



PersoBOX: A Personalization Engine Between ERP System and Web Frontend

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Agenda

- **Introduction: What is Personalization?**
- **The PersBOX Project**
 - **Relevance**
 - **Prior projects**
 - **Architectonical overview**
- **Future research**
- **Questions?**



What is Personalization?



What is Personalization?

Personalization is ...

- **“about building customer loyalty by building meaningful one-to-one relationships; by understanding the needs of each individual and helping satisfy a goal that efficiently and knowledgeably addresses each individual’s need in a given context.”**

Riecken, 2000

- **”the adjustment and modification of all aspects of a website that are displayed to a user in order to match that users needs and wants.”**

Wu et al., 2003



Additional definition of Personalization

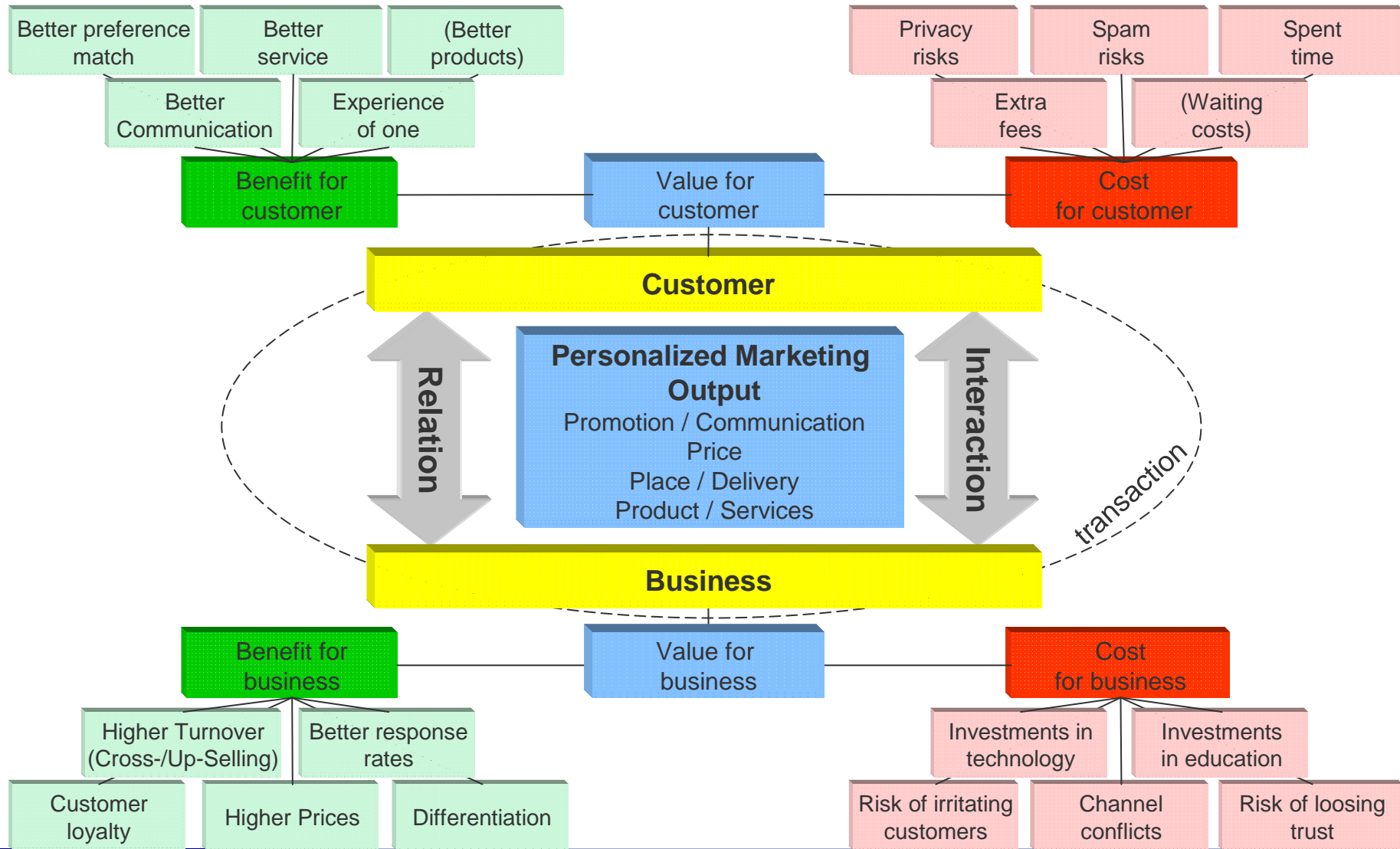
According to prior projects we define
Personalization as...

