

Open configuration: a new approach to product customization

Ms. Xiaoyu Chen

Supervisor: Prof. Linda L. Zhang

IESEG School of Management (LEM-CNRS), Lille-Paris, France
Ecole Centrale Paris (Laboratoire Genie Industriel), Paris, France

Agenda

- Product configuration applications
- Open configuration concept
- Open configuration process
- Challenges involved in open configuration
- Ongoing research
- Conclusion

Product configuration applications

Product configurators

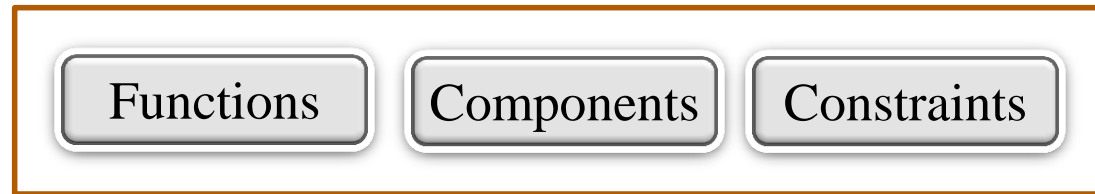


Goals of product configurators

- Specify customer  requirements
- Deal with traditional  design difficulties inside the company,
- Help fulfill customer  requirements

Limitations of product configuration

- Definition of product configuration



**Predefined
elements**

- Solution tools based on the definition
→ limited applications

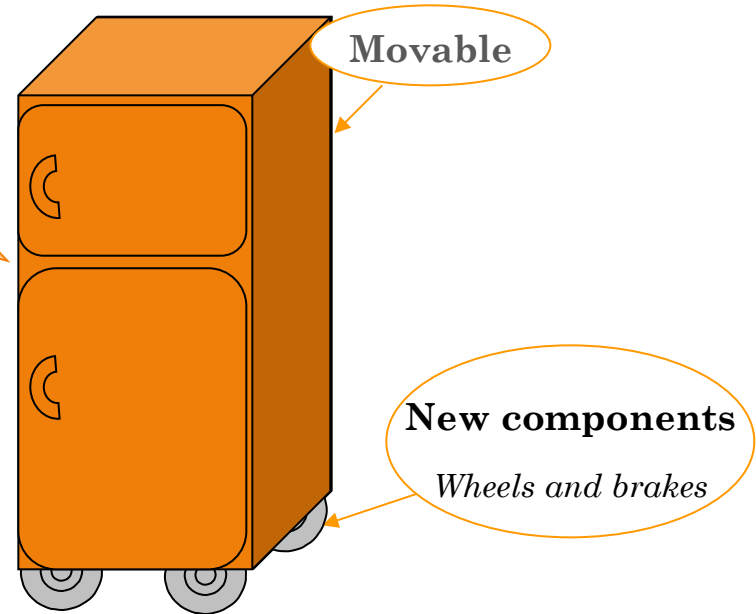
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Open configuration: example



The ideal product



Open configuration: definition

- Build on top of product configuration
- Configuration activities
 - Evaluates and specifies new functions
 - Determines new components
 - Modifies existing elements
 - Associates the elements

Open configuration: objective

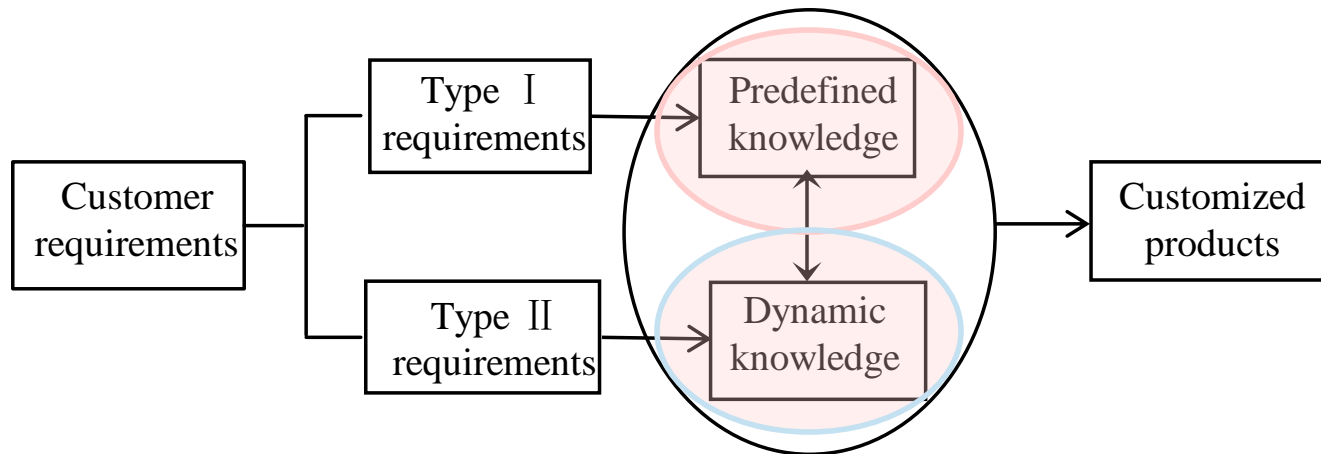
- Configure customized product
 - ➔ meet both predefined customer requirements and unforeseen customer requirements.

