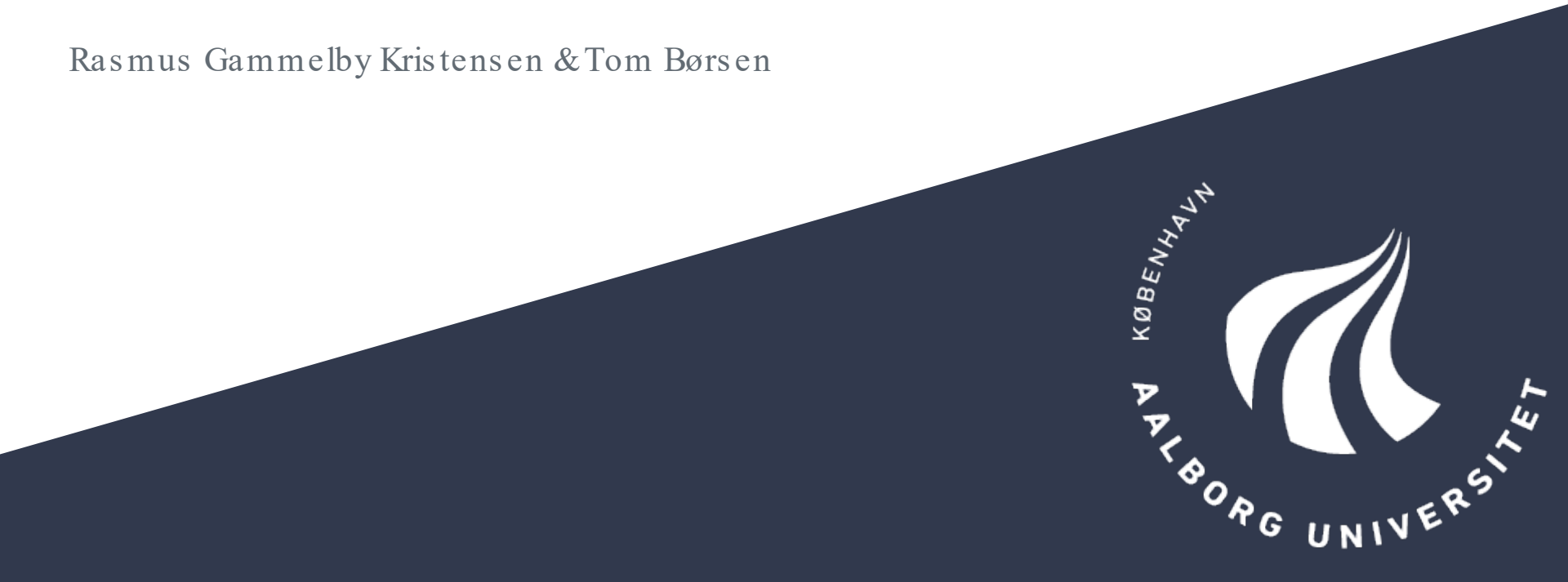
A Democratic Intervention in Blue Denmark

Rasmus Gammelby Kristensen & Tom Børsen



Problem - Technologification

“if we take society as a whole I think we can establish that there is an over excitement towards technology [...] that technology will come and fix all the problems of the world” (I9)

Do you want change?

Yes!

Who wants to change?

...