... the individual adaptation of content and functionalities of (e-commerce) applications to the needs of a user. The adaptation is based on implicitly or explicitly received and stored user data.

according to Risch, 2007



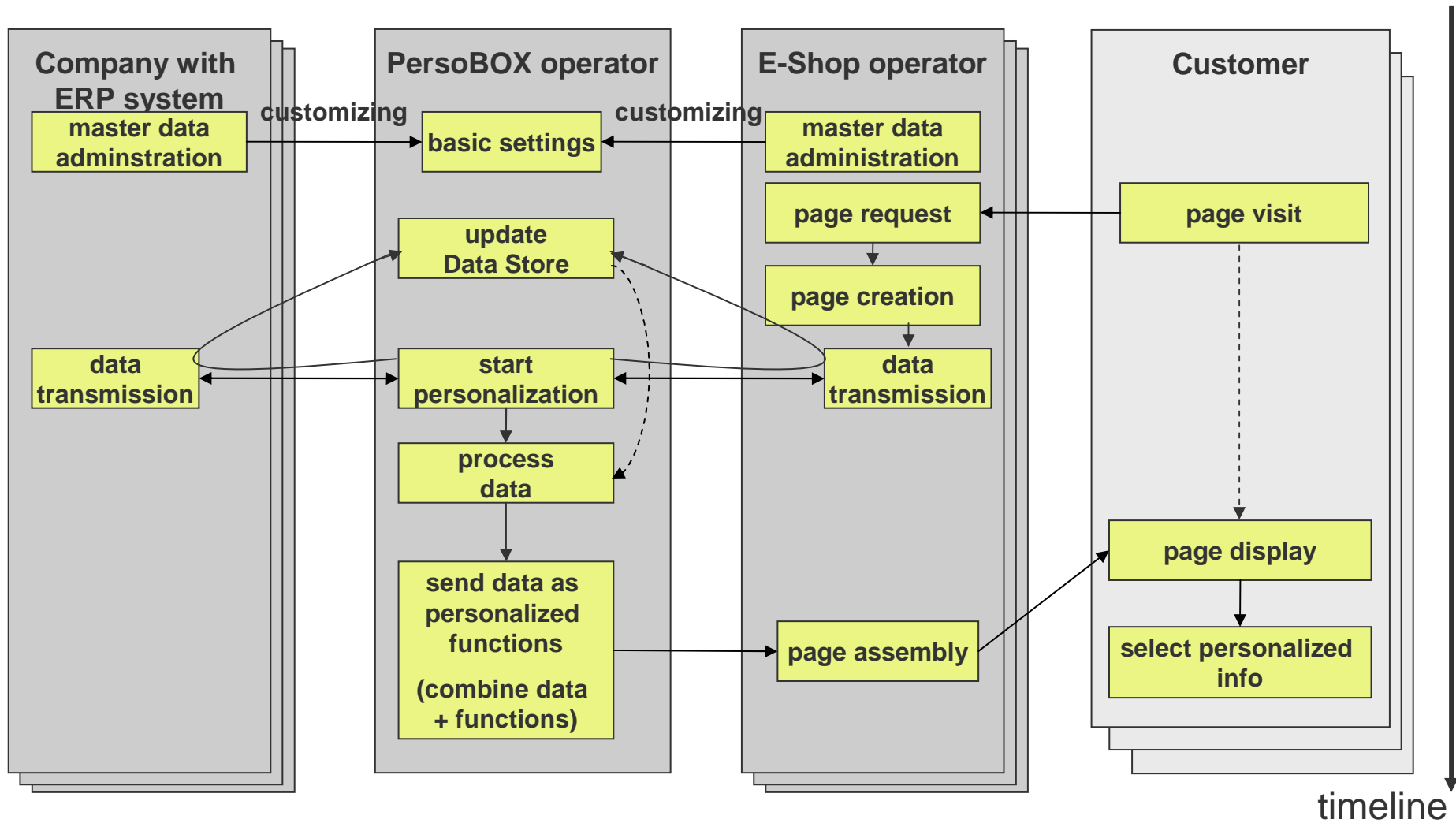
Personalization Framework



Source: Risch 2007 - Following Vesanen 2005

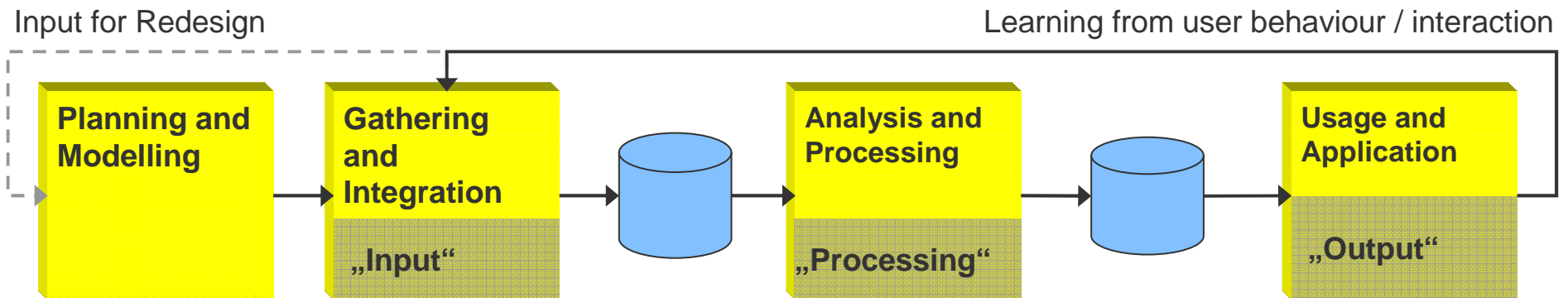


Business View of the PersoBOX





Customer Profile Life Cycle

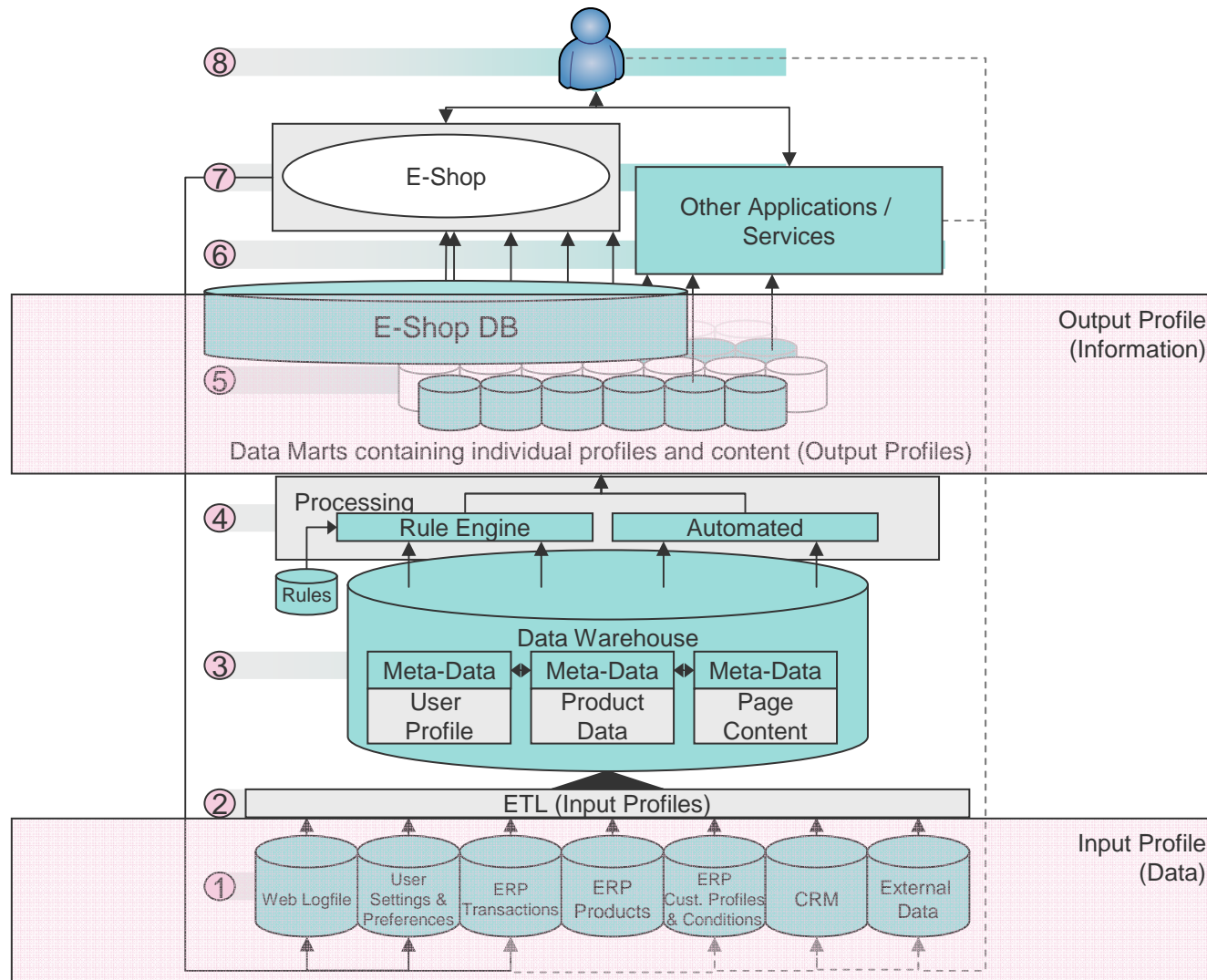


