



Requirement Management in Ship Design

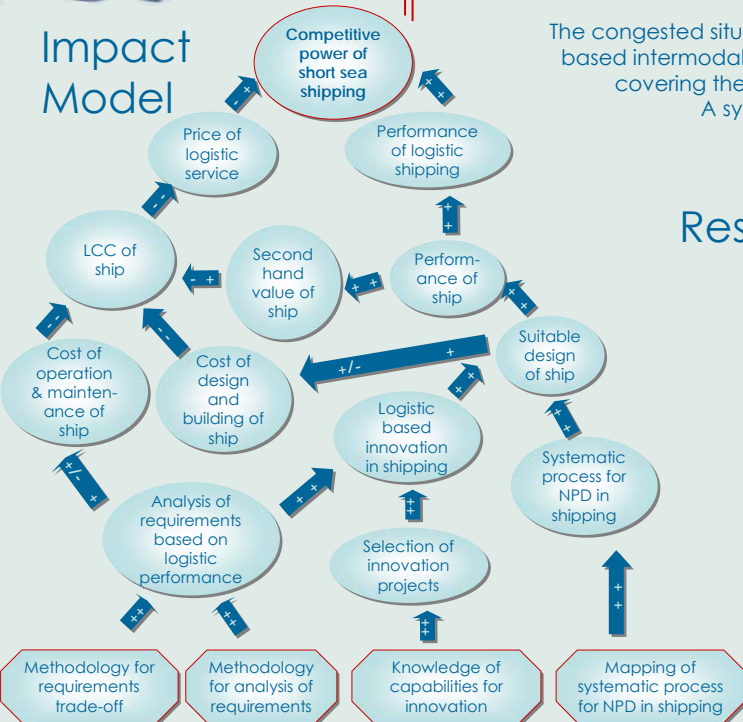


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How can new ships be designed to better fulfil the logistic systems requirement and contribute to a competitive Short Sea Shipping?

The congested situation of the European road network is an urgent issue on the EU-agenda and shipping-based intermodal transportation has been suggested as one remedy. A lack of performance measures covering the whole transport chain complicates the effort for an efficient intermodal service. A systematic requirement management process and can be used as a base when developing ships and ship equipment suited for short sea shipping in intermodal transport chains

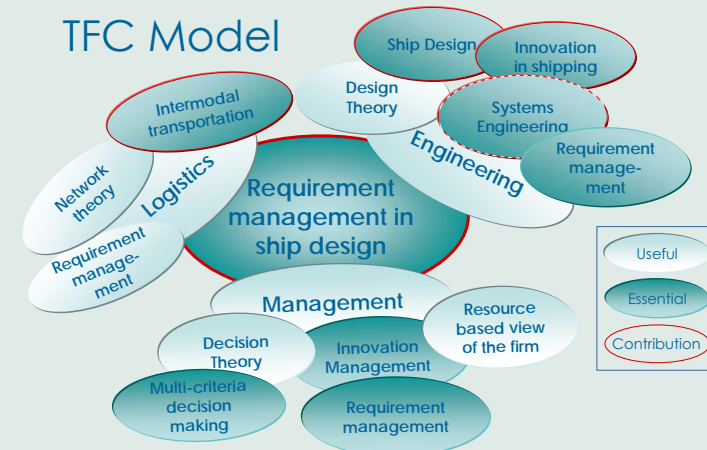
Impact Model



Research Approach

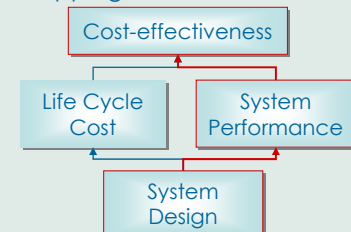
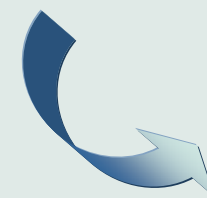
1. Two descriptive studies mapping the logistic requirements in intermodal transport chains from a goods flow perspective
2. One descriptive study analysing the possible conflicts between a goods flow perspective and internal firm perspective
3. One descriptive study highlighting the need for innovations in shipping and possible complications
4. One prescriptive study analysing the preconditions for innovative ship designs and further refining how the logistic systems requirements can be allocated to the ship and managed throughout the design process
5. Evaluation of the possible benefits for the innovation process of applying this Systems Engineering based methodology and terminology in shipping firms

TFC Model



The research is expected to:

- Identify logistic performance parameters, against which any component in the logistic system can be evaluated
- Show the relation between system design and system performance
- Develop a methodology for requirements trade-off in ship design
- Be beneficial for the innovative design of cost-effective ships and ship systems and thereby contribute to the competitiveness of short sea shipping



Research Questions

- How can the logistic requirements be captured?
- How can logistic systems requirement be allocated to a single ship and managed in throughout the design process?
- Is there a conflict between the goods flow requirements and the internal firm requirements, and if so; how can that be managed?
- Can a methodology for trade offs between requirements be useful in innovative ship design?
- Is there any systematic process for New Product Development that are suitable for ship design?
- What capabilities are necessary for innovative ship design?