Problem - Technologification

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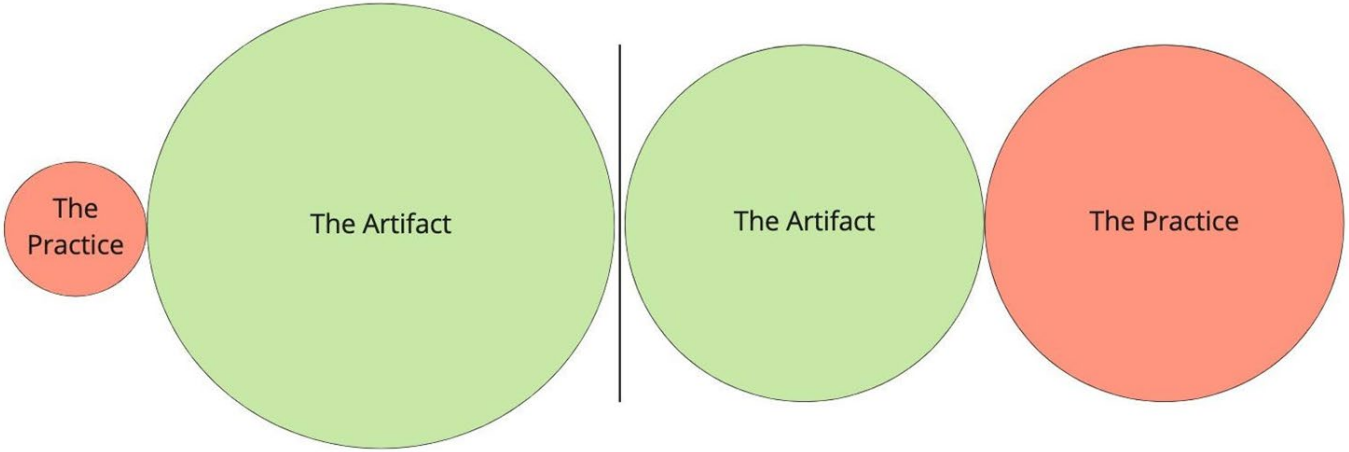
Rasmus G. Kristensen 2022

The belief that liberation through technology is succumbing to a total technocracy where solutions must be based on technical expertise alone

While it seems less interesting to consider alternatives to technology e.g., societal and administrative alterations such as optimization, compromise, and removing unnecessary spending. The practice that any technology should replace or assist, must be included in its development

We call to broaden the definition and the perception of what constitutes technology to a nexus of artifacts and the human practices, in which it is embedded

Research Question



Project Facilitator; “there has been an exaggerated focus on the technology [artifact]” (I9)

Method - Ethnography

“Having the data is, of course, never the same as understanding what they mean, but ethnographers must also understand what they mean to their informants”

(A. Munk 2019, 160)

