Jari Vesanen – Mika Raulas

BUILDING BRIDGES FOR PERSONALIZATION – A PROCESS VIEW

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Abstract

Personalization is suggested to offer an avenue to improve marketing performance. There are, however, several organizational and technical hurdles that hinder marketers' efforts in capitalizing it. In this paper we show how seeing personalization as a process helps marketers manage and execute it more effectively. A process view shows how the different phases of personalization - customer interactions, analyses of customer data, customization based on customer profiles, and targeting of marketing activities – are linked with each other. A process analysis further identifies the key stumbling blocks that arise from ineffective integration of these phases. It also suggests which functions marketing companies can source from market based services to avoid heavy investments in the technologies and skills needed for effecting personalized marketing.

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1 Introduction

An increasing number of marketers are looking at personalization to help improve their marketing. The urge to personalize is driven by the expected benefits of 1to1-marketing and customer relationship management. Together with this, developments in information and communication technologies have opened new possibilities to collect and analyze customer data, and communicate with customers on a more personalized basis.

Executing personalization, however, is not an easy trick. For example Kemp (2001) points out how businesses can face disappointments without the re-examination of business processes: " No set of ebusiness applications has disappointed as much as personalization has. Vendors and their customer are realizing that for example truly personalized Web commerce requires a re-examination of business processes and marketing strategies as much as installation of shrink-wrapped software. Part of problems is that personalization means something different to each e-business." We suspect such challenges to exist irrespective of the media used in the customer contact. Understanding and managing the processes needed for personalized marketing would hence be useful for every company pursuing it, not just for e-businesses alone. Not surprisingly, a process view on personalization has gained increasing interest (Murthi and Sarkar 2003; Peltier et.al. 2003; Pierrakos et.al. 2003; Adomavicius and Tuzhilin 2003; Peppers and Rogers 1997).

In effect, there clearly is a need to identify what kind of operations and elements marketers need to have for executing personalization, how these can be brought together into a process, and how this process can be managed. What we suggest is that seeing personalization as a process helps understand what its successful execution requires. The process of personalization contains the gathering and analyses of customer information from internal and external sources and customer interactions, customizing the marketing mix elements based on a customer profile, and targeting of marketing activities. Seeing how these phases are linked with each other and where the process may break down between these phases is fundamental for managing personalized marketing effectively. A process view also helps define what to do oneself and what to outsource. The process of personalization is synthesized and described in this paper.

2   The process of personalization

To synthesize what personalized marketing includes and requires, we conducted two analyses. To understand what practitioners see personalization is about and how it should be done, we first charted their views with interviews. Together with this, we did a literature review on personalization. The elements that from the process were identified both from the practitioners' views and models found in the literature. The model for the process of personalization was formed as a result of these analyses.

2.1   How is personalized marketing seen by practitioners

To understand how practitioners see personalization, we interviewed marketers and experts in Finland (Merisavo et.al. 2002). We used a convenience sample of 33 expert respondents from marketing and manufacturing companies and companies offering services to execute personalized marketing. To cover for the entire value chain, we had respondents from the following types of firms: marketers (15), teleoperators (4), medias (2), advertising agencies (3), media offices (2), new media offices (2), technology providers (3), consultants (2). The number in parentheses indicates the number of interviewees from each company type.

The interviews were qualitative and the experts were asked on their opinion on the state of personalized marketing on the following topics: use of digital and personalized marketing, goals for doing it, forms and content, results and measuring, challenges, and development needs. Questions were in open form. The interviews were conducted by two researchers. Responses were taped and then transcribed. To ensure reliability both researchers analysed the results together for cross validation.

The interviews showed that among marketing practitioners, personalization seems to have many different kinds of meanings, from location diagnosis, fitting the visual layout of message to data terminal equipment, tailoring the content of the message, to tailoring the product, to name a few. The same problem of a lack of a clear definition of what "personalization" entails exists in the literature, too. There are several terms marketers and scholars use when they talk about it. The most common ones are profiling, segmentation, targeting, filtering, tailoring, customization, mass customization, mass personalization and one-to-one marketing (see Wind and Rangaswamy 2001). Vankalo (2004) synthesizes how personalization and customization relate to each other, see table 1 below.

Table 1: Definitions of Personalization and Customization (Vankalo 2004)

Author	Personalization	Customization	Interrelationship
Hanson (2000)	"A specialized form of product differentiation, in which a solution is tailored for a specific individual." (p.450)	"The combining of individual-level information and flexible product design." (p.445)	Customization is part of personalization and different levels of personalization create a continuum. (p.188)
Peppers & Rogers (1999)	"Customizing some feature of a product or service so that the customer enjoys more convenience, lower cost, or some other benefit."	Treating a particular customer differently based on what that customer said during an interaction. (1998: 146)	Not important to distinguish between personalization and customization.
Allen (2001)	Company-driven individualization of customer web experience. (p.32-33)	Customer-driven individualization of customer web experience. (p.57-58)	Sometimes difficult to separate between concepts since: "a customized site can provide personalized content." (p.32)
Imhoff, Loftis & Geiger (2001)	"Personalization is the ability of a company to recognize and treat its customers as individuals through personal messaging, targeted banner ads, special offers on bills, or other personal transactions." (p.467)	Customization includes individualization of features, e.g. web site content, by customers. (p.374)	Customization is part of the personalization concept.
Wind & Rangaswamy (2001)	Personalization can be initiated by the customer (e.g. customizing the look and contents of a web page) or by the firm (e.g. individualized offering, greeting customer by name etc.). (p.15)	Customization further developed into customerization, initiated by the customer. "…a business strategy to recast a company's marketing and customer interfaces to be buyer-centric." (p.14)	Customerization a more advanced form of personalization, combines mass customization of products with customized marketing.
Cöner (2003)	Personalization is performed by the company and is based on a match of categorized content to profiled users.	Customization is performed by the user.	Important to distinguish between personalization and customization. Customization is a form of personalization which is done by the customer.
Roberts (2003)	"The process of preparing an individualized communication for a specific person based on stated or implied preferences." (p.462)	"The process of producing a product, service, or communication to the exact specifications / desires of the purchaser or recipient." (p.459)	Customization is more in depth individualization than personalization (p.157)

