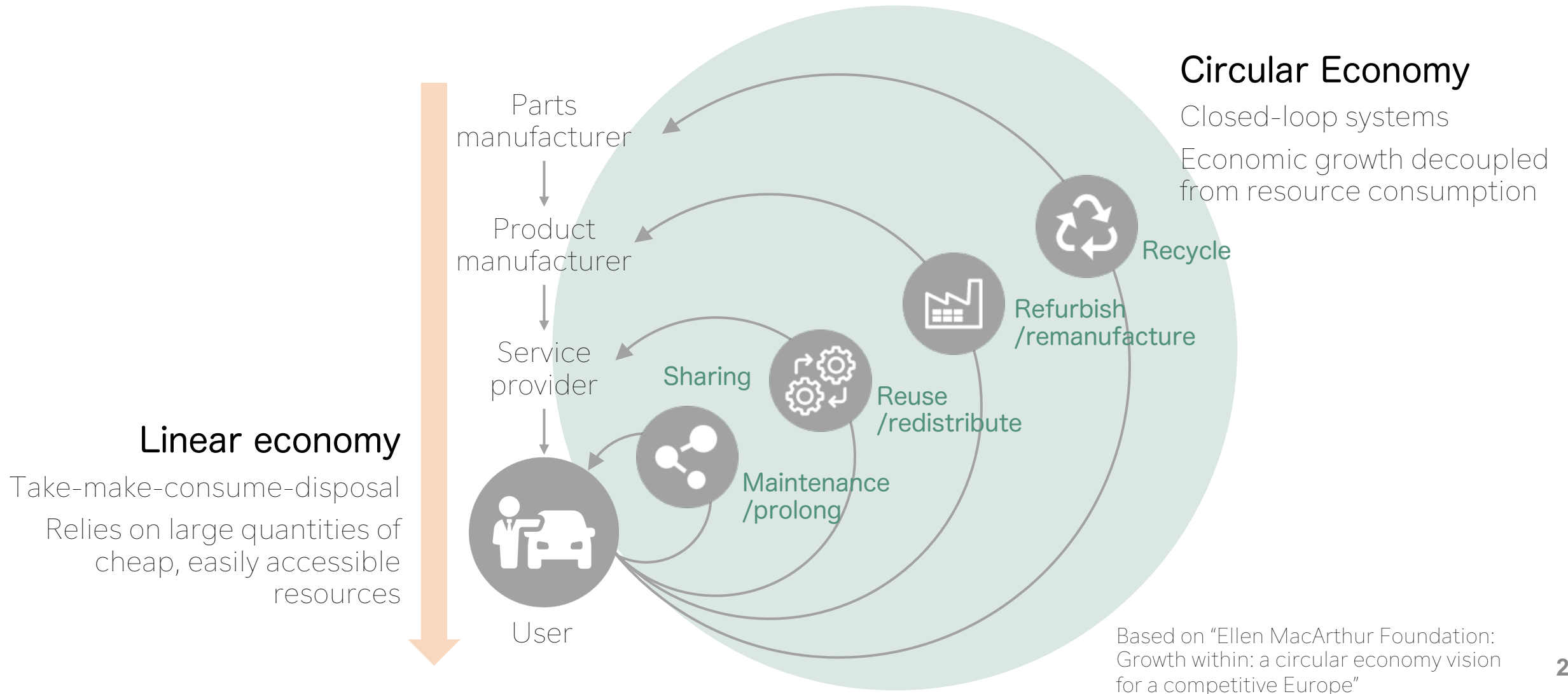




INTRODUCTION OF KIMITA LABORATORY

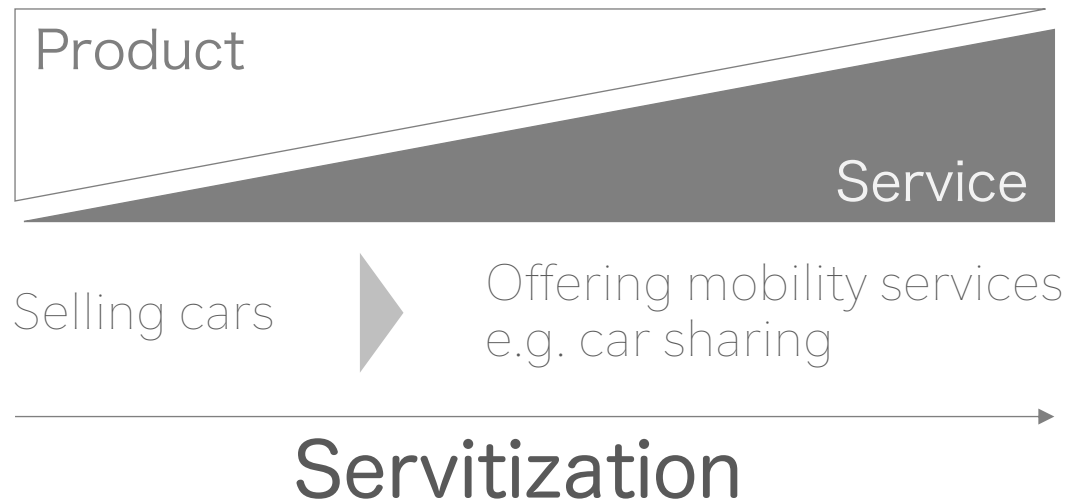
Department of Technology Management for Innovation
Koji KIMITA