Method - Multi-sited ethnography

Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography

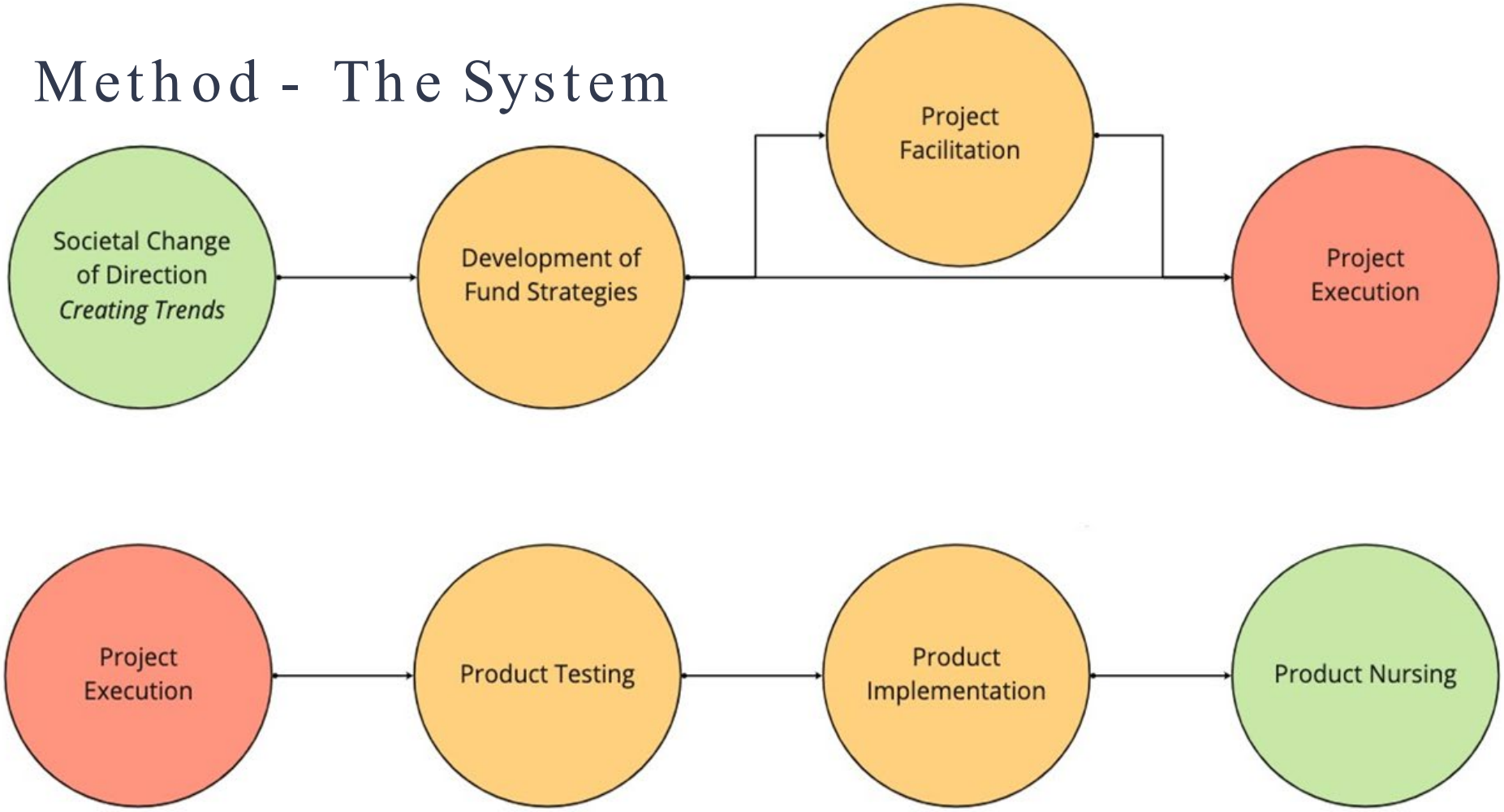
George E. Marcus 1995

As the world became an interconnected system, multi-sited ethnography appeared

As a local, single-site, could no longer be understood as isolated from its place in the global system

Such a meta approach is needed to gain the ability to translate from one cultural language to another to understand its entirety

Method - The System



Empirical Data

Event - Marine Sustainability by Digitalization (2021-2022)
Event - Values and Norms of the Green Transition in Blue Denmark (28-01-22)
Event - Digital Harbor (01-03-22)
Event - InnoFounder and InnoBooster (04-03-22)
Event - An Update on Maritime Autonomous Navigation (07-03-22)
Event - The New AI Regulation (09-03-22)
Event - World Maritime Technology Conference 2022 (26-04-22)
Workshop - Predicting future trends based on past predictions (26-04-22)
Event - Summer Business Networking 2021 (25-08-21)
Event - DanaDynamics Presentation 2021 (31-08-21)
Event - TechBBQ 2021 (16,17-09-21)
Workshop - Maritime Competencies of the Future (01-10-21)
Event - Autonomous Ships from the Perspective of Operation and Maintenance (06-10-21)
Event - Autonomy ships and new paradigm (25-10-21)
Event - Human + Tech = Problems? (28-10-21)
Workshop - User Involvement (16-11-21)
Event - ShippingLab Conference (24-11-21)
Event - Digital Tech Summit 2021 (30-11, 01-12-21)
Project - The Connected Ship (2021)
Project - VHF Data Exchange System (VDES) (2021)