2.2 Defining personalization through the elements of personalization

We first map what kind of objects and operations "personalization" covers and how these are linked with each other to gain a systematic picture of it. The elements that play a role in executing personalization are shown in the table 2.

Table 2: The elements within personalization

- Customer
- Customer data
- Customer profile
- Marketing output
- Systems

- Dialogue with customer
- Analyses of customer data
- Customization
- Delivery of marketing output

When we look at the elements identified above, we can see that some of them are like processes. The process nature has been acknowledged also by Murthi and Sarkar (2003), Pierrakos et.al. (2003) and Adomavicius and Tuzhilin (2003), and Kotler (2001).

2.3 Personalization as a process in previous literature

Peppers and Rogers (1997) define personalization as a process of using a customer´s information to deliver a targeted solution to that customer. Kotler (2001) depicts well how targeted marketing is a process where segmentation, targeting and positioning, in effect, have to be linked, see figure 1. This constitutes one part for the process of personalization.
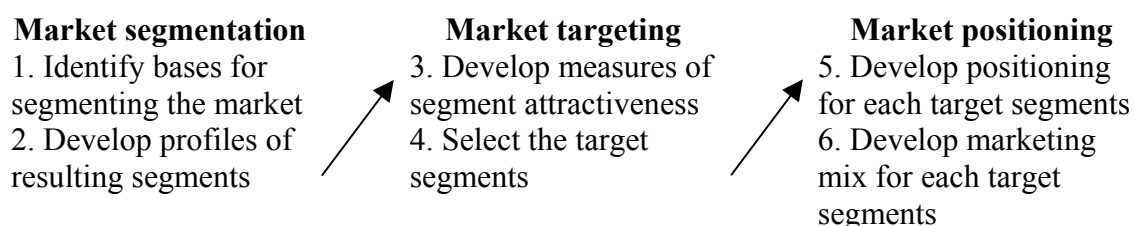
Market segmentation
1. Identify bases for segmenting the market
2. Develop profiles of resulting segments

Market targeting
3. Develop measures of segment attractiveness
4. Select the target segments

Market positioning
5. Develop positioning for each target segments
6. Develop marketing mix for each target segments

Figure 1: Six steps in market segmentation, targeting and positioning by Kotler (2001)

Rayport and Jaworski (2001) claim that the success of CRM is dependent on well coordinated actions between different units, rather than of the actions of single units. The CRM process (Strauss, 2001) can be separated into three parts, see figure 2. Based on ideas by Moon (2000) and Kasanoff and Thompson (1999), the first part of the CRM process is to identify the customers. The identification can in practice be done in many different ways. The second part is to differentiate or segment the customers based on some variable. A common approach is to differentiate customers based on lifetime value (LTV). The third part is to customize offerings to the segments or individuals. The collection of data through interactions between customers and company is important in order to achieve a better and deeper understanding of customers. Peppers et al. (1999) call this customer information collection for "Learning relationship".
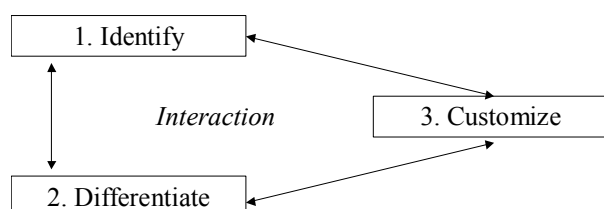
Figure 2: The CRM process (Strauss, 2001)

Murthi and Sarkar (2003) conceptualize the personalization process as consisting of three stages: (1) learning about customers preferences, (2) matching offerings to customers, and (3) evaluation of the learning and matching processes.

