

Systems Engineering Research; Examples of Flow and Methodology

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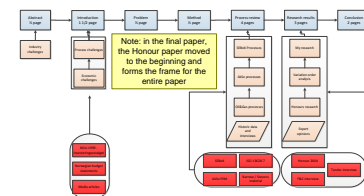
Abstract

Research in System Engineering requires a mixture of research methods. It is a challenge to capture the various aspects in a logical flow. The research methodology is also a significant challenge. This presentation shows examples of past research of visualizing the paper flow and the research methodology.

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Eldar Tranøy won the **Best Student Paper Award** at INCOSE 2014 in Las Vegas with the paper

“Reduction of Late Design Changes Through Early Phase Need Analysis”

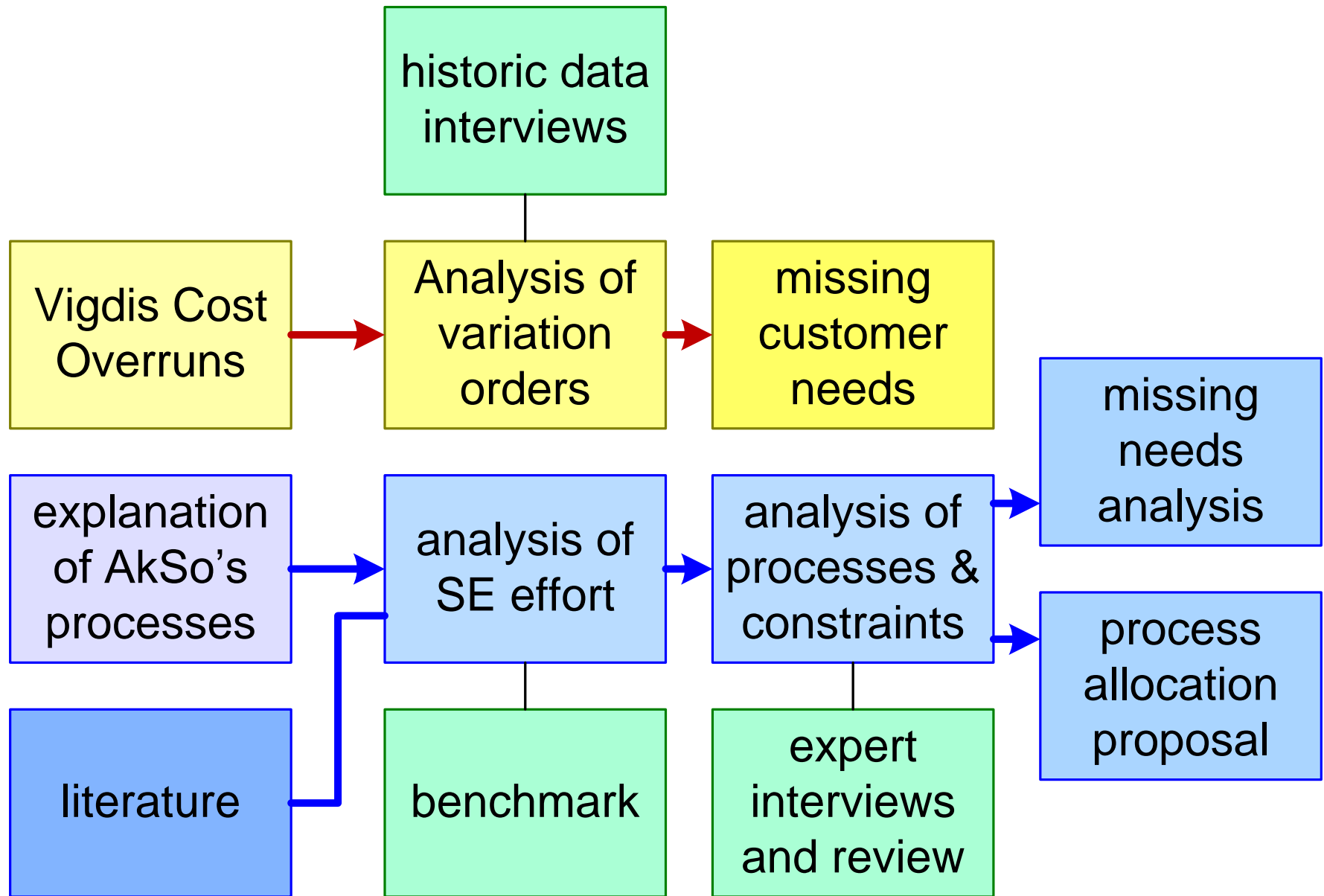
available at http://gaudisite.nl/INCOSE2014_Tran%C3%B8y_Muller_ReductionOfLateDesignChanges.pdf

The following slides show some of the attempts of finding the flow for this paper by Eldar Tranøy and the academic supervisor.