Interviewee's Role	ID
Project Facilitator	I1
Seafarer and Start-up	I2
Project Facilitator & Research	I3
Professor, Author	I4
Fund Manager	I5
Business Owner & Start-up	I6
Project Facilitator & Research	I7
Shipping Company R&D	I8
Project Facilitator	I9
Seafarer & Research	I10
Maritime Professional & Research	I11
Professor, Author	I12
Seafarer	I13
Seafarer & Education	I14
Seafarer & Start-up	I15

Sites	ID
Funding	I1, I4, I5, I7
Project facilitation	I1, I3, I5, I7, I9
Project Execution	I1, I2, I3, I6, I7, I8, I9, I13, I15
Product Testing	I2, I4, I6, I8, I11, I13, I15
Implementation	I2, I3, I6, I8, I10, I14, I15
Social Context	I4, I10, I11, I12, I14

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Analysis

Barrier 1 - Users 1/2
Barrier 1 - Users 2/2

Barrier 2 - Why do tech 1/3
Barrier 2 - Why do tech 2/3
Barrier 2 - Why do tech 3/3

Barrier 3 - A Critical Barrier: Funding Structures

Why is a user important?

"If you think all you need to develop technology is technical insight, or to just get it to work according to some criteria of functionality, then you have not understood what technology is" (I4)

"if we accept the notion that technology refers to the use of artifacts in practice then it becomes clear that understanding human practice is an integral part to developing technology" (Sunderland and Denny 2007, 5)

Barrier 1 - Users 1/2

Barrier 1 - Users 2/2

Barrier 2 - Why do tech 1/3

Barrier 2 - Why do tech 2/3

Barrier 2 - Why do tech 3/3

Barrier 3 - A Critical Barrier: Funding Structures

What is a user?

The practitioner - "[...] there were the darling captains who always were brought in on the projects [...]" (I5)

The former practitioner - "[...] half-hearted solutions with a former navigator or marine engineer with old knowledge" (I2)

The academies - "we depend on the maritime academies, SIMAC e.g. and their facilities [...]" (I1)

The industry/ funds - "we are driven by the industry's interest as they are our core stakeholders [...]" (I1)

The costumer - "[...] but that is together with the companies [...]" (I3)

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Autonomous ships - changing perceptions and expectations, Eriksen 2019

On-board human operators: liabilities or assets, Eriksen 2020

An RCM approach for assessing reliability challenges and maintenance needs of unmanned cargo ships, Eriksen 2021

Removing Humans

"human errors are generally caused by technologies, environments, and organizations which are incompatible in some way with optimal human performance" (Rothblum 2011, 5)

"[...] show the other perspective, if that statement is to have any validity, I want to know how many accidents did not happen because a human told a computer it was wrong" (I14)

"companies, at the moment, have more crew than legislation requires, simply because

Barrier 1 - Users 1/2
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Technological Glorification

"a ship is extremely low-tech [...] nothing like a plane or a train [...] a ship is multiple different systems connected from multiple different brands and manufacturers using different methods and having different rules [...]

A ship works, yes, but, it never really works [...] so you place 20 crew onboard, working 12 hours a day trying to keep the vessel afloat and get from A to B

This is the context we should think about when thinking about automating ships" (I1 1)

Barrier 1 - Users 1/2
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Reverse unwanted climate change

“The Apollo mission was an example of what can be done if the ambition is inspiring and concrete”

(Mazzucato 2021)

