

Product Configurators in Electronic Commerce – Extension of the Configurator Concept towards Customer Recommendation

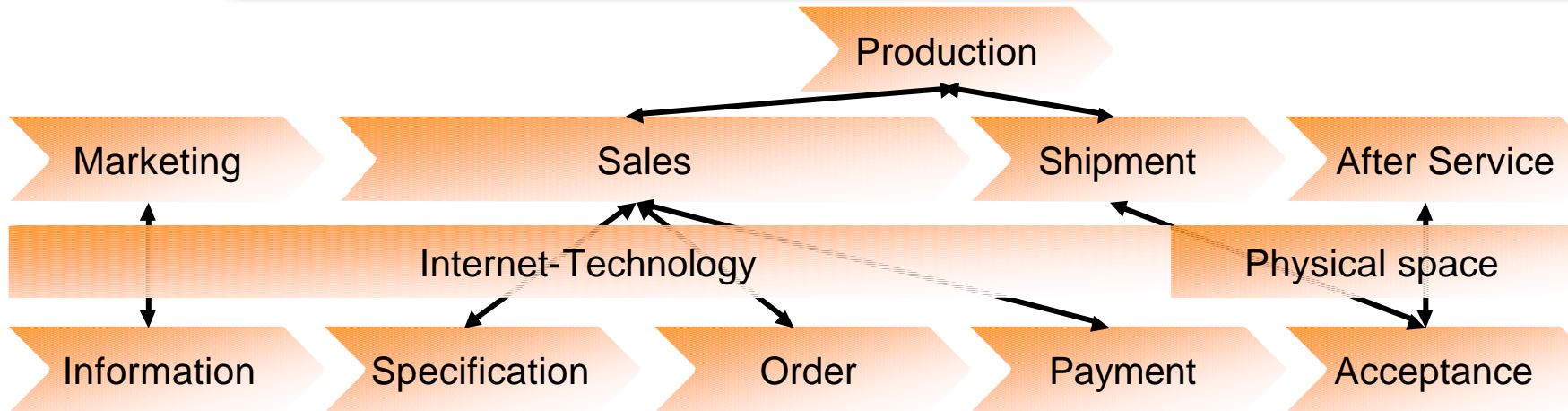
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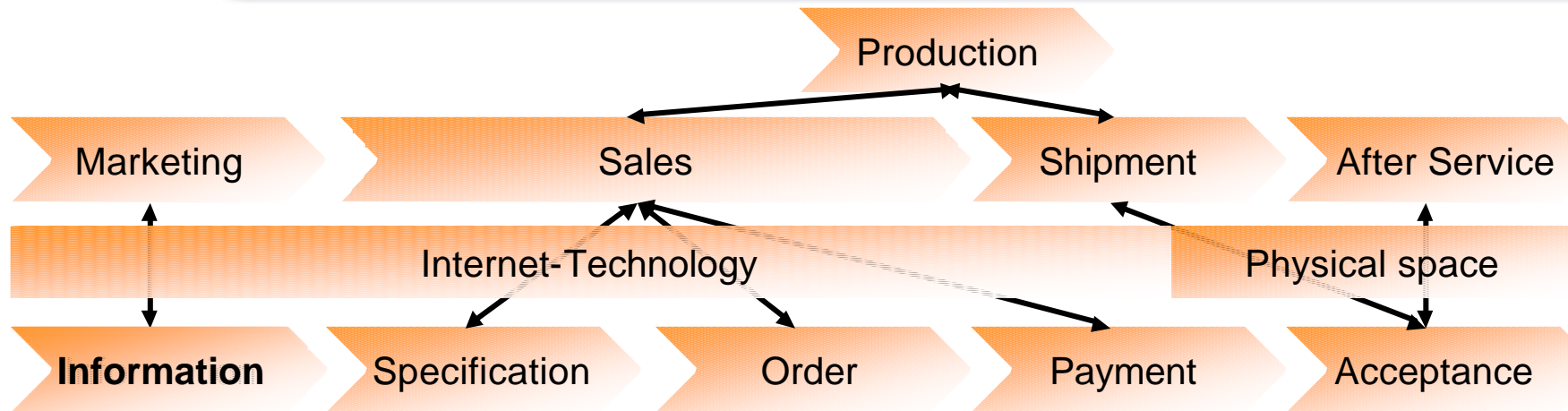
scheer@isym.bwl.uni-mainz.de

- **Customer Orientation in Electronic Commerce**
- **Concept of Product Configurators**
- **Extend Product Configurator Concept**
- **Suggest Approach**

Customer Orientation in Electronic Commerce



Customer Orientation in Electronic Commerce



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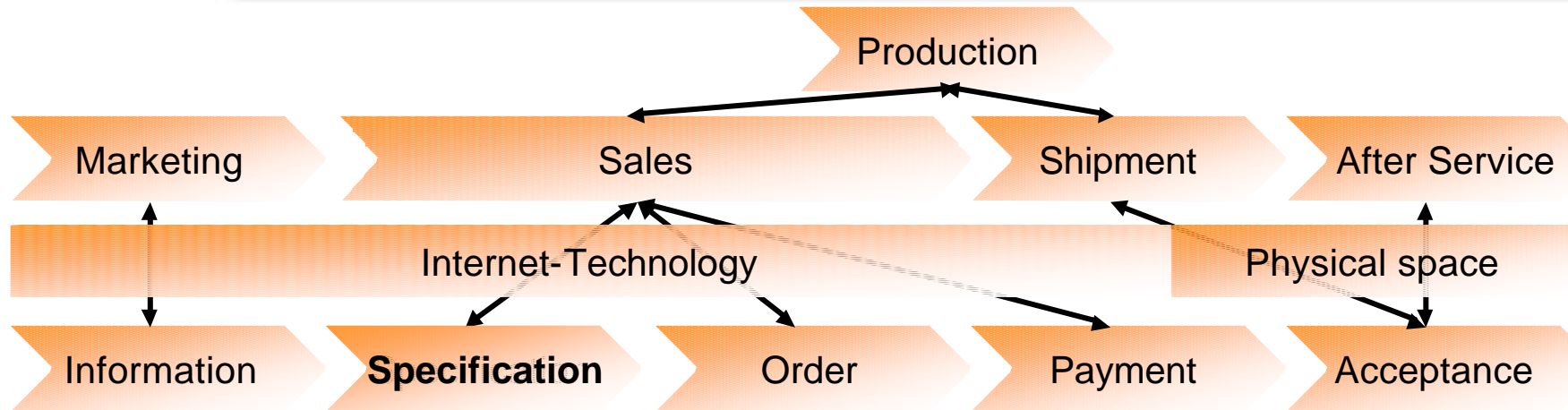
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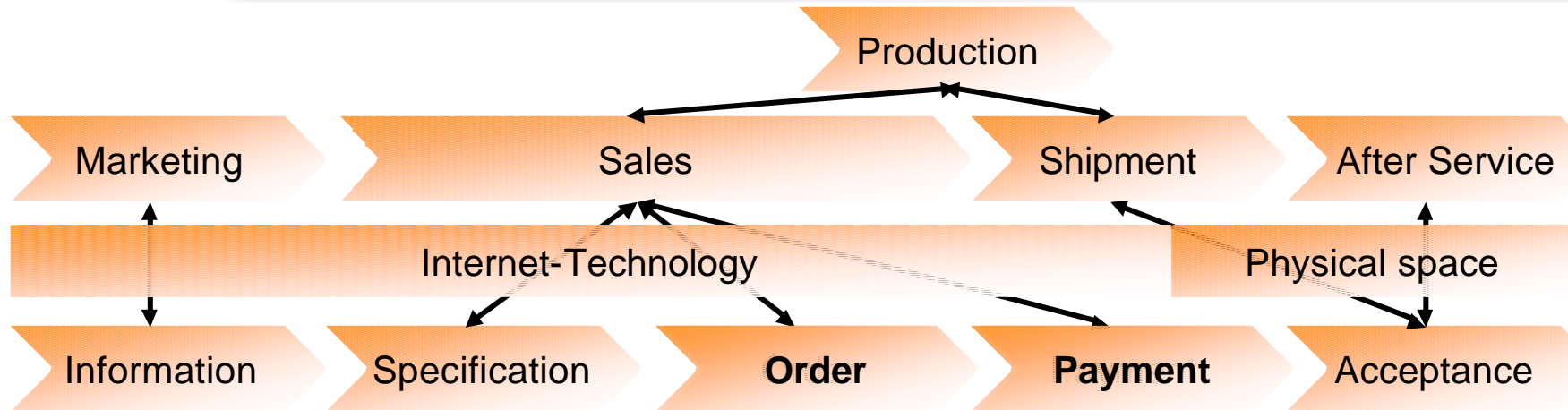
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Customer Orientation in Electronic Commerce