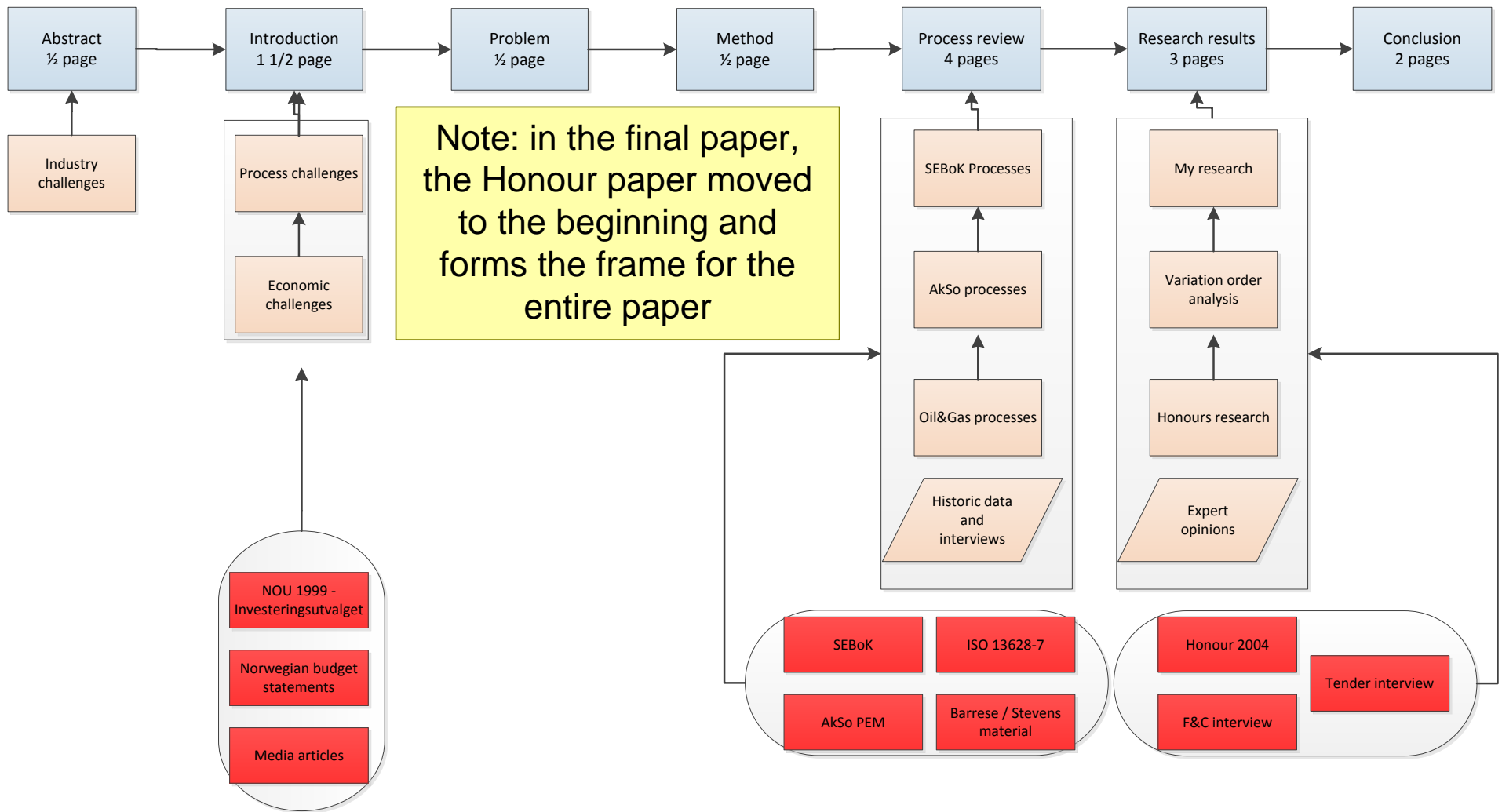
Meta Levels and Scopes by Supervisor

		Meta ⁰ system-of- interest	Meta ¹ SE methods	Meta ² research methodology
↑ scope	Systems Engineering Body of Knowledge		SE BoK generic SE processes	Eric Honour's research
	SubSea Oil&gas domain		SubSea Oil&gas SE processes	
	SubSea Equipment Supplier	Vigdis subsea installation	AkSo's SE process	Eldar's research
		→ Meta (abstraction) level →		

