

Managing and creating value in the software engineering process in mechanical engineering industry

Anne-Maria Aho

Lic.Sc (Econ.), Principal lecturer

Head of master degree programme

at Seinäjoki University of Applied sciences

Student of Vaasa University, Industrial Management

Supervisor of PhD thesis: Professor Petri Helo

Background of research

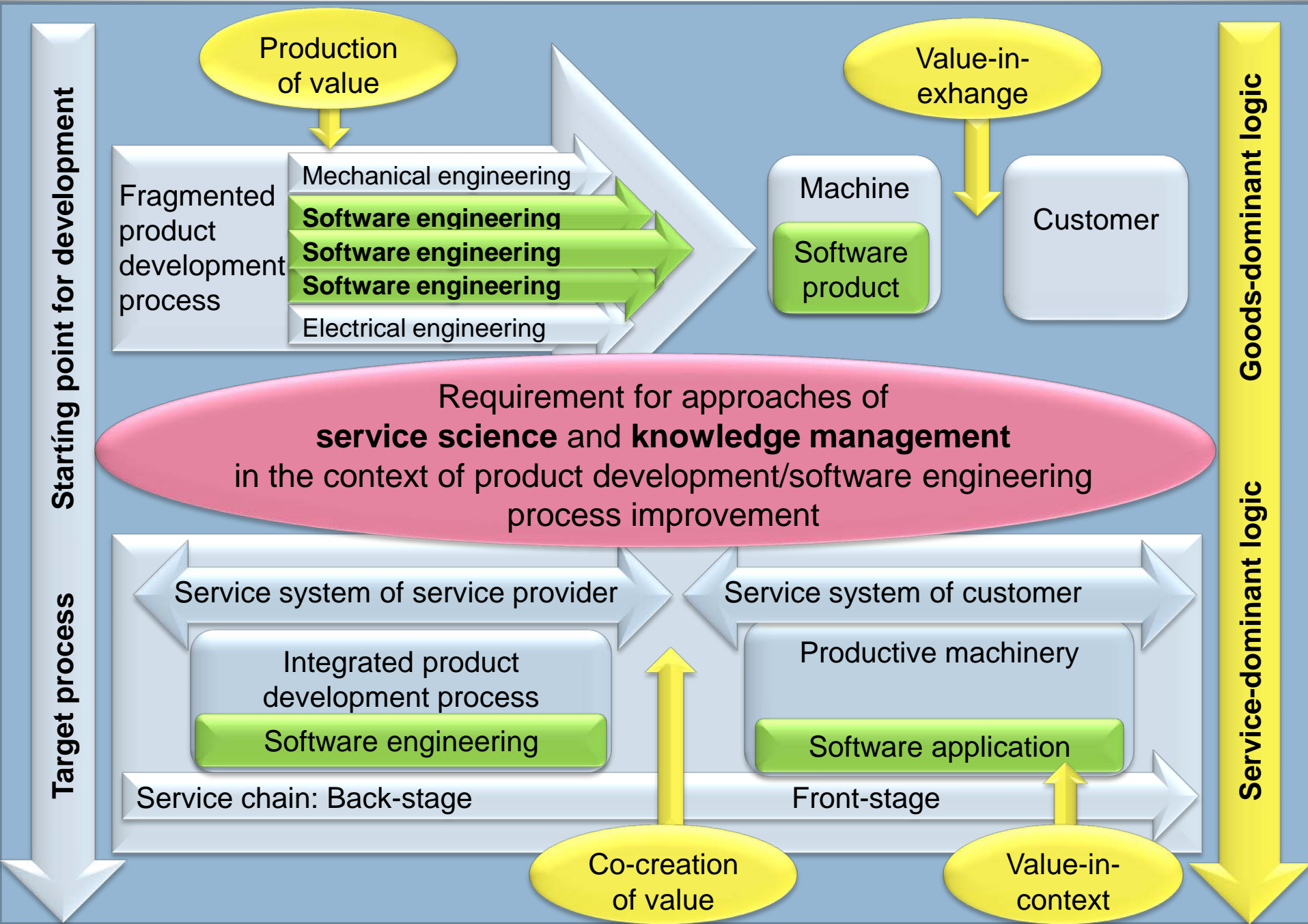
- **The case company**
 - **is a multinational group of companies specializing in sheet metal working technology.**
 - **operates several manufacturing plants in Finland, one in Italy and sales subsidiaries in Belgium, Canada, France, Germany, Italy, Spain and the United States, as well as a Technology and Logistics Centre in Belgium.**
- **The empirical data has been collected on a six-year time scale.**
- **Researcher has acted as consultant to develop the software engineering process in multi-disciplinary and geographically differently located product development.**

Research question

*How to manage and create value
in the software engineering process
in mechanical engineering industry?*

- Moving from goods dominant logic to service dominant logic requires the development of internal processes and personal competences.