<p>Plan/Model</p> <ul style="list-style-type: none"> • Requirements / Availability • Source • Structure • Storage 	<p>Gathering</p> <ul style="list-style-type: none"> • explicit • implicit <p>Integration</p> <ul style="list-style-type: none"> • ETL • Data Warehouse 	<p>Input Profile</p> <ul style="list-style-type: none"> • Identification • Preferences • Interaction • Transaction • Context • Ratings 	<p>Methods and Techniques</p> <ul style="list-style-type: none"> • Data Mining • OLAP • Web Analytics • Rule Engines 	<p>Output Profile</p> <ul style="list-style-type: none"> • Customer Value • Priority • Recommendations • Clusters • Classifications 	<p>Application</p> <ul style="list-style-type: none"> • Personalization • Customization • Segmentation • Marketing Campaigns • Documentation • Selling
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Source: according to Schubert/Kummer/Leimstoll 2006, 208



Customer Profiles and Personalization



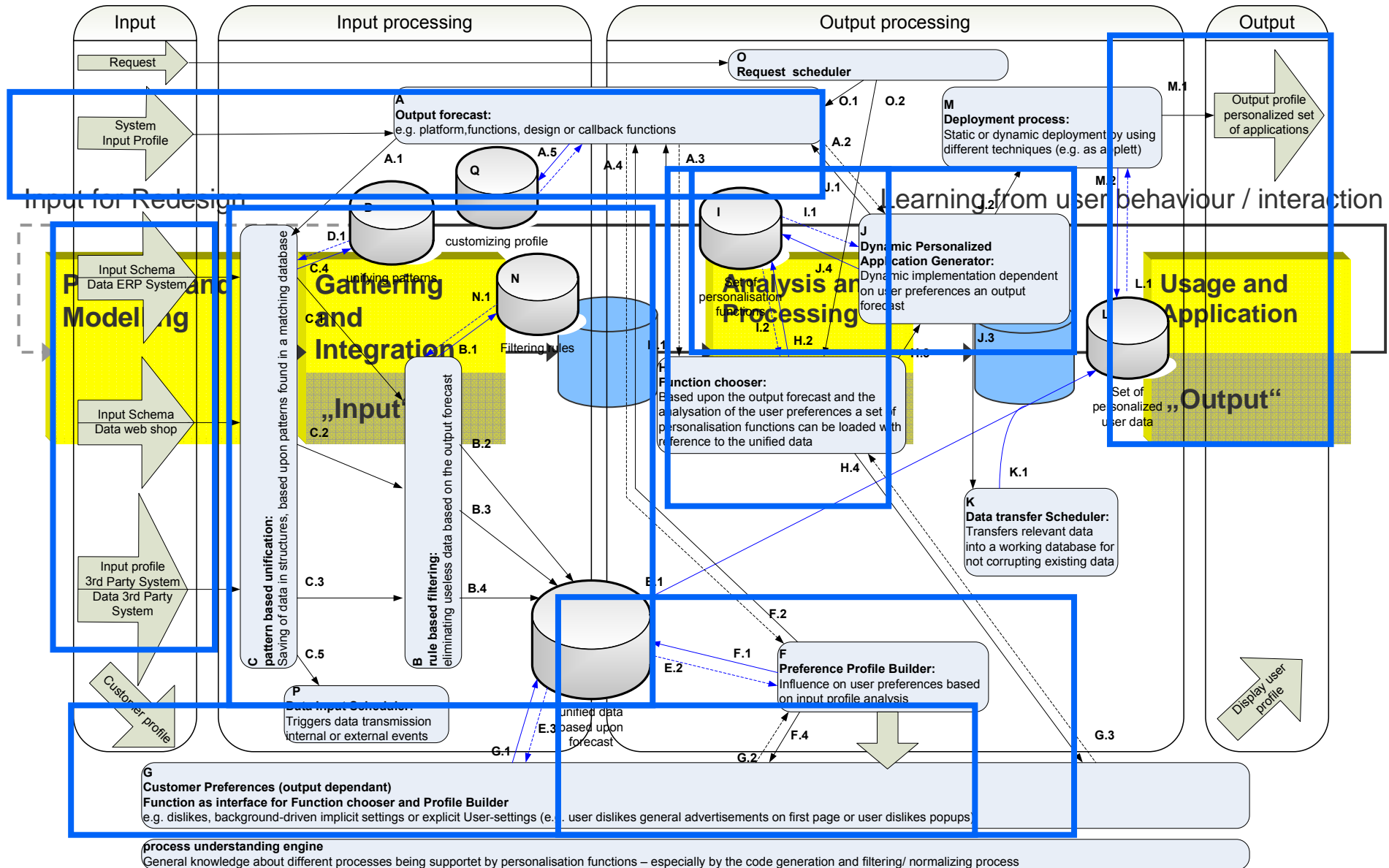
Source: according to Risch / Schubert / Leimstoll 2006, p. 5



