affecting supply network enabled innovation and explicating possible innovation fostering practices in non-manufacturing contexts. Indeed, the literature on supply network enabled innovation has argued that the innovation fostering practices are crucial elements in improving the potential and competitiveness of supply networks in non-manufacturing contexts and in influencing innovation performance.

In order to explore the current state of supply chain management literature, and to explain and expand the literature by exposing the concepts of supply network enabled innovation to different theoretical and empirical contexts, the dissertation is structured around this main research question: *How is supply network enabled innovation fostered within a non-repetitive manufacturing context?*

The dissertation is composed of four papers, one of which is published in an edited book, while the others are under review at scientific journals.

*Paper 1* focuses on describing and explaining the essential nature of supply network enabled innovation through a case study within the supply network of the Danish offshore wind industry. The paper sketches out practical and analytical challenges and implications related to the external context of supply network enabled innovation in terms of the national innovation system, including the aspect of industry maturity.

*Paper 2* describes the different supply network classifications, typologies, and taxonomies and provides a framework for identifying and designing an appropriate right supply network structure to foster supply network enabled innovation. The framework is based on a systematic literature review.

*Paper 3* provides an analysis of the innovation factors and innovation fostering practices in supply networks in a repetitive manufacturing context and of how they apply to supply networks in a non-repetitive manufacturing context. The paper builds on an illustrative case of the supply network of the Danish offshore wind industry.

*Paper 4* centres on how innovation fostering practices differ depending on industrial clock speed and how this might affect innovation fostering practices and innovative performance.

Overall, the dissertation provides systematic research on how innovation is fostered in supply networks in a non-repetitive manufacturing context. In particular, the dissertation contributes with new evidence and adds to existing knowledge of supply network enabled innovation in four specific ways. First, it outlines the national innovation system that represents the external context in which firms organize their innovation fostering practice. The purpose is to understand the incentives and barriers of supply network enabled innovation in a non-repetitive manufacturing context to and identify significant possibilities for improving the innovative performance. Second, the dissertation stresses the prevalence and theoretical roots of the supply chain management concept, which involves reviewing existing literature and clarifying definitions and terminology. Third, it develops a theoretical framework for describing and categorizing different innovation factors and innovation fostering practices, in addition to explaining the content of these practices and how they change depending on their application context. Fourth, it presents empirical studies of innovation fostering practices within two different market contexts: high- and low-clock-speed industries. The dissertation concludes that the product characteristics, technology development, and the industry's rate of change determine how the supply network interfaces in the exploration and exploitation phases of innovation, ultimately affecting the innovation process and innovative performance.

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## Department of Entrepreneurship and Relationship Management

The Department of Entrepreneurship and Relationship Management is mainly located at the University of Southern Denmark, campus Kolding, and employs approximately 85 people. This location is central to the growth centres within the Triangle Region and offers a unique opportunity to close cooperation with the companies and public authorities in the region in respect to research and educational projects.

For several years the research of the department has been based on learning networks with companies and trade promotion institutions. In addition to this, the department has a long tradition of problem-based cooperation across traditional business research areas and very often by means of external funding. The research of the department concentrates on two key areas: entrepreneurship and relationship management and originates from traditional research areas such as marketing, applied economics, accounting, operations management and organization.

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