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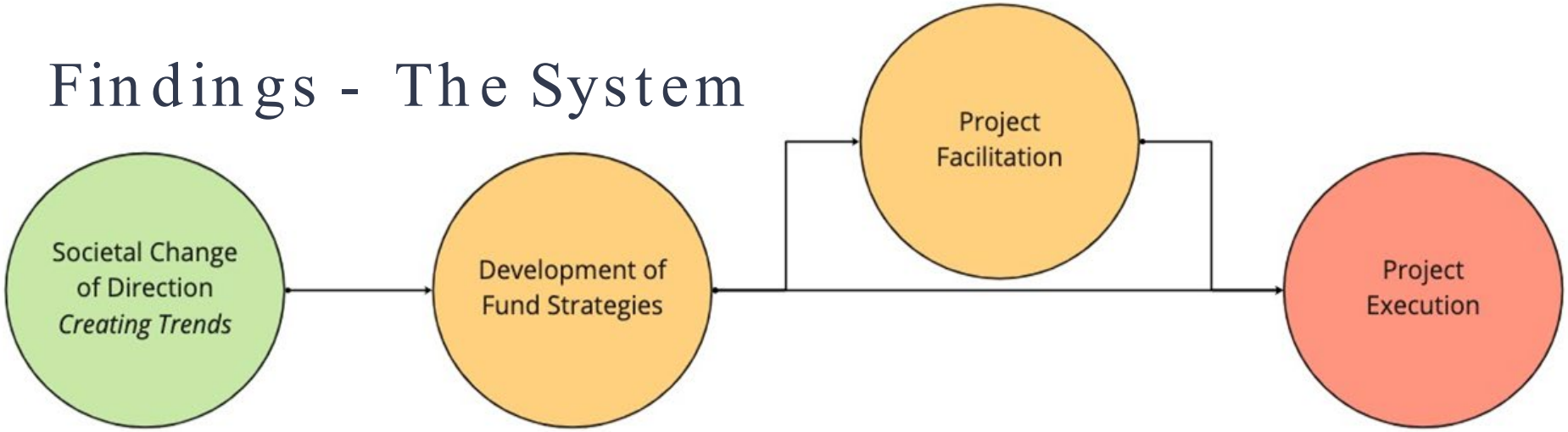
Funding Structure

"it is my opinion that it is easier to get funding for technical research in place of social sciences, I do not carry in statistics, but it is my opinion, the technical is the big trend right now" (I7)

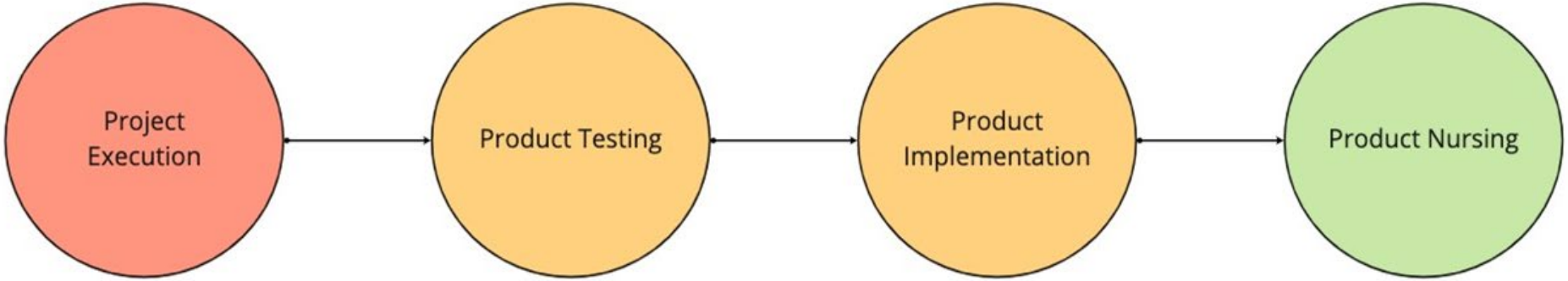
"it is about creating jobs, and promoting the Danish maritime industry, if you cannot do that, then it is not a Fund's project [...] sometimes it is very easy to see in the application that they are trying to appease us with what they think we want" (I9)

"just apply for more next year" (Fieldnotes, IF/IB)

Findings - The System



"[...] to apply the technology to solve a problem, involvement is vital [...] if it [technology] is not adopted, the other half of the calculus is missing, and that is the end-user" (I9).



Conclusion

“Focus on progress, not perfection, one step made together is more powerful than 10 steps made by one”

(Hong 2021)