Data processing for personalization purposes

- **Defining input Interfaces (Customizing)**
- **Input processing**
 - Unifying
 - Filtering
 - Storing
- **Output processing**
 - Generating and using of customer profiles
 - Generating function instances
 - Applying data to instances
 - Deployment

Architecture of PersoBOX





Future Research

- **Creating a fine planned architecture**
- **Identifying potential project partners**
- **Implementing a prototype fulfilling different aspects of the PersoBOX architecture**
 - **Taxonomies for filtering or unifying the data**
 - **Automatic code generation**
 - **Intelligent function choosing**
 - **Intelligent connection of stored data with functions**



Thank you for your attention.

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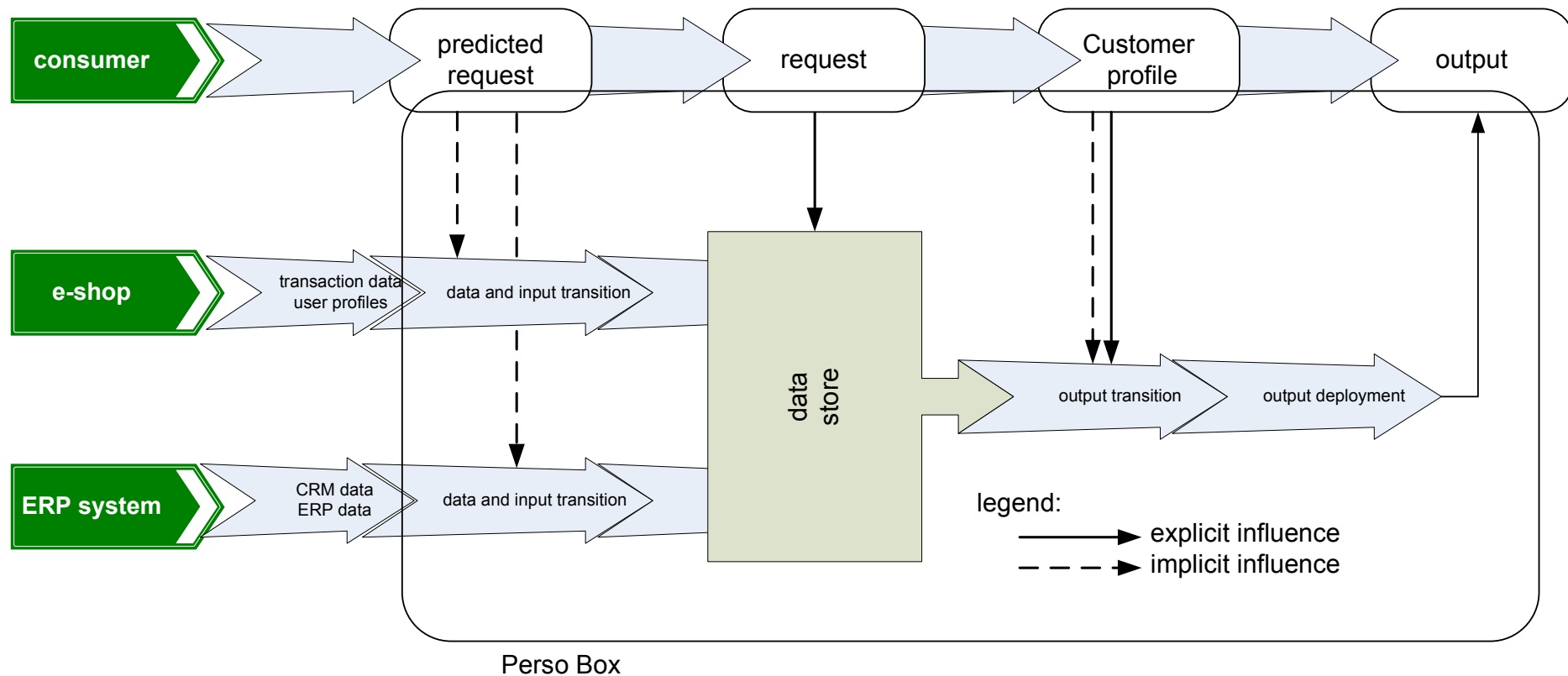