Adomavicius et.al. (2003) see personalization constituting an iterative process that can be defined by the *Understand-Deliver-Measure* cycle taking place in time and consisting of the following stages shown in Figure 3:
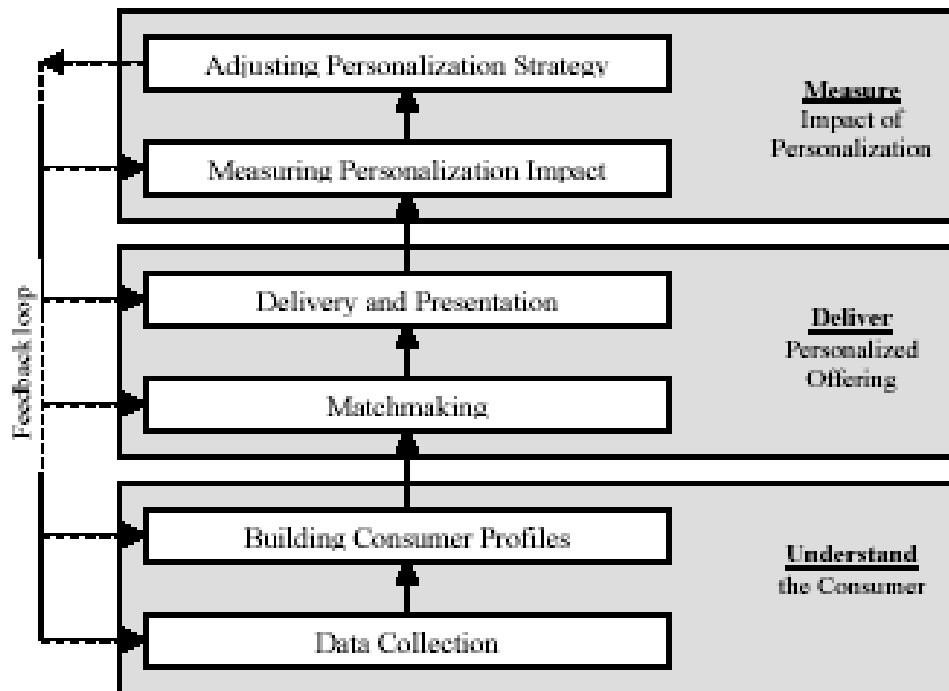

Figure 3: Personalization process by Adomavicius et.al (2003)

Pierrakos et.al. (2003) see the close relation between Web usage mining and Web personalization. Considering its use for Web personalization, and being essentially a data mining process, Web usage mining consists of the basic data mining stages shown in Figure 4:
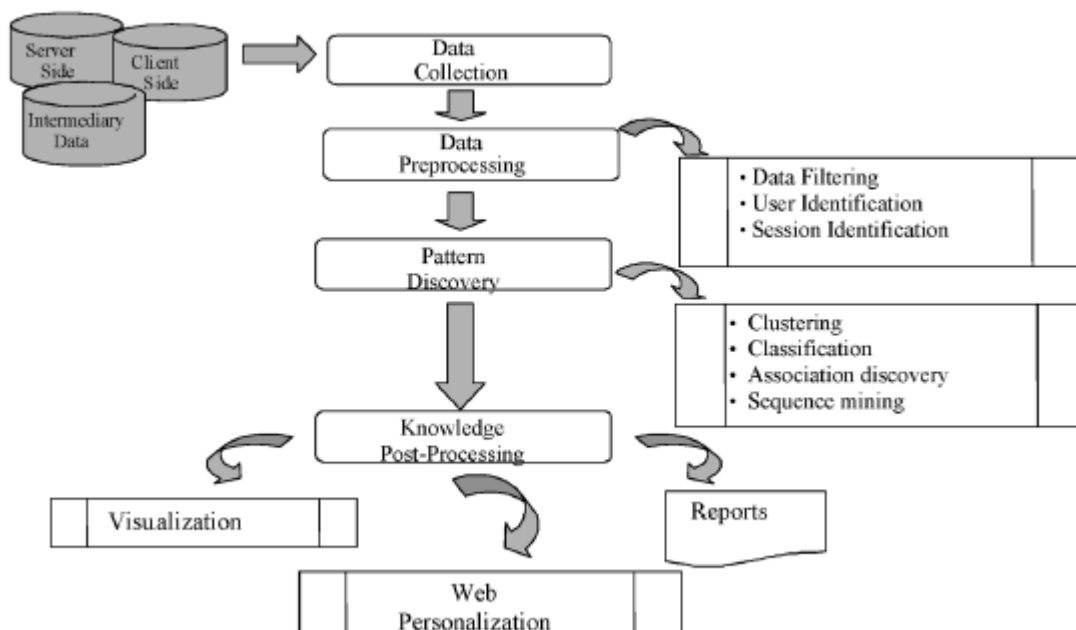
Figure 4: The web usage mining process in personalization (Pierrakos et.al. 2003)

Peltier et.al. (2003) suggest a conceptual model of interactive integrated marketing communication in which they identify four elements being central to the model: (1) the two-way nature of the communication system, (2) the level of response control each party has in the communication process, (3) the personalization of the communication relationship, and (4) the use and involment of database technology. This model, along with the other previous ones, provide a solid base to synthesize the elements that are needed for executing personalized marketing, and the entire process of personalization.

2.4   Synthesizing the process of personalization

We propose that there are two types of variables in the personalization process – objects and operations, as shown in table 2 below. Operations describe what is done at the different stages of the process. Objects define the elements that are needed to perform the operations. An object can also be an end result of an operation.