Customer Orientation in Electronic Commerce



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global stores > 1 select item > 2 shopping cart > 3 payment > 4 confirmation

products:

- all products
- virus protection
- internet security
- problem solving
- communications
- mediatouch
- trialware

small business

customer service

subscription services

upgrade center

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- security
- symantec store

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Your Shopping Cart

> Do you have a coupon?

Order Number: DR919946836 (Your order number is not finalized until you have entered and submitted your credit card number)

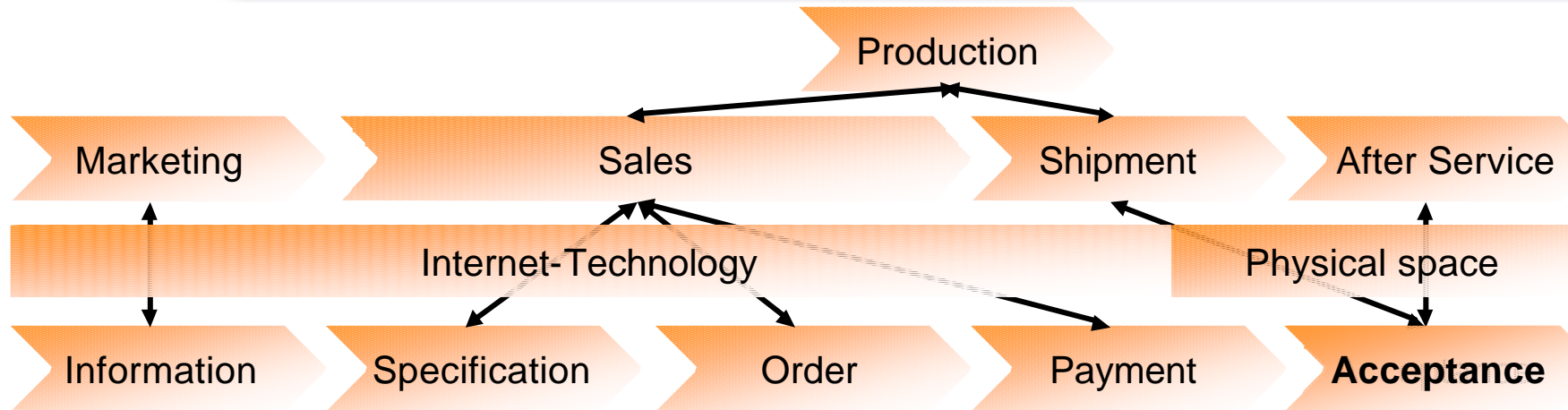
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1	Norton AntiVirus 2002 Professional Edition	Windows	The Net		\$69.95	<input checked="" type="checkbox"/> click to remove
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SubTotal	\$74.94
Total	\$74.94

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Customer Orientation in Electronic Commerce



DELL Close

ESTIMATE TAX AND SHIPPING

Ship To

• City: • State:

• Zip Code: 4 digit ext. -

• **Shipping Method**

Shipping timetables apply after system is built. An estimated ship date will be provided with your order confirmation email.

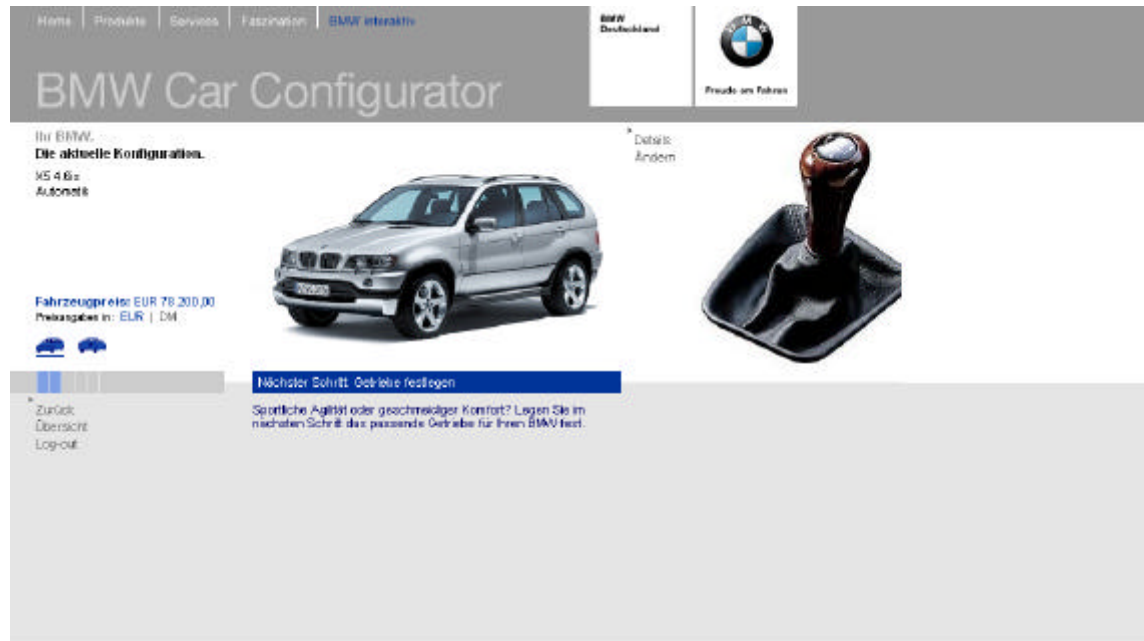
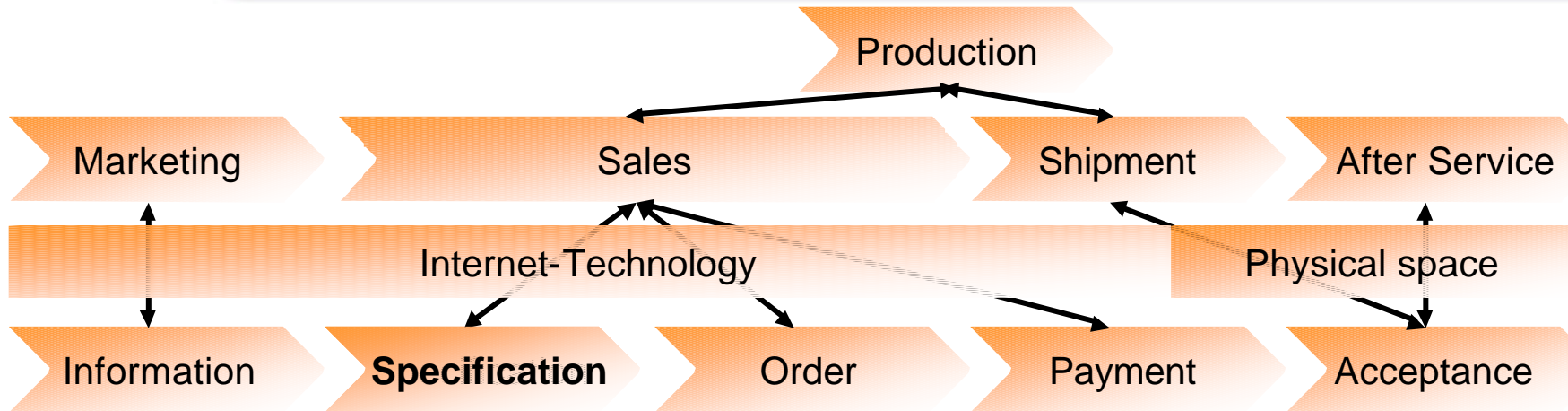
☐ Next Business Day Delivery¹ \$350.00