Paper Flow Proposed by Supervisor



The Book Plan that Eldar Made at the Start



Linda Lønmo wrote the paper

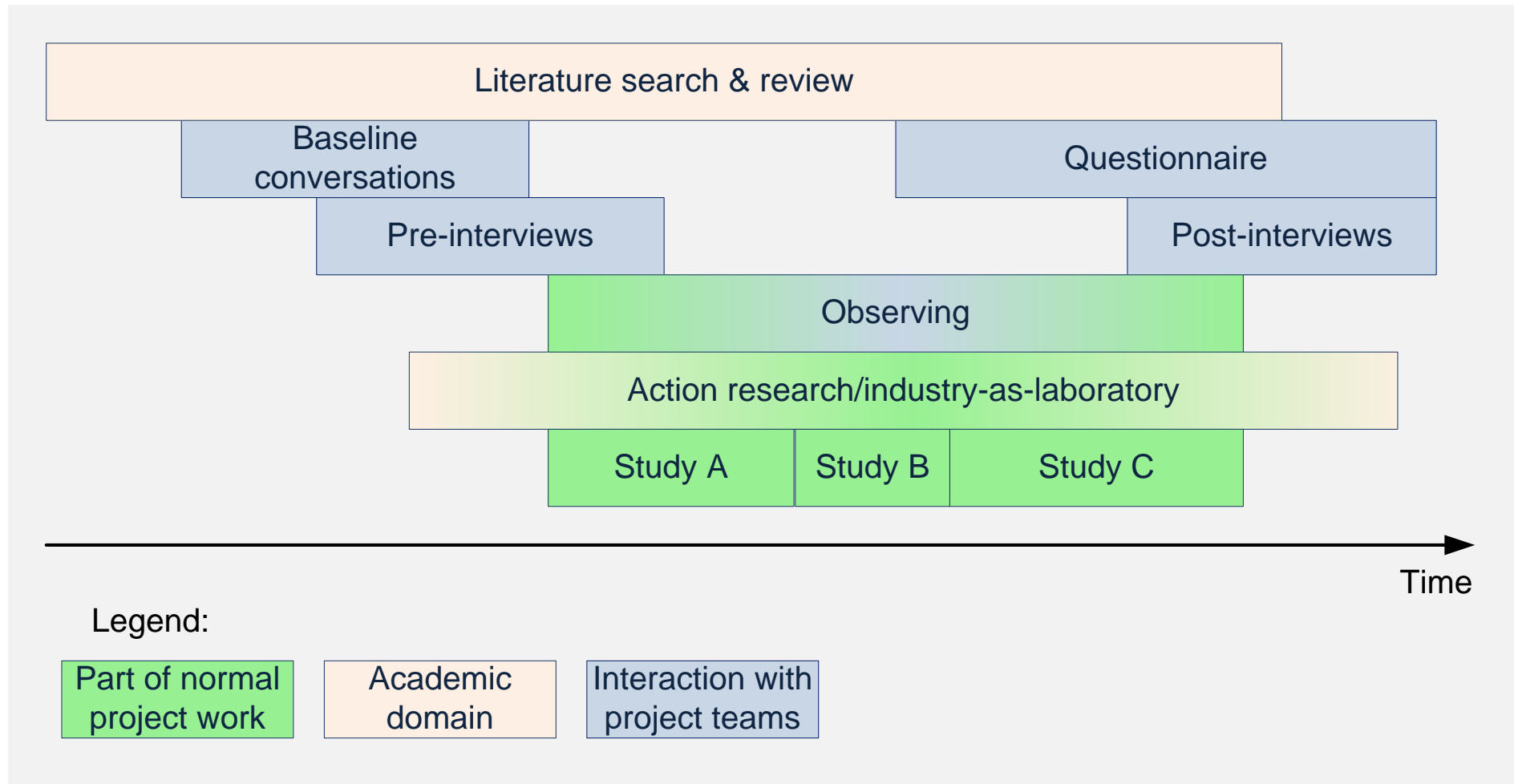
“Concept Selection - Applying Pugh Matrices in the
Subsea Processing Domain”

for INCOSE 2014 in Las Vegas

available at [http://gaudisite.nl/
INCOSE2014_Lonmo_Muller_ConceptSelection.pdf](http://gaudisite.nl/INCOSE2014_Lonmo_Muller_ConceptSelection.pdf)

The following slide shows the visualization of the research methodology by Linda Lønmo.

Example Research Methodology by Linda



from: "Concept Selection - Applying Pugh Matrices in the Subsea Processing Domain" by Linda Lønmo
INCOSE 2014 in Las Vegas http://gaudisite.nl/INCOSE2014_Lonmo_Muller_ConceptSelection.pdf