Table 3: Variables in the marketing process with individual customer

Objects	Operations
Customer	Interactions
Customer data	Processing (Analyses, data mining, differentiation, segmentation, targeting)
Customer profile	Customization
Marketing output	Delivery

Figure 5 shows how these objects and operations are related with each other combining the process of personalization. The main difference with previous process views is that we see the personalization process being a continuous loop.
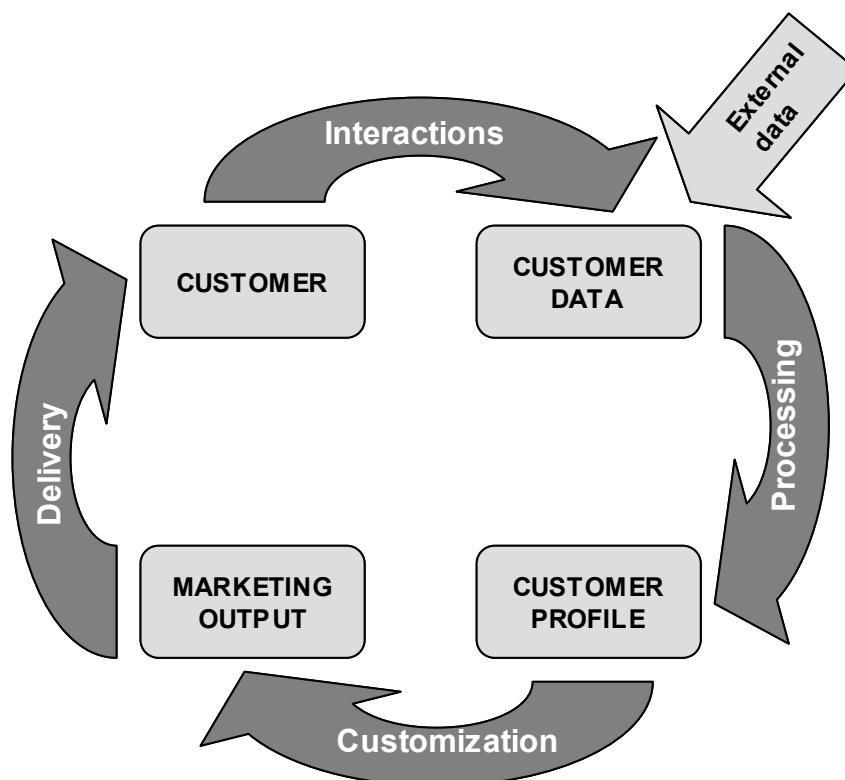
Figure 5: The process of personalization

The **customer** is the basis of personalized marketing. Differences in customer needs and preferences are drivers for customers to seek individualized products and services. This variance creates different customer segments.

Interactions provide data about customers. Interactions can be that customers fill in questionnaires about their preferences and/or demographics, or communicate these in some other way. Likewise, website behaviour and dialogues between the marketer and their customers, as well as purchasing events are interactions that provide data about customers.

Customer data is collected through interactions. It can also be obtained from external data. Customer data includes information about customers' buying history and democraphic and psychographic information about the customers. Web log files can include more detailed information about customers visits and routes in a web site.

Processing transforms data into customer profiles. This helps identify and differentiate customers to find out which segments he or she belongs to. Processing is needed when useable personalization attributes can not be found directly in the customer data. Processing deals with profiling and segmenting customers. New techniques, such as datamining, neural networks and fuzzy logic have given possibilities to do segmentation in a more sophisticated way.

The function of a **customer profile** is to differentiate customers by their preferences. The customer profile is used as the input for customization. **Customization** is the production of personalized marketing output.

Marketing output in digital channels can for example be a personalized web-page, email or SMS-message. Output can also be printed material, speech in automated telephone service, personalized price or a personalized product. **Delivery** describes how the personalized marketing output is delivered to the customer, or acquired by the customer.

The delivery causes reaction for customer and this reaction is **a new interaction**. The new interaction provides new data about customer and marketer can process more targeted profile and so on. Personalization process is hence a learning loop that progresses within each round.

Developments in information and communication technologies have opened possibilities to run the loop faster. Some our interviewees talked about real time or dynamic personalization. This is why personalization has been raised a hot topic again, while it is not a new invention but was known already in the 1870s (Ross, 1992), and discussed in segmenting and targeting in 1970s (Petrison et.al. 1997).

2.5   Relating the model to previous process models of personalization

We next relate our process model to the other models to illustrate what it adds to our knowledge. The web usage mining process presented by Pierrakos et.al. (2003) covers only certain areas of the entire personalization process, as shown in Figure 6 below. It starts from data collection and ends to personalized web content.
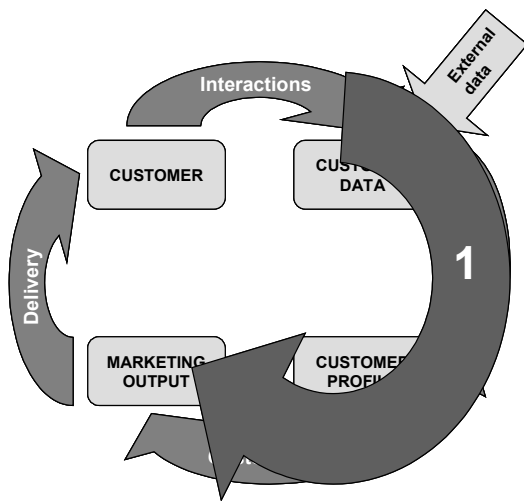
Figure 6: The web usage mining process by Pierrakos et.al. (2003) related to personalization process