☐ 2nd Business Day Delivery¹ \$259.00

☒ Lowest-Cost Delivery (3-5 day Ground)¹ \$209.00

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Customer Orientation in Electronic Commerce

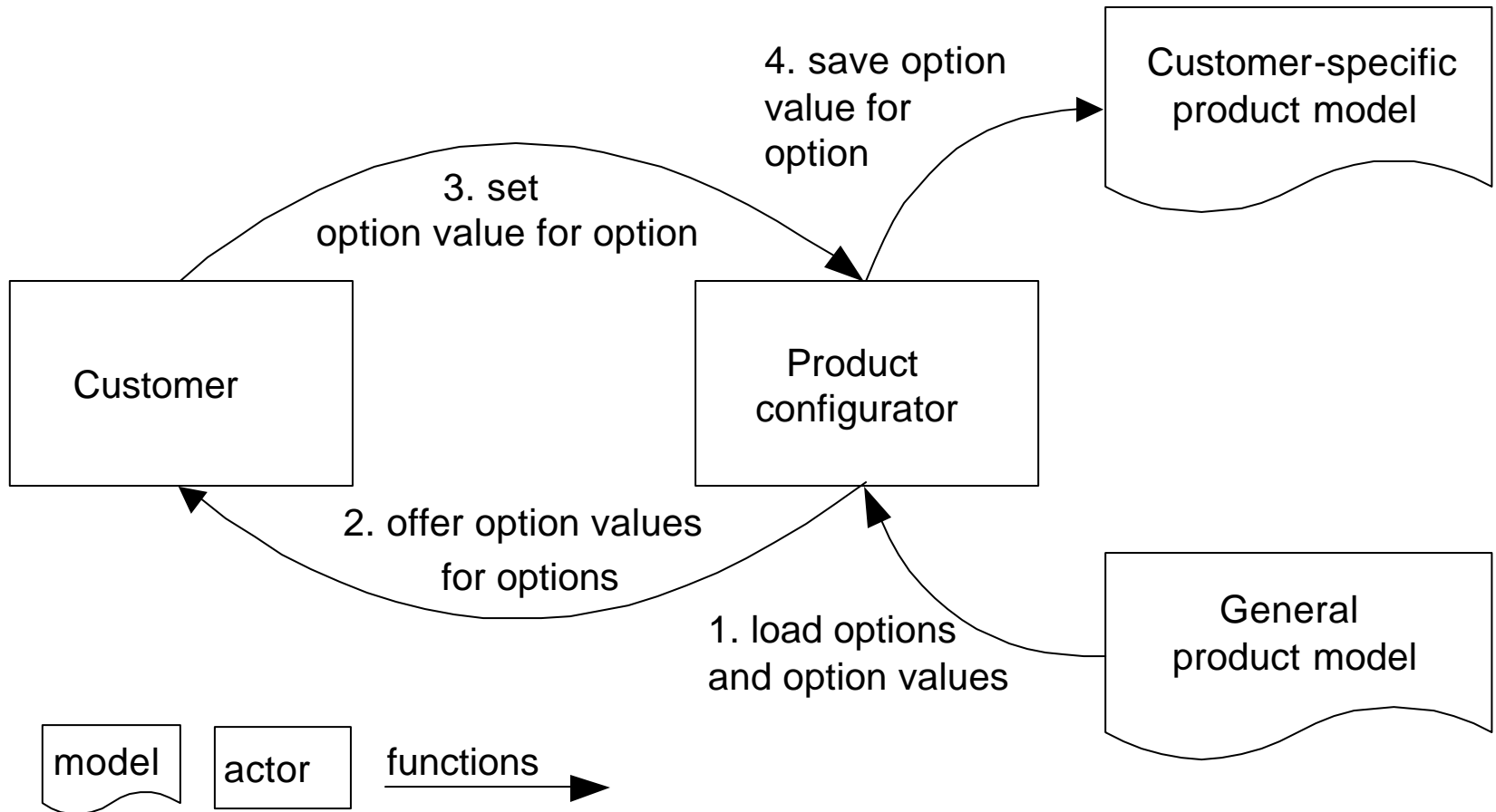


Concept of Product Configurators

- Product configurators are tools for the configuration of modular products, in the sense of the Mass Customization Concept.
- They are used both in research/development and production of products and services in seller's process and the specification of an individual product in customer's process.
- Product configuration describes the connection of a pre-defined set of components and the assignment of the component's properties within constraints.
- A product configurator is the information system which implements the product configuration.