Research background



Research topics

Product-Service Systems



Engineering Design

Developing engineering methods and tools for designing Product-Service Systems



Capability Development

Supporting manufacturing companies to develop distinctive capabilities for servitization



Mechanism Design

Implementing mechanism design, which is a field in economics and game theory, into practical cases

Designing loosely coupled systems

- Addressing uncertainties in remanufacturing
- Case: Swedish remanufacturer of IT equipment

Sub*	Clus*	Dept*	Design parameters (DPs)	DP12	DP11	DP4	DP2	DP1	DP6	DP5	DP3	DP16	DP20	DP18	DP15	DP13	DP14	DP21	DP17	DP19
1	1	Proline	DP12 Equipment for test/data erase																	
		Proline	DP11 Process of test/data erase	7																
2	2	Proc	DP4 Lot size of purchasing parts																	
3	3	Proc	DP2 Types of acquired cores	5		10		10	10	10	25		10	10	5	10	5	10	5	5
		Proc	DP1 Users of acquired cores	5		10	10		10	5	5		5	5	10		10	5	5	5
		Proline	DP6 Disassembly yield rate							7										
		Proline	DP5 Process of disassembly						7											
		Proline	DP3 Lot size of remanufacturing	8					4	8		21		21					8	
		Invent	DP16 Warehouse size											12					5	
		Sales	DP20 Other remanufacturers															3		3
		Sales	DP18 Lot size of distribution											13				3		5
4	A cross-functional team (procurement, production, sales, etc.) was recommended															24				
														9		9				
5	5	Invent	DP17 Warehouse locations										3						5	
		Sales	DP19 Distribution channels										2				10		4	
													3				13			

Using Design Structure Matrix [Browning 2001] for defining cross-functional teams

- ## Designing loosely coupled systems
- Addressing uncertainties in remanufacturing
 - Case: Swedish remanufacturer of IT equipment
- | Sub* | Clus* | Dept* | Design parameters (DPs) | DP12 | DP11 | DP4 | DP2 | DP1 | DP6 | DP5 | DP3 | DP16 | DP20 | DP18 | DP15 | DP13 | DP14 | DP21 | DP17 | DP19 |
|------|-------|---------|------------------------------------|------|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1 | 1 | Proline | DP12 Equipment for test/data erase | | | | | | | | | | | | | | | | | |
| | | Proline | DP11 Process of test/data erase | 7 | | | | | | | | | | | | | | | | |
| 2 | 2 | Proc | DP4 Lot size of purchasing parts | | | | | | | | | | | | | | | | | |
| 3 | 3 | Proc | DP2 Types of acquired cores | 5 | | 10 | | 10 | 10 | 10 | 25 | | 10 | 10 | 5 | 10 | 5 | 10 | 5 | 5 |
| | | Proc | DP1 Users of acquired cores | 5 | | 10 | 10 | | 10 | 5 | 5 | | 5 | 5 | 10 | | 10 | 5 | 5 | 5 |
| | | Proline | DP6 Disassembly yield rate | | | | | | | 7 | | | | | | | | | | |
| | | Proline | DP5 Process of disassembly | | | | | | 7 | | | | | | | | | | | |
| | | Proline | DP3 Lot size of remanufacturing | 8 | | | | | 4 | 8 | | 21 | | 21 | | | | | 8 | |
| | | Invent | DP16 Warehouse size | | | | | | | | | | | 12 | | | | | 5 | |
| | | Sales | DP20 Other remanufacturers | | | | | | | | | | | | | | | 3 | | 3 |
| | | Sales | DP18 Lot size of distribution | | | | | | | | | | 13 | | | | | 3 | | 5 |
| 4 | | | | | | | | | | | | | | | 24 | | | | | |
| | | | | | | | | | | | | | | 9 | | 9 | | | | |
| 5 | 5 | Invent | DP17 Warehouse locations | | | | | | | | | | 3 | | | | | | 5 | |
| | | Sales | DP19 Distribution channels | | | | | | | | | | 2 | | | | 10 | | 4 | |
- Using Design Structure Matrix [Browning 2001] for defining cross-functional teams



Designing loosely coupled systems

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A cross-functional team (procurement, production, sales, etc.) was recommended

Using Design Structure Matrix [Browning 2001] for defining cross-functional teams