Adomavicius et.al (2003) suggest that the process starts from customer data collection and building consumer profiles. Our model shows more accurately that customer data can come from three sources; (1) customer interactions, changes or opportunities in existing customer status, (2) from finding new potential from external data sources, or (3) matching this with internal customer data. Adomavicius et.al (2003) suggest that similar actions are made at different stages of the process, and that data would be analysed both in the phases of "Building consumer profile" and "Measuring personalization impact + adjusting personalization strategy".
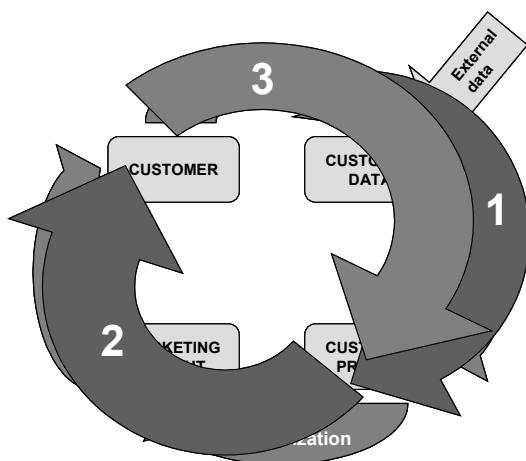

Figure 7: Personalization process by Adomavicius et.al (2003) related to personalization process presented in this paper

We also find model of Murthi and Sarkar (2003) suggesting that similar actions are made at different stages of the process, analyzing data both in phases of "learning about customers preferences" and "evaluation of the learning and matching processes".
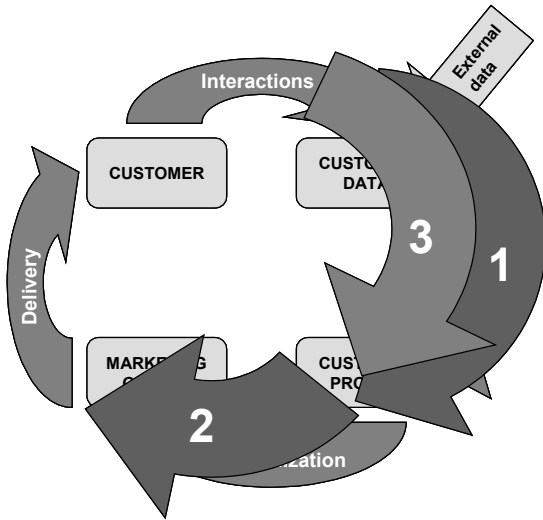

Figure 8: Personalization process by Murthi and Sarkar (2003) related to personalization process presented in this paper

We also believe that our model identifies the elements and sub processes needed for personalized marketing in a way and language that relates to how marketers perceive the management of personalization. Marketing and brand managers are used to operate with marketing outputs (for example campaigns, visual lay outs, copies) and they continuously makes channel choices for delivery.

3   Implications and applications of the model

Now that we have synthesized how personalized marketing can be planned and executed as a process, having identified the objects and operations that form it, the model can be used to identify what effective execution of personalized marketing requires, and what the possible pitfalls of not seeing or managing the entire process may be. If the objects and elements and the entire process are not recognized, personalization may seem a complicated effort and hard to execute. This may lead a marketer to avoid personalization, despite they may see the potential value of doing it.

As the operations and objects are handled separately in many organizations, there are several points that may cause the process not to run through or that may cause unwanted bottlenecks, as shown in figure 9 below. If only parts of the process are done, or some parts are executed inadequately, this will lead to low performance, be it a dissatisfied customer or

low ROI. Customer dissatisfaction may come from not meeting customers' expectations of using the information he or she has given or to which he or she has given permission to use. Weak ROI may occur if there are heavy investments into the resources to perform personalized marketing (information systems, software, databases, analysis tools, people, skills, etc.), but where these are not utilized to their full potential. A process analysis thus reveals integration challenges across the discontinuity points. The various discontinuity points are:

1 = data collection, asking direct marketing permissions

2 = database integration, list management

3 = data correctness, data updating

4 = segmentation success, profiling

5 = targeting

6 = creative solution, production

7 = channel preference

8 = differentation, timing, adoption of profiling

9 = interactivity (interactive marketing, direct response, IMC).
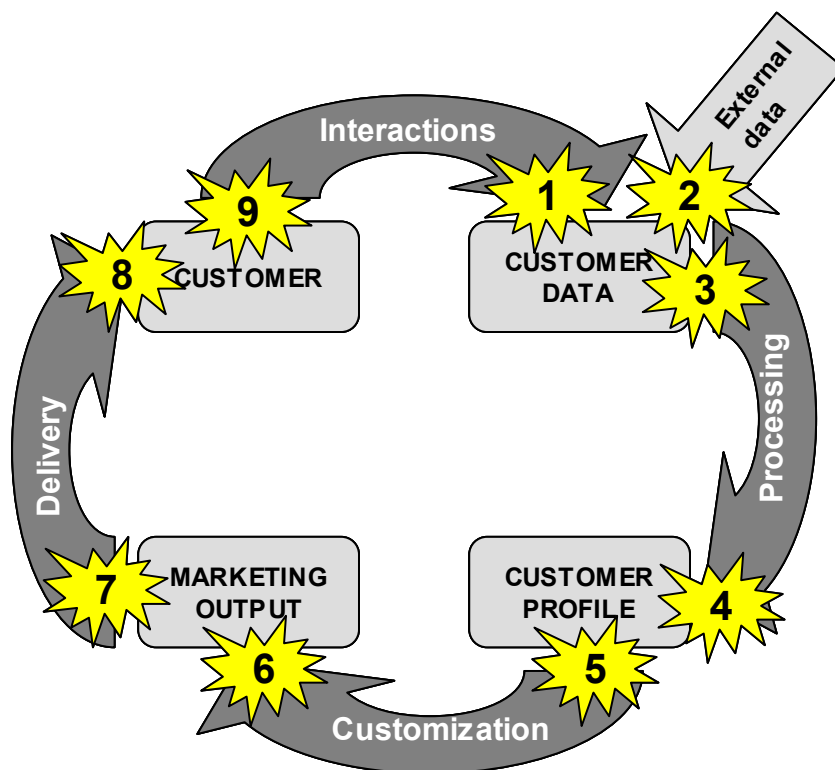