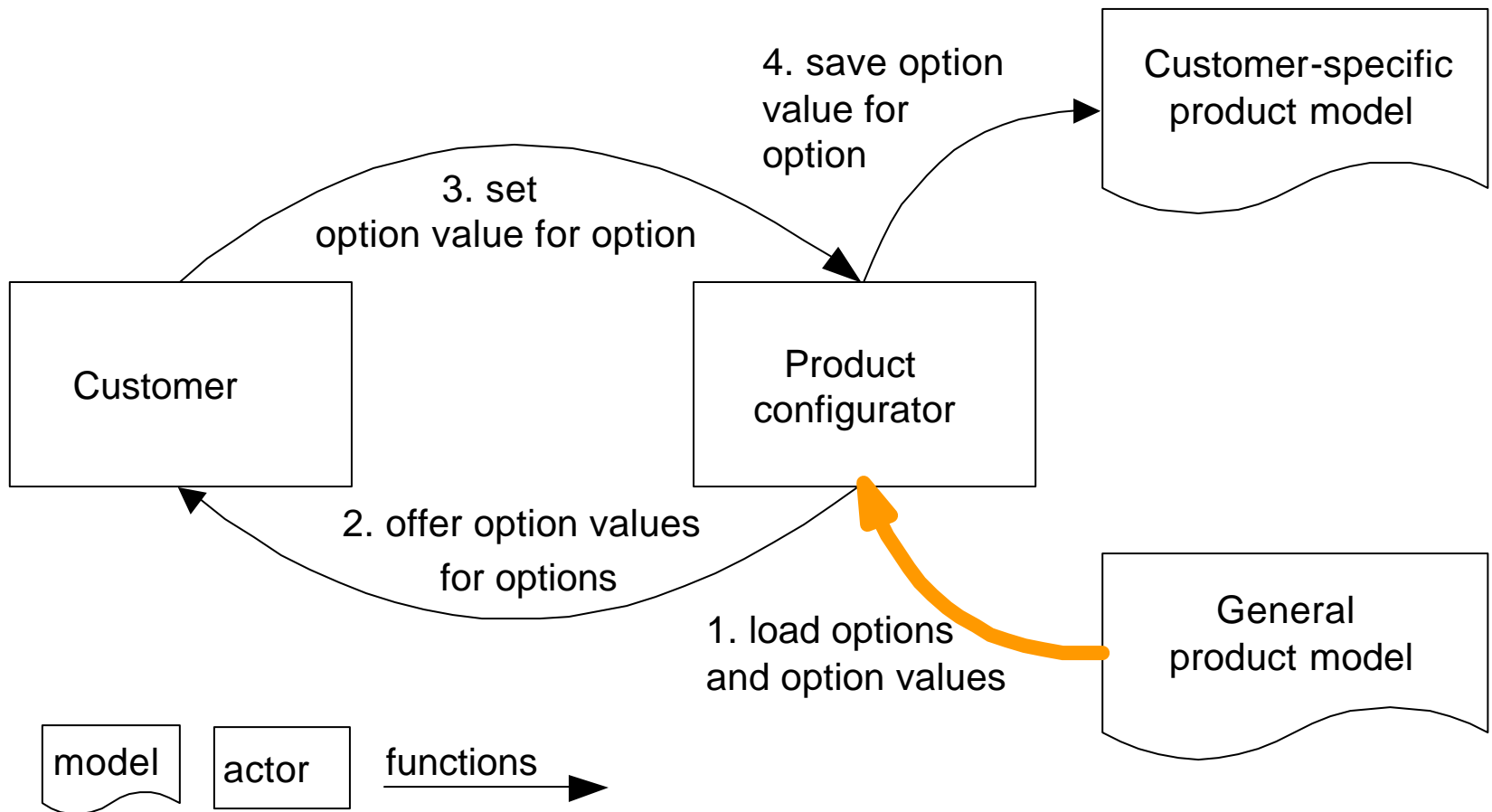
Concept of Product Configurators

■ Basic functionality in Business-to-Customer-Commerce:



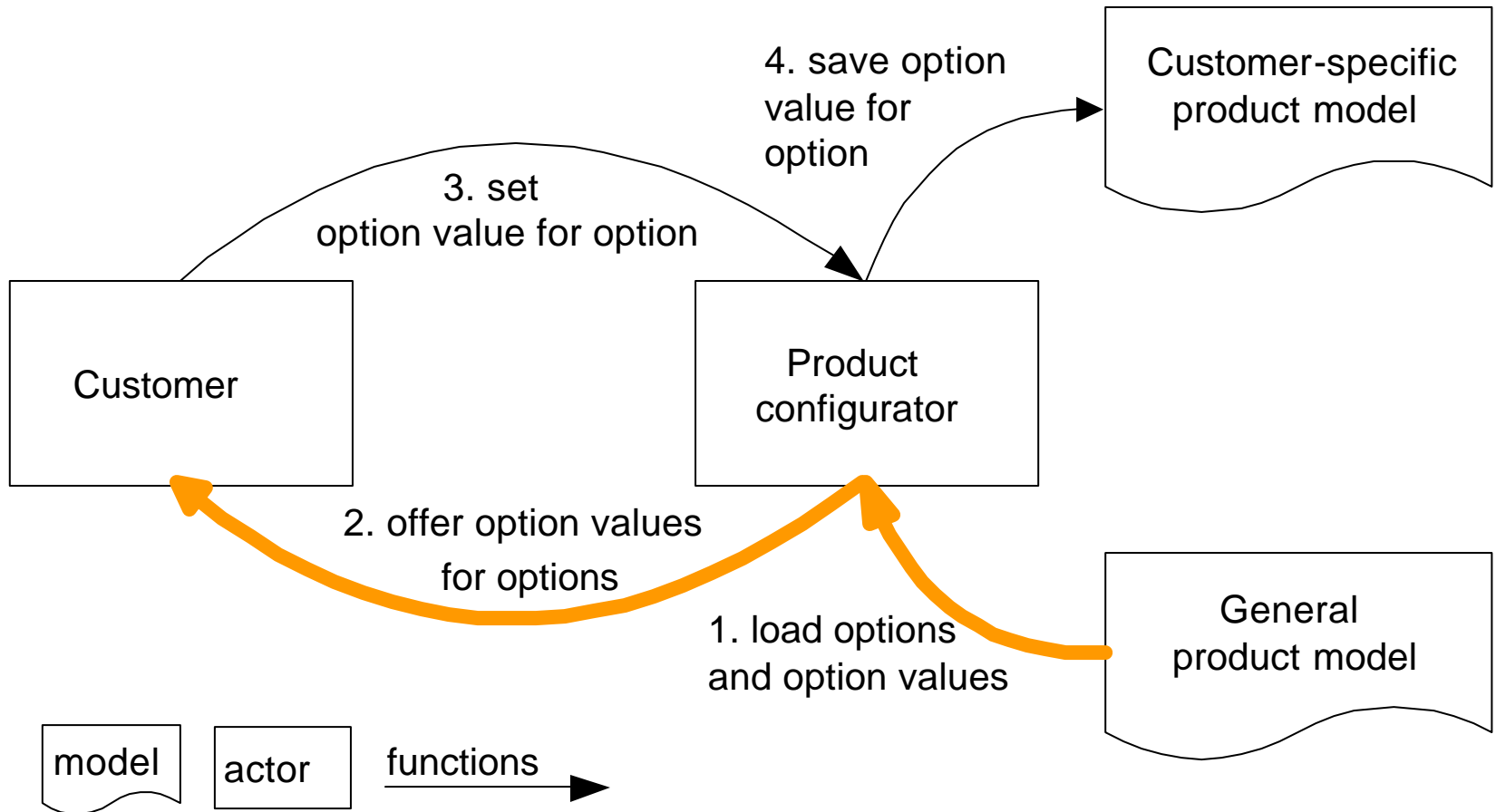
Concept of Product Configurators

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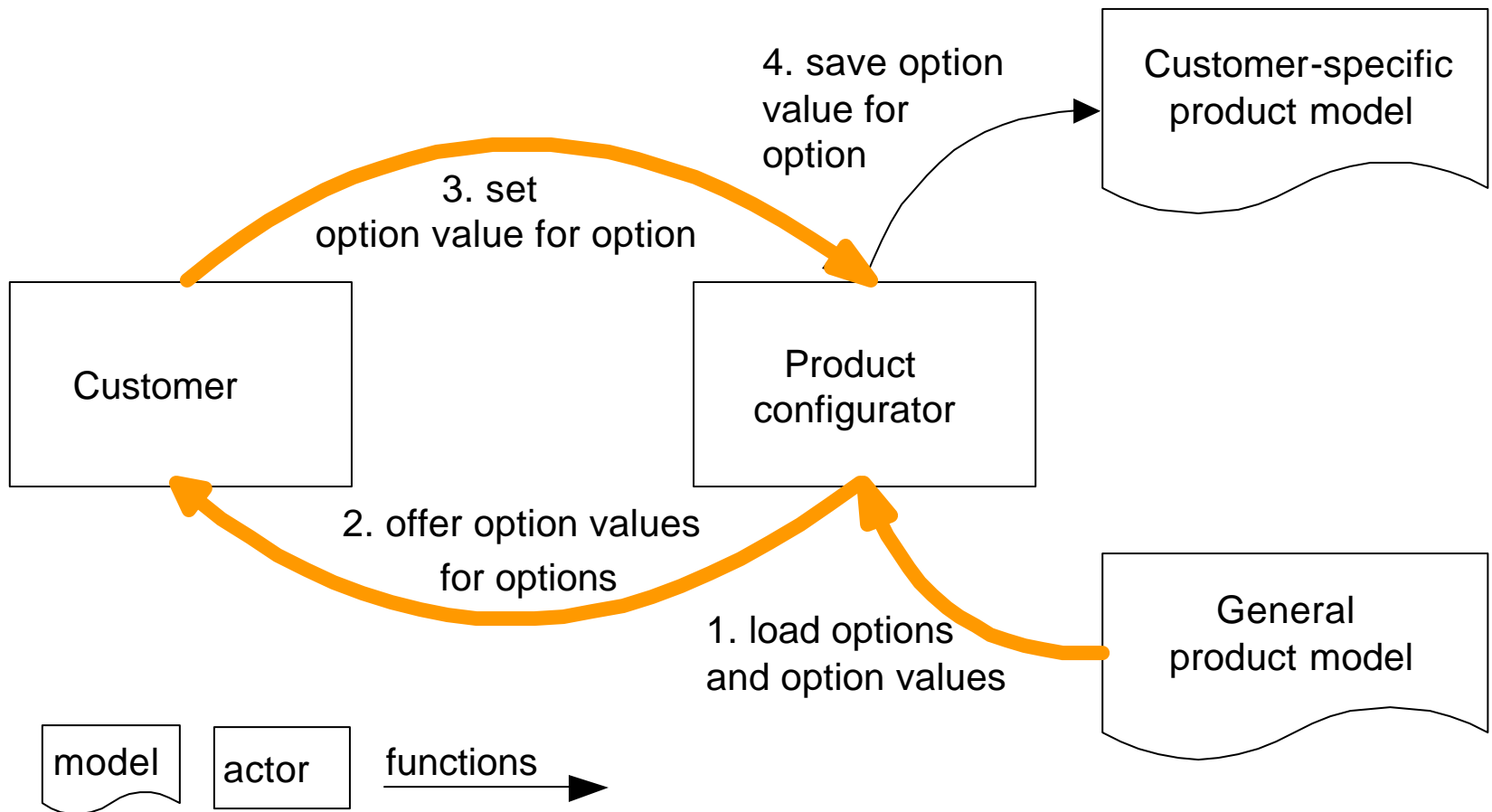
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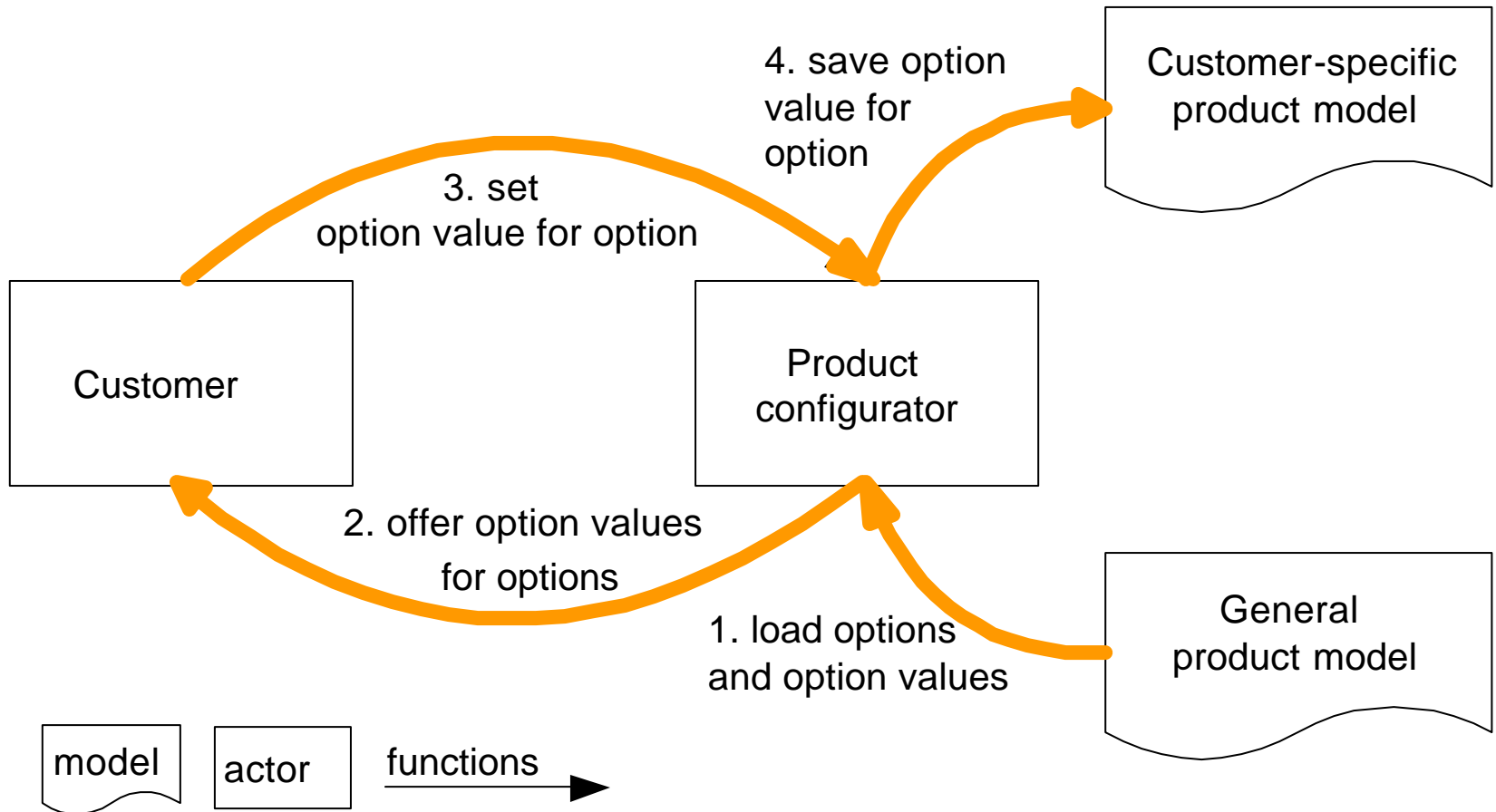
Concept of Product Configurators

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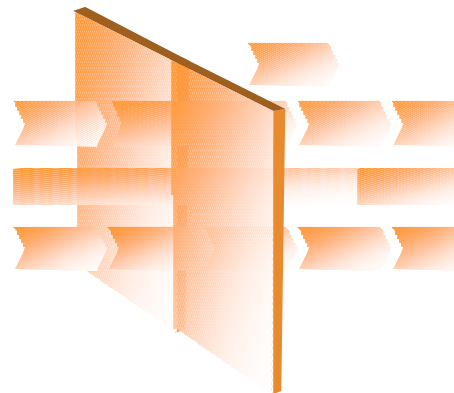
Concept of Product Configurators

■ Basic functionality in Business-to-Customer-Commerce:



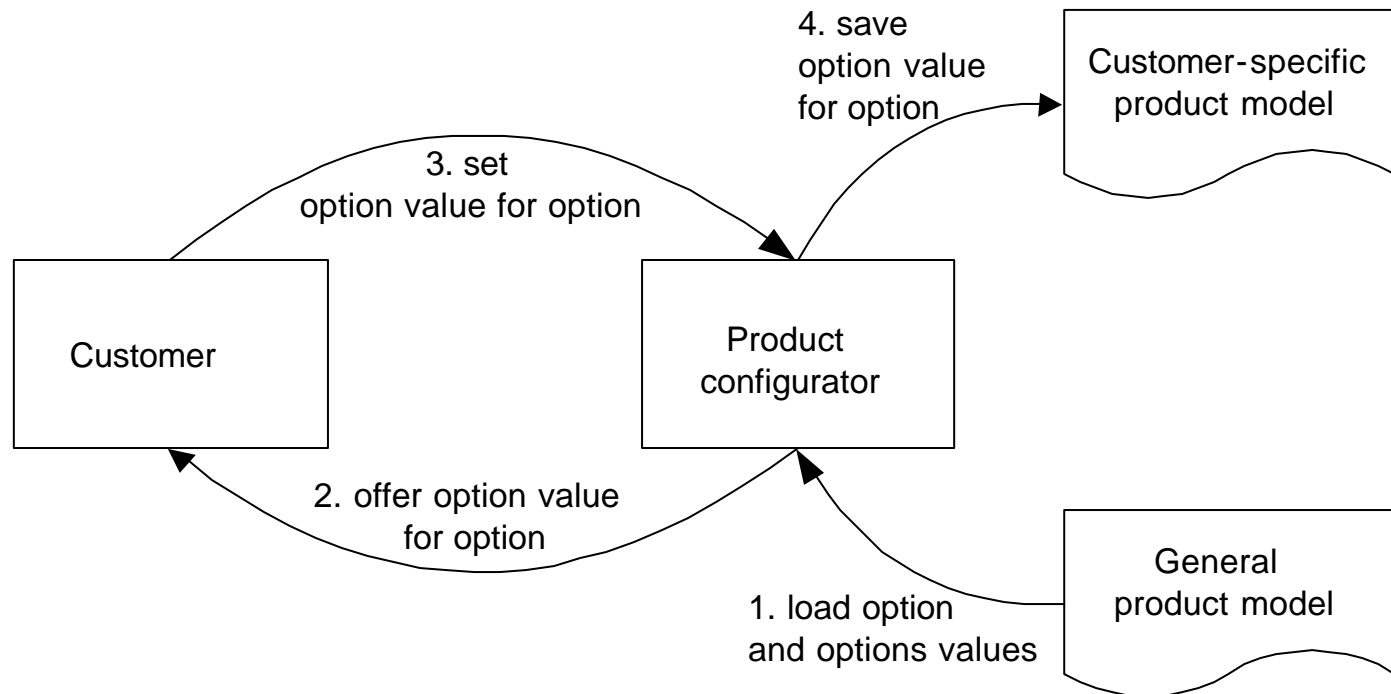
Concept of Product Configurators

- **Despite of the configurators's support 40-60% of all specification tasks are canceled by the customers.**
- **Frequent reasons for the truncation in the customer's process:**
 - Inability of the customer to create definite preferences between certain option values
 - Lack of customer desired option value
 - Further questions
 - Complex buying process
 - "Configuration just for fun"



Extended Product Configurator Concept

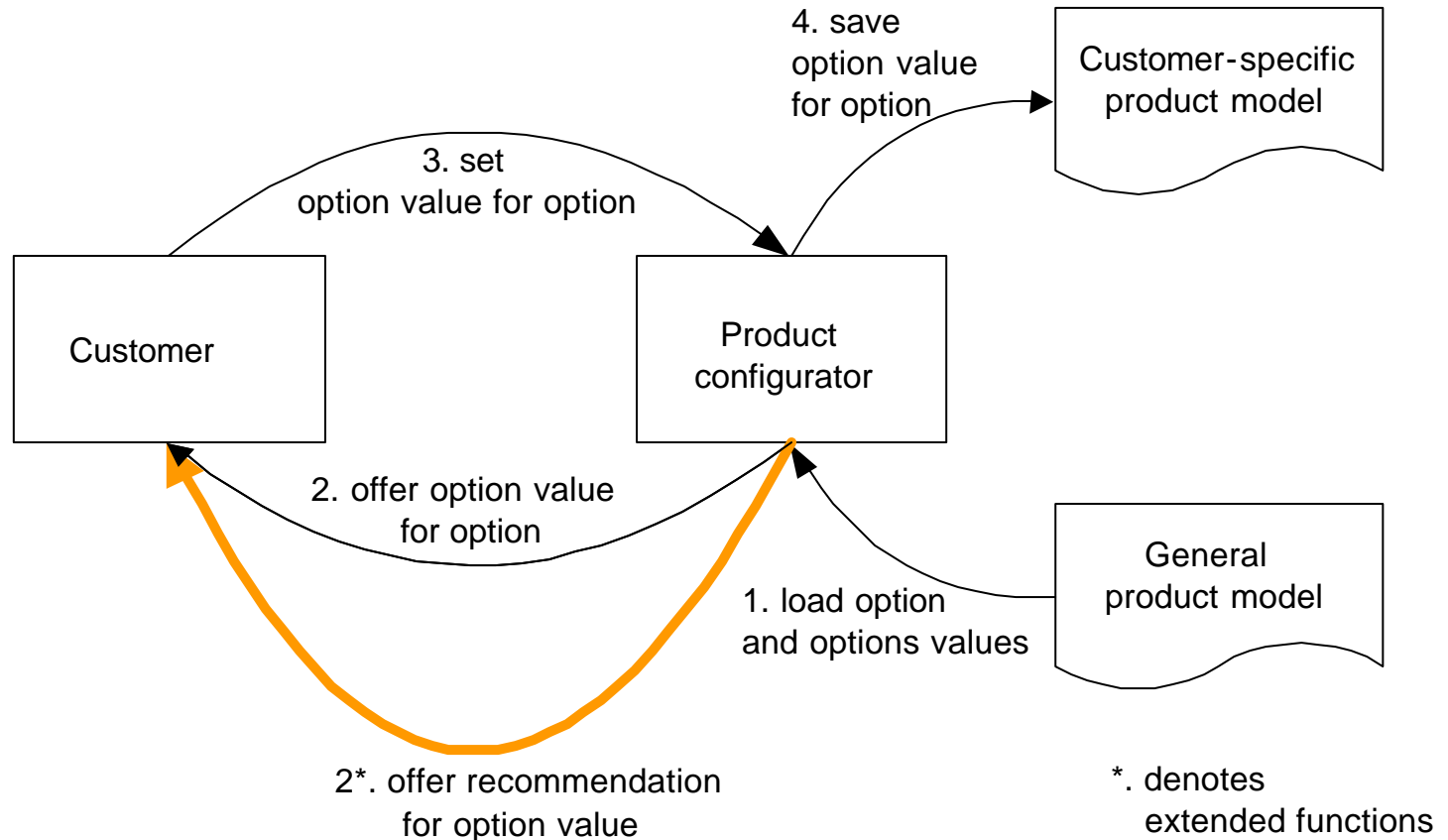
■ Extension towards customer recommendations:



*. denotes
extended functions

Extended Product Configurator Concept

■ Extension towards customer recommendations:



■ System proposal

- Organizational view: Extension of the configurator dialog by a recommendation dialog.
- Data view: Adding a customer's model for personalization.
- Functional view:
 - Problem: Transition between the customer's situation in the configuration process and the product's option values of the generic product model.
 - Solution:
 - Product-oriented transition
 - Customer-oriented transition

Extended Product Configurator Concept

■ Product-oriented and customer-oriented transition:

Transition	<u>Customer's situation</u> = customer-spec. PM ¹ , customer model ²		Transition assistance		<u>Product's options</u> = general product model
Product-oriented (Customer- Product - Product)	Product preferences ¹	?	Desired option- values	?	Option-values of options
	Current configuration ²		Comparable configurations		
Customer-oriented (Customer- Customer - Product)	Customer characteristics ¹	?	Comparable Customers	?	Option-values of options
	Current configuration ²				