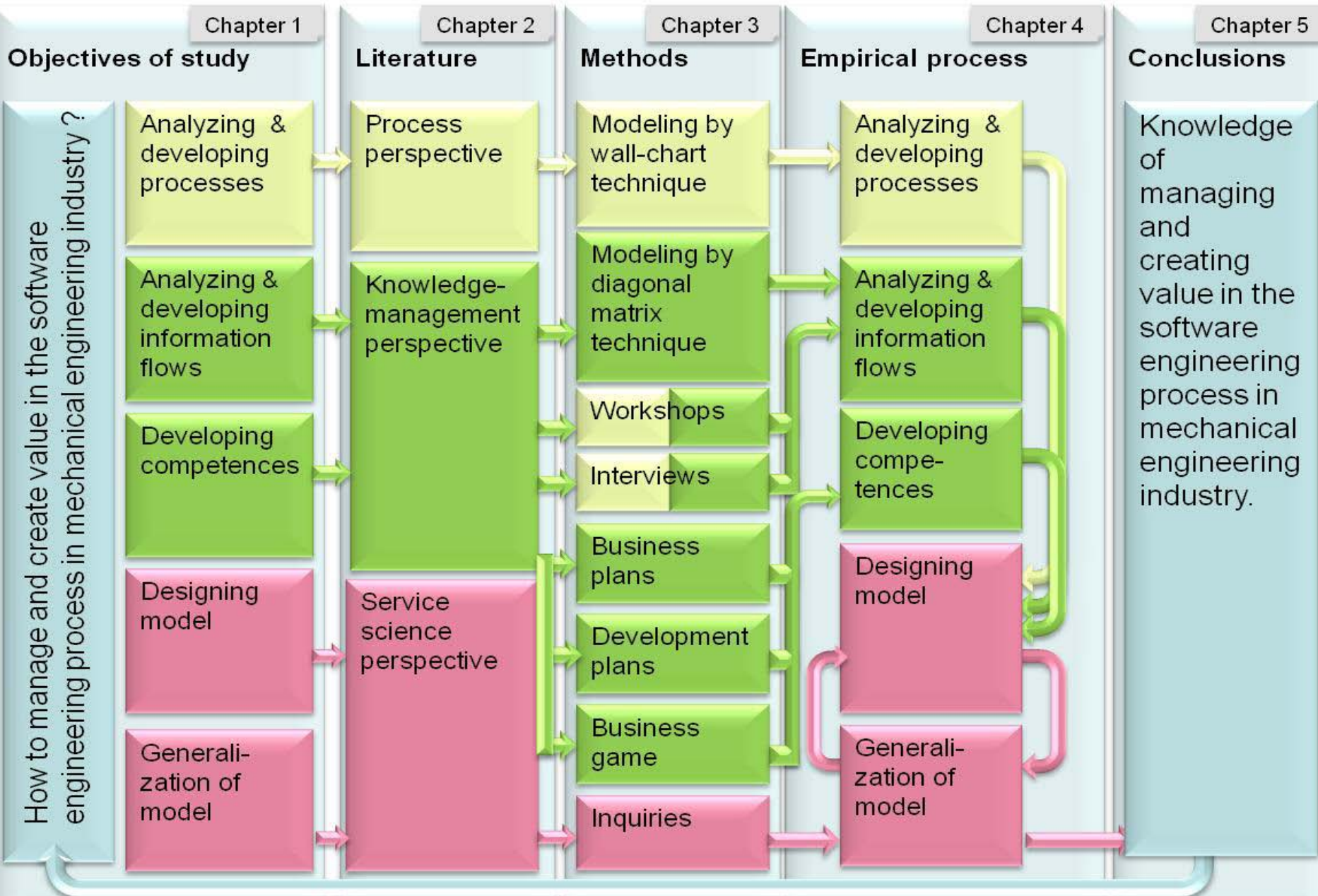
Research Framework



Objectives of study

- 1. Analyze and develop the integration of processes and information flows in multi-disciplined and geographically differently located product development.**
- 2. Develop the business competences of software engineers by creating the tool for development of customer centered thinking.**
- 3. Create the model of managing service dominant software engineering process in mechanical engineering industry.**
- 4. Furthermore in order to achieve generalized conception of the starting point and findings of the study some inquires of software engineering process in Finnish mechanical engineering companies are carried out.**

Structure of Study



Contents

1 Introduction

1.1 Background of the research area

1.2 Research problem and research objectives

1.3 Structure of research

1.4 Justification for the research

2 Theoretical background

3 Methods

4 Empirical process and results: Managing and creating value in the software engineering process

5 Conclusions

6 References

Action research method

- The researcher's intention is not only to observe, interpret and understand a case, but also participate in the efforts of changing the situation of the case.

Used methods:

- Modeling by wall-chart and diagonal matrix technique
- Development plans
- Project plans
- Business plans of product development projects
- Follow up of working hours, efficiency of engineering process by “business game”
- Workshops
- Interviews
- Inquires

THANK YOU!

anne-maria.aho@seamk.fi