Figure 9: Discontinuity points in the personalization process

The model can also be used for analyzing structural allocations and organization of the execution of personalized marketing, that is, who are the actors that can most efficiently execute these operations. In effect, the model can be used for service analysis to identify what kind of services are available and how the services that help marketers execute personalized marketing will develop. A service analysis also suggest which elements of the process can be bought as services or outsourced. This kind of an analysis brings about a view on market based servicesand the use of them as opposed to just looking at company internal process.

Figure 10 identifies the various services that marketers can buy in from third party service providers. The following are typical services used today. Market research companies (A in Figure 10) collect data, buy it or sell it. They also process it and generate analyses of segments and customer profiles. Advertising agencies (B in Figure 10) plan and produce marketing materials based and targeted on segments. Production houses film TV spots and printing houses print brochures. Direct marketing service companies (C in Figure 10) print personalized letters from a database. They collect the direct marketing mailing, and the postal company carries it to the end customer. Call Centers (D in Figure 10) handle both inbound and outbound interactions with customers. This kind of an analysis shows how the marketing company could focus on managing its brand and the process and buy in other elements and execution of operations needed in the process.
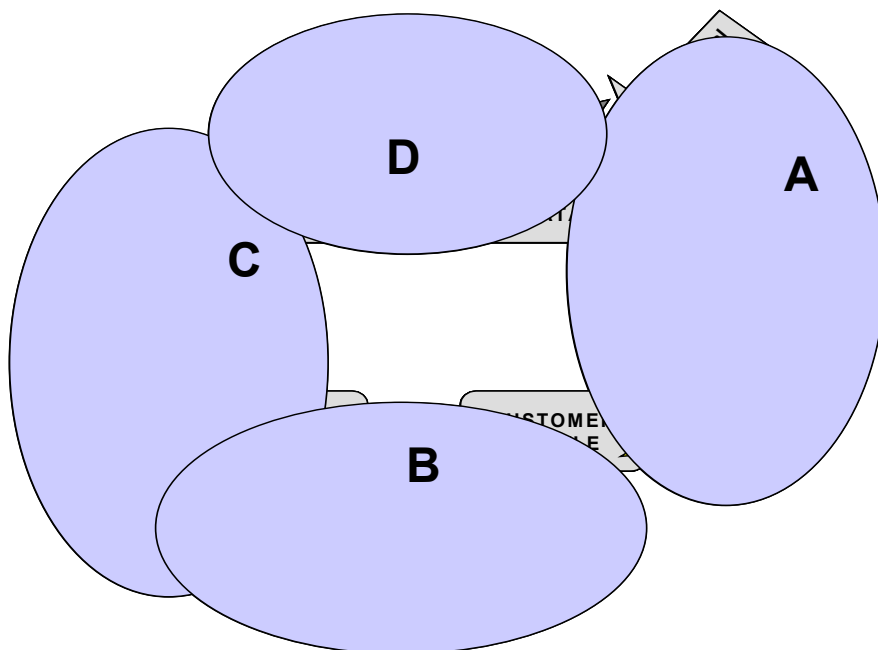

Figure 10: Functions that can be bought as services

4   A Case study of a firm executing personalized marketing

The case study reported here was done in conjunction with a mail order company. The company was chosen for two reasons. First, it is executing personalized marketing. Second, it has recognized development needs and wishes to find out how personalized marketing could be executed more effectively. The company gave for the study two process manuals, marketing process and business process. The business process manual included descriptions about multiple sub processes, the IT architecture and technical solutions. We also interviewed the owners of these processes in the company. The purpose of study was to find out:

1. can the process be found in a real operating company

2. does the process model help see what kind of planning and executional measures need to be taken, and

3. does it help identify discontinuity points and development needs for the company.

The company sells their products in two different ways; either through a negative-option sales or through catalogue sales. The products sold are distributed to the customers through mail. In the company there is a large number of different processes. Of all the processes we can identify 8 processes that form the entire personalization process:

- Introductory offer
- Negative-option offering
- Catalogue sales (positive-option offering)
- Margin groups
- Loyalty bonus product
- Bonus products
- Delivery process
- Return of product

Each of these processes are explained in more detail underneath.

Introductory offers

When a consumer becomes a customer he is offered certain products for a low price or for free.