Extended Product Configurator Concept

- Transition extended by the possibilities to represent the data (model-based / data-based representation):

	Product-oriented transition	Customer-oriented transition
Data-based representation	Customer model → generic product model / known customer-specific product models	Customer model → known customer models
	Customer-specific product model → known customer-specific product models	Customer-specific product model → known customer models
Model-based representation	Customer model → abstracted customer-specific product model using customers's configurations	Customer model → Customer clusters
	Customer-specific product model → abstracted customer-specific product model using customers's configurations	Customer-specific product model → abstracted customer clusters

Extended Product Configurator Concept

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Car configuration:

Customer has configured a station wagon, searching for comparable configurations, using associated configurations, therefore suggesting a child safety seat

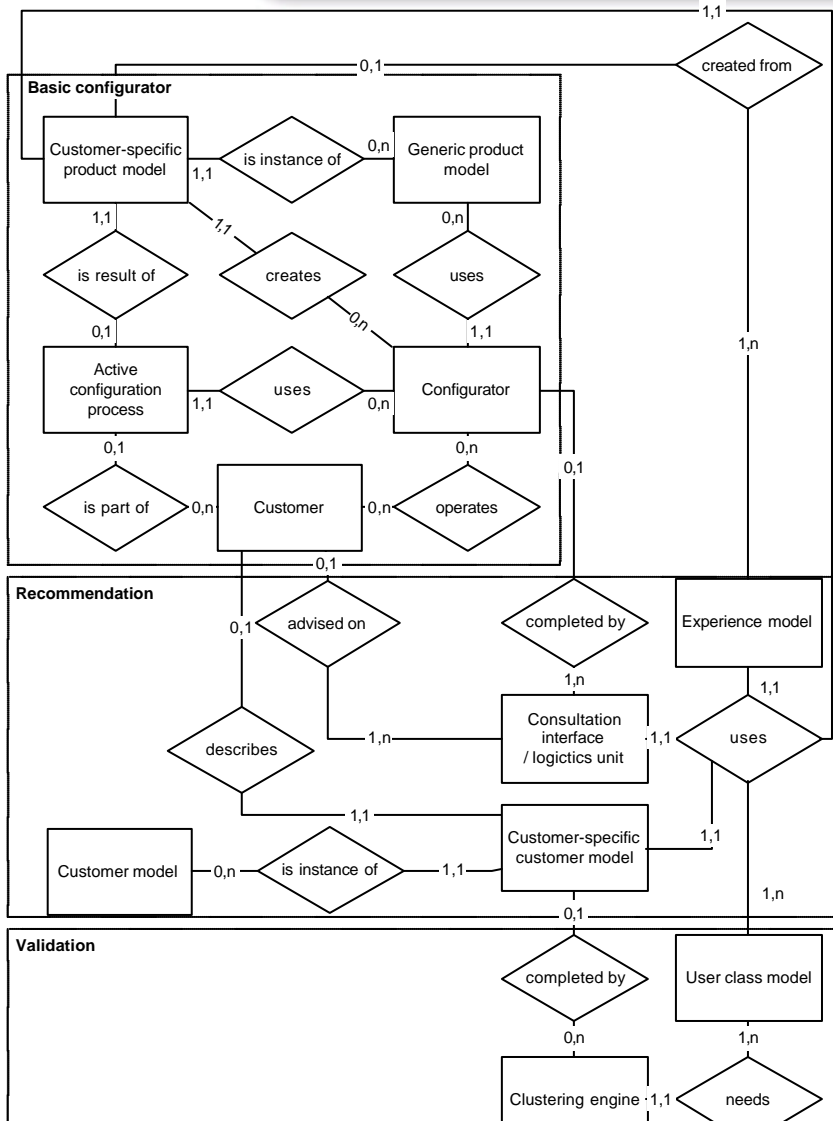
Extended Product Configurator Concept

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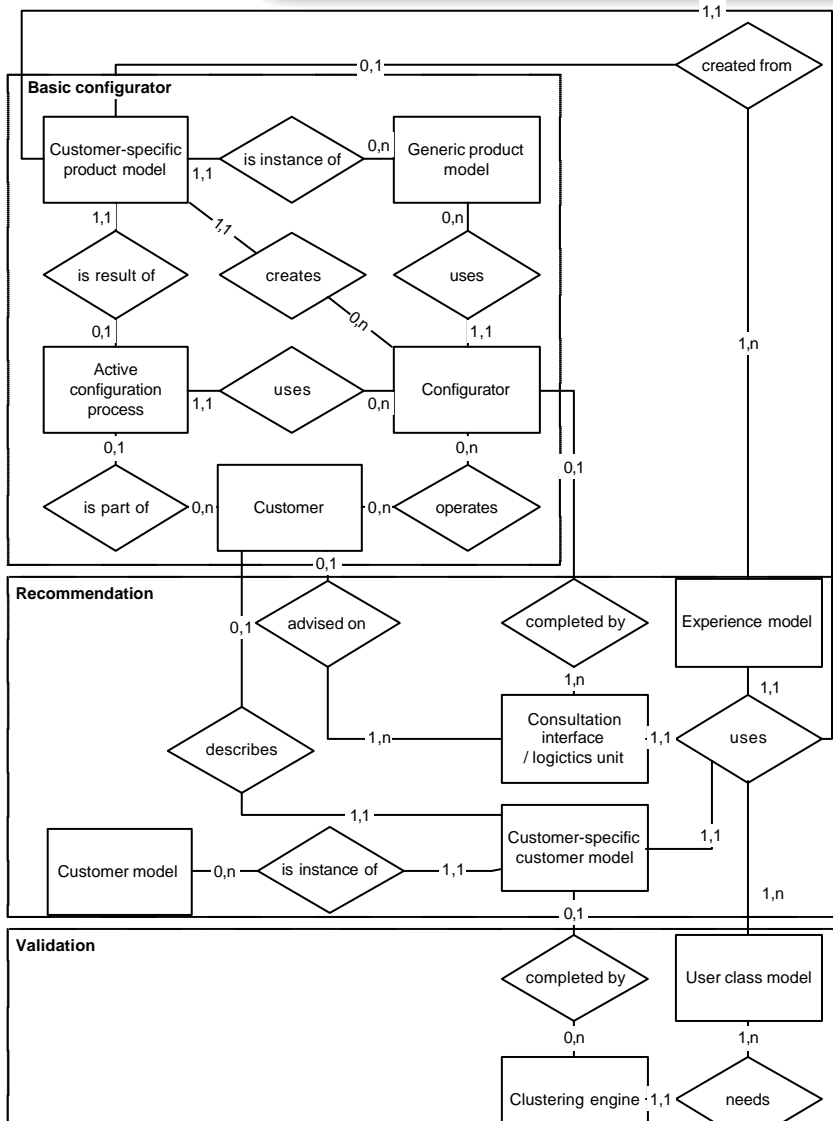
	Product-oriented transition	Customer-oriented transition
Data representation	Product model → known customer models	Customer model → known customer models
	Customer-specific product model → known customer models	Customer-specific product model → known customer models
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Insurance configuration:
Customer owns an apartment, classifying the customer in a comparable customer's class, using associated experiences, therefore home owners usually have a householders' insurance