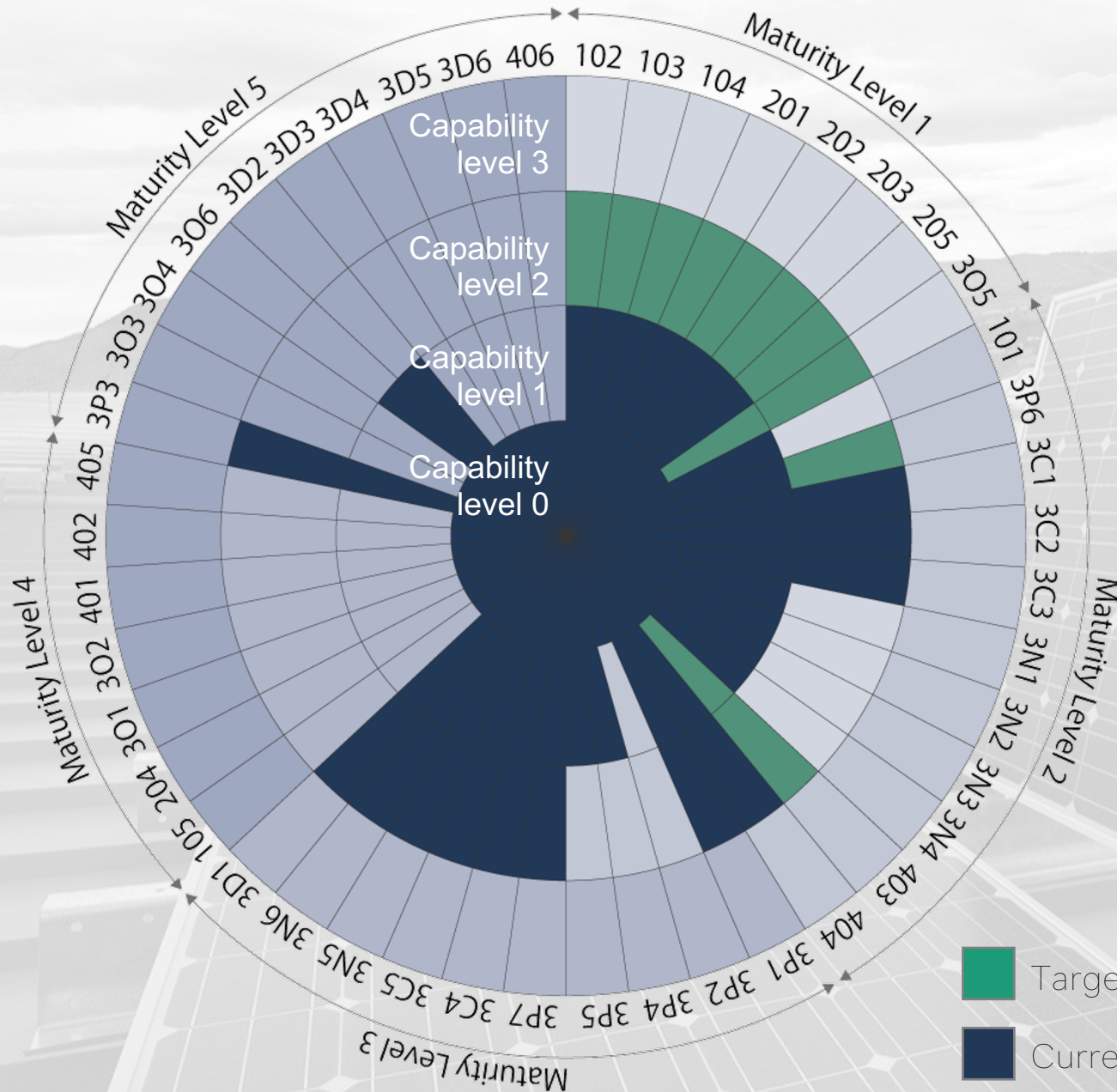
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Designing loosely coupled systems

- Addressing uncertainties in remanufacturing
- Case: Swedish remanufacturer of IT equipment

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Using Design Structure Matrix [Browning 2001] for defining cross-functional teams



Servitization Maturity Model

- 46 distinctive capabilities for servitization
- Evolutionary path toward continuous improvement of these capabilities
- Case: renewable energy management

Research collaboration

Collaborating with Assoc. Prof. Nishino in TMI

- Research and study meeting
- Collaborative research on Mechanism Design in Service

Industrial collaboration

- Case studies and application of proposal methods
- Infrastructure systems, Mobility, Sharing Services, etc

International networking

- Technical University of Denmark, Linköping University, etc.

Message for students

We welcome students who are interested in

- Research on Circular Economy, Servitization, Product-Service Systems, Service Design and Engineering, etc.
- Presenting your research in domestic and international conferences
- Research with industrial collaboration and/or international network

If you have any questions, please feel free to contact me!

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