Negative-option offering

The negative-option offering means that a product offer is each month sent to customers who then have the possibility to cancel the product if they wish not to receive it. If the offer is not cancelled the product is sent to the customer who then has the option to either pay for the product or to return it. The offers sent to customers are personalized based on the existing customer profile. The negative-option process is illustrated in figure 11. In this, customer data is first needed for the process to exist. The next step is to segment customers by analyzing previous purchases, zip codes, returns, or by some other factor, and store the segments in the customer profile. After the segmentation is done, a personalized negative-option offer is sent to the customer. When the customer has received the offer she or he can choose to either cancel the offer or not to react to the offer. If the customer cancels the product the process ends here. If, however, he does not react, the product is sent to the customer.
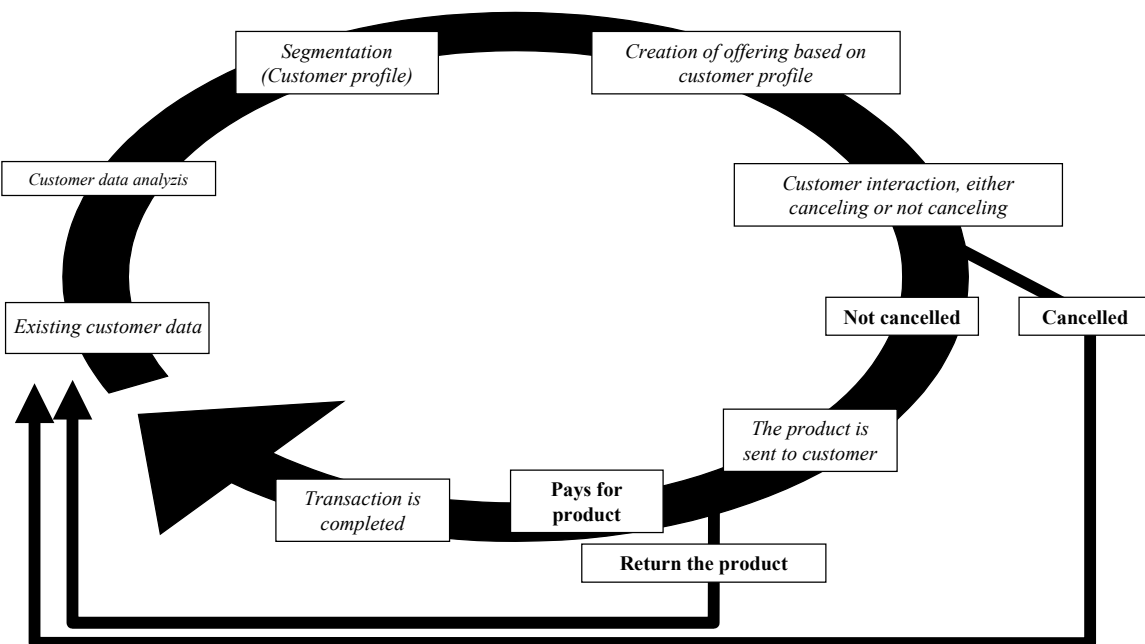
Figure 11: The Negative-option process

Catalogue sales

Catalogue sales is sales of products through positive-option offer. The customer can place the order through an automated telephone service, by phone to call centers, by mail, fax, E-mail, SMS, or through the Internet. The price of the good is not fixed, but it is dependent of the "price group" by which the customer is billed. There are in total 9 different "price groups", and the price groups range from normal priced goods, to a discounted price, to free

goods. In other words, the same product is distributed to different customers with a different price.

Margin calculation

A margin group is calculated to distinguish between valuable and less valuable customers with the main computer system. Based on customer data the system calculates one LTV and one 12 month value for customers. The customer base can be divided into segments based on the LTV and the short-term 12 month value. Customer LTV defines which customers are of high value. By comparing the LTV with the short-time value, possible trends for the last 12 months can be observed.

Loyalty products

Long-term customers are usually given special discounts on specific products. The calculation of customer age is automated and customers entitled to a loyalty bonus are grouped into a certain "pricegroup". The loyalty bonus discounts are divided into three different magnitude levels according to customer age.

Bonus products

The customer receives bonus-points whenever he/she buys a product for full price. These bonus points can in turn be used to get a discounted price for certain products. The price reduction for bonus products is not fixed, instead the customer can decide how many points he want to use for the offer.

Delivery process

When a customer places an order it is saved into the information system. If the customer has no mark on credit problems, the order is sent by mail either directly to the customer or to a mail office where it can be picked up. If the product is sent to a mail office the customer receives a notification either via mail or SMS when the product has arrived.

Return of product

After the product is sent to the customer he or she has the opportunity to decline it and send it back to the company.

4.1 Synthesizing company processes with the personalization process

After recognizing and describing the processes of the case company we matched the individual process into our process model to see whether such a general process exists and whether we could describe it in a more simplified way. Another aim was to see whether our

model could help see the points where the process may not work smoothly. Table 4 shows how the processes of the case marketing company could be seen from a personalization process point of view. Grey boxes indicate where a individual sub process starts. If it starts in the middle of the row, it goes first to the end of row and continues then from the beginning of row.