Suggest Approach

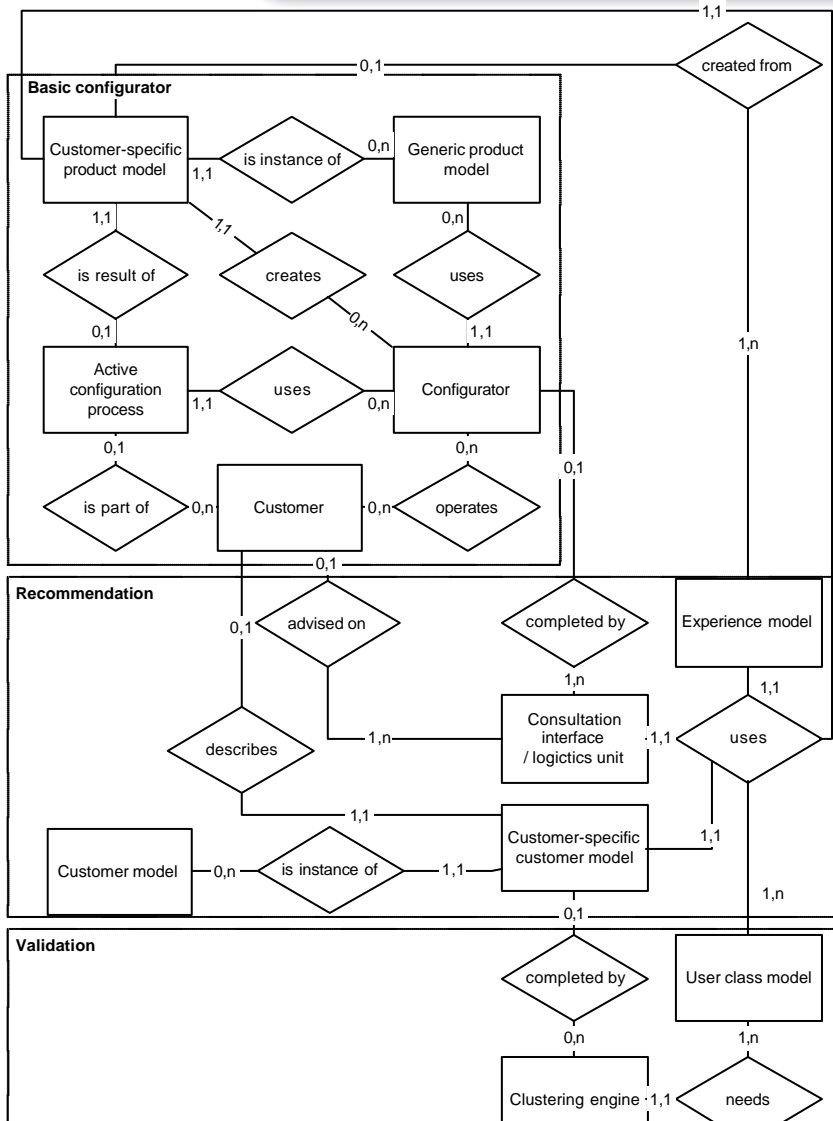


Suggest Approach



- Basic functionality of the product configurator, consisting of:
- Configurator, configuration process
 - General product model
 - Customer-specific product model

Suggest Approach



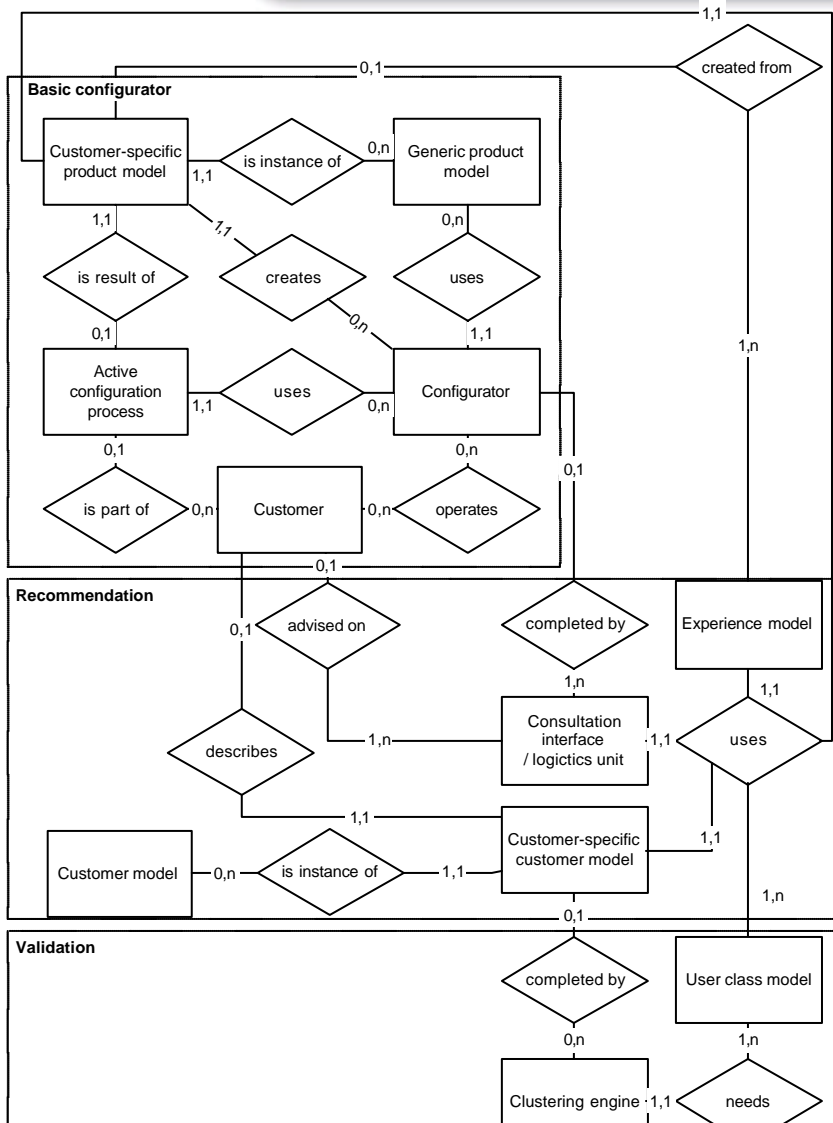
Basic functionality of the product configurator, consisting of:

- Configurator, configuration process
- General product model
- Customer-specific product model

Recommendation engine:

- Consultation interface
- Customer model
- Customer-specific product model
- Experience model (model-based)

Suggest Approach



Basic functionality of the product configurator, consisting of:

- Configurator, configuration process
- General product model
- Customer-specific product model

Recommendation engine:

- Consultation interface
- Customer model
- Customer-specific product model
- Experience model (model-based)

Validation engine:

- Clustering engine
- User class model

Suggest Approach

Prototyp erweiterter Produktkonfigurator - Microsoft Internet Explorer

Adresse <http://localhost:8070/konfigurator/seite2.do>

Chris's Produktkonfigurator

Option: root
Optionswert: Motor

Selektion treffen **Vorschlag einholen** Selbst spezifizieren

Chris's kundenspezifisches Produktmodell

Option:	Optionswert:
2 Farbe	21 rot
4 Karosserie	43 Touring
5 Sonderausstattung	52 Kindersitz
52 Kindersitz	523 mittel

Modell zurücksetzen Neu anmelden

Prototyp Erweiterter Produktkonfigurator - Mic...

Adresse <http://localhost:8070/konfigurator/vorschlag.html>

Produktkonfigurator

Option: Motor
Geeignete Optionswert: 85% 5 Liter
76% 7 Liter
34% 6 Liter

[Schließen](#)

Fertig Lokales Intranet

Thank you for your attention.