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Open configuration: overview

- Open configuration overview

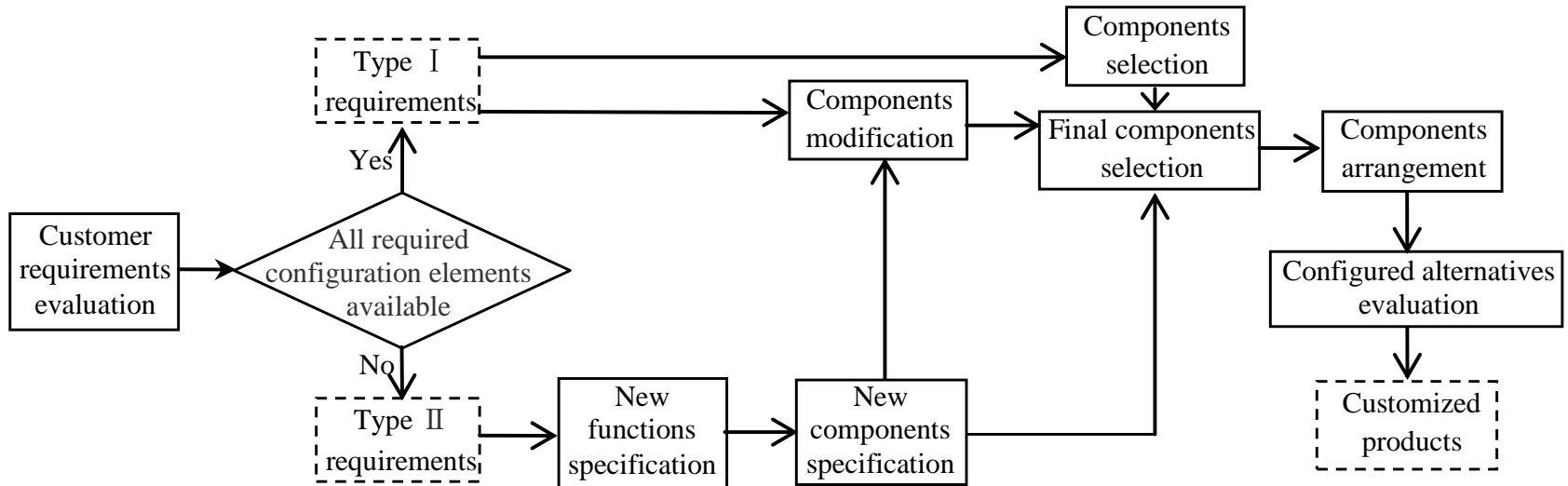


Open configuration subfunctions

- New function specification
- New component determination
- Interaction design
 - ➔ Modifying
 - ➔ Connecting

Open configuration process 1/2

- Open configuration process



Open configuration process 2/2

- Customer requirements evaluation
- Select predefined elements
- Specify new functions and determine new components
- Modify components and associate them
- Evaluate configure alternatives

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Challenges involving open configuration 1/2

- Open configuration modeling
 - Dynamic knowledge modeling
 - Interaction mechanism modeling
- System design and development
 - Input module
 - Knowledge module
 - Output module

Challenges involving open configuration 2/2

- Open configuration solving
 - Model open configuration problem
 - Develop solving algorithms
- Open configuration optimization
 - Optimize new function alternatives
 - Optimize new components
 - Optimize open configuration alternatives

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Ongoing research

- Formulation of open configuration
 - Mathematically define open configuration
 - Represent two types of knowledge
 - Define theorems on specifying new functions and determining new components
 - Formulate interaction mechanisms

Conclusion

- Product configuration
- Open configuration concept and process
- The future research topics

Co-authors

- **Linda L. Zhang**

IESEG School of Management (LEM-CNRS), Lille-Paris, France

- **Andreas Falkner**

Siemens AG Österreich, Vienna, Austria

- **Chengbin Chu**

Ecole Centrale Paris (Laboratoire Genie Industriel), Paris,
France

**Thank you for your
attention!**

Siemens motor configurator

SIEMENS

1LAU

Language

Type of motor: 1LA.....

The configuration is not complete, please set all blue values.

Additional actions

Basic Data Options 1 Options 2 32.1

performance data

Efficiency class

Synchronous speed 50Hz

Pole number

Rated output 50Hz, 1st number of poles

Rated output 50Hz, 2nd number of poles

Frame size

Voltage selection

Frequency 50Hz Yes No

Frequency 60Hz Yes No

basic parameters

Type of construction

Terminal box position

Motor protection

Frame Material aluminum

Documents Reset configuration Add to Cart Cancel

SIMOTICS GP - 1LE10 (polechange)



Maserati car configurator



CHANGE MODEL

NEW

SEND

SAVE

PDF

TEST DRIVE

PRINT

MY GARAGE

SOUND

SHARE

USD 102,500

MSRP as configured *



 BODYWORK Bianco	 WHEELS 19" Tritone	 CALIPER Nero
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1.EXTERIOR

2.INTERIOR

3.PACKAGES

4.OPTIONS

5.SUMMARY



From: USD 143,300