Literature

- **Riecken, Doug (2000): Personalized Views of Personalization, in: Communications of the ACM, Volume 43, No. 8, 2000.**
- **Risch, Daniel (2007): Kundenprofile im E-Commerce - Ergebnisse einer empirischen Studie zum Umgang mit Kundendaten im Electronic Commerce, Arbeitsbericht E-Business Nr. 29, Basel: Fachhochschule Nordwestschweiz - Institut für Wirtschaftsinformatik, 2007.**
- **Schubert, Petra; Kummer, Mathias; Leimstoll, Uwe (2006): Legal Requirements for the Personalization of Commercial Internet Applications in Europe, in: Journal of Organizational Computing and Electronic Commerce 16 (3&4), 203–220, 2006.**
- **Vesanen, Jari (2005): What is Personalization? – A Literature Review and Framework, Helsinki: Working Paper, Helsinki School of Economics, 2005.**
- **Wu, Dezhi; Im, Il; Tremaine, Marilyn; Instone, Keith; Turoff, Murray (2003): A Framework for Classifying Personalization Scheme Used on e-Commerce Websites, in: Proceedings of the 36th Hawaii International Conference on System Sciences, HICSS'03, Hawaii, 2003.**
- **Risch, Daniel ; Schubert, Petra ; Leimstoll, Uwe (2006): “The Personalization Map – An Application-Oriented Overview of Personalization Functions.” In: Proceedings of the Joint Conference of the International Mass Customization Meeting (IMCM'06) and the International Conference on Economic, Technical and Organizational Aspects of Product Configuration Systems (PETO'06). Hamburg, 2006**



Customers influence on personalization process



Customer Profile

Product Profile

INPUT Profile

Web site (E-Shop)

→ Registration

Interests {tennis, golf, DVDs, ...},
age, region {Basel, Zurich, ...}

→ ClickStream

ProdCat, ProdGroup, ...

Customer value card

→ Shopping transactions

Date, ProdCat, ProdGroup,
PriceCat, ...

→ Marketing measures

Customer reaction towards
offers and discounts e.g.
event (region, type, ZIP, ...)

Organization of Product Database

ProdCat {sports, events, garments,
shoes, electronics, food, ...}

PriceCat {low, middle, high}

ProdGroup SPORTS {tennis, golf,
joggin, ski, trekking, ...}

ProdGroup EVENTS {region, type, ...}

Marketing Rules

1. Event.Basel.HighPrice + Sports.Tennis
→ Tickets Swiss Indoors Basel
2. Sports.Tennis + High turnover for
ProdGroup Sports.Tennis
→ New Nike indoor tennis shoes
3. Purchased Electronics.DVDs.Fantasy
→ New Harry Potter DVD

Deduction of
customer attributes

Application of
rules on products

OUTPUT Profile

Sports.Tennis, Sports.Golf, Sports.Ski,
Events.Basel.Highprice,
Electronic.DVDs.Fantasy,
Electronic.DVDs.ScienceFiction,

Turnover.Sports.Tennis=high
Turnover.Electronics.DVDs.Fantasy=yes

1. Tickets 27.10.2005
Swiss Indoors Basel
2. New Nike indoor tennis shoes
3. All Electronic.DVDs.Fantasy



Methodology for Personalization and Personalization Mind Map