Table 4: The direct marketing company processes from a personalization point of view

Process name	Interactions	Customer data	Data mining	Customer profile	Customization	Marketing output	Delivery
Negative-option (1/2) -offer		Customer data	Analyzes based on (Channel, margingroups, purchase history, zip-code, bonuses, returns, sex, joining date)	Segments	Different offers to different segments	Personalized "Negative-option" offer	The offer is delivered through mail to the customer
Negative-option (2/2) -delivery	The customer can either cancel the offer or choose not to react (accepting offer)	Data entry					If not cancelled the product is sent to customer.
Catalogue sales / Positive option	Orders placed through; automated telephone-service, by phone to callcenter, by mail order, fax, E-mail or Internet	Data entry		9 different customergroups	Different offer to different customer groups	Changing offer	Mail
Segmentation		Customer data	Analyzes based on (Channel, margingroups, purchase history, zip-code, bonuses, returns, sex, joining date)	Segments			
Margingroups (scoring)		Customer data	Margin calculations	7 categories for LTV and 7 categories for 12 month value			
Age-bonus products		Customer data	Customer-age is calculated automatically			Changing price according to customer age	
Introductory offer	Becoming customer					Discount (Customer gets product for a cheaper price)	Mail
Bonus products		Customer data		bonukset		Customer can use bonus-points for getting cheaper products	
Delivery process		Customer data		Opportunity to receive delivery information also through SMS		If preferred, delivery information through SMS	Mail
Product return	Returning a product	Data entry					Mail
	The place the process beginns from						

The process analysis also shows how various information systems are used at various stages. There are discontinuity points in several sub processes. This is illustrated in Figure 12 so that when the grey shade changes, another system gets used and a discontinuity point exists (marked with number related with the model). The main IS is used largely as a database and the modules perform the analysis. The customization and marketing-output seems to be done manually with the support of the customer profile. At the moment personalization is largely done manually which can be considered expensive. As personalization is expensive, the segment sizes cannot be very small.

Process name	Interactions	Customer data	Data mining	Customer profile	Customization	Marketing output	Delivery
Negative-option (1/2) -offer		Customer data	Segmentation	Segments	Different offers to different segments	Personalized "Negative- option" offer	The offer is delivered through mail to the customer
Negative-option (2/2) -delivery	The customer can either cancel the offer or choose not to react (accepting offer)	Data entry					If not cancelled the product is sent to customer.
Catalogue sales / Positive option	Orders placed through; automated telephone-service, by phone to callcenter, by mail order, fax, E-mail or Internet	Data entry		9 different customergroups	Different offer to different customer groups	Changing offer	Mail
Segmentation		Customer data	Analyzes based on (Channel, margingroups, purchase history, zip-code, bonuses, returns, sex, joining date)	Segments			
Margingroups (scoring)		Customer data	margin calculations	LTV and 7 days / 12 month value			
Age-bonus procucts		Customer data	customer-age is calculated automatically			Changing price according to customer age	
Introductory offer	Becoming a customer					(Customer products special)	Mail
Bonus products		Customer data		bonukset		Customer can use bonus-points for getting cheaper products	
Delivery process		Customer data		Opportunity to receive delivery information also through SMS		If preferred, delivery information SMS	Mail
Product return	Returning a product	Data entry					Mail

	External actions	
	The main IS	
	Modules	
	Manual actions	

Figure 12: The information system of the direct marketer

As we can notice in figure 12 the information system of the company includes several discontinuity points. The company has also documented areas to improve. These are listed in table 5 where we have listed next to the company's own listing our interpretation of how they can be seen as discontinuity points in the process model.

Table 5: The problems of company related with the indications of personalization process model

Company defined problems / developments needs	Indication of the model
Improving communication between the systems / Improving systems integration	2 = database integration, list management 3 = data correctness, data updating 4 = segmentation success, profiling 5 = targeting 7 = channel preference
Decreasing duplication of work	the entire model
Improving datamining	4 = segmentation success, profiling
Improving datamining: • Get out customers' own declaration of their product preferences	4 = segmentation success, profiling + 1 = Data collection, asking direct marketing permissions
Improving datamining,: • Purchasing history	4 = segmentation success, profiling + 3 = data correctness, data timeliness and up-to-dateness
Improving datamining: • Demographics	4 = segmentation success, profiling + 1 = Data collection, asking direct marketing permissions + 2 = database integration, list management
Segmentation should be self-developing, more automation desired	4 = segmentation success, profiling + automated management of whole process
Handling of offers and benefits: • Differentiated offers to different customer groups	4 = segmentation success, profiling + 5 = targeting
Handling of offers and benefits: • Better texts in bills	6 = creative solution, production
Modernization of the user interface	9 = interactivity
Increased customer self-service and automatization of customer interaction	9 = interactivity

We find the case study supporting the presented model of the personalization process. The model can depict the operations that the case company executes. The model also indicates the problems and developments needs, which the case company also had identified themselves, but not at such a specific level as the model does. The model also indicates discontinuity points in the company's information system. All this supports our hypothesis

that the model of personalization process helps better see what kind of more refined planning and execution personalized marketing requires and identify the discontinuity points and pittfals.

5 Conclusions

There has been a lot of talk about the usefulness of personalized marketing. For many companies, however, executing it has been cumbersome and slow. This is largely due to personalization being executed as projects and individual small operations in many companies. Marketers may also have run across challenges of systems integration and organizational processes.

We suggest that a more detailed but at the same time a general picture is needed for understanding and managing the process that links the various objects and operations of personalized marketing. The objects of personalization are customer, customer data, customer profile and marketing output. The operations are interactions, processing, customization and delivery.

A process view helps identify which functions are needed and how to manage them as whole. When the elements of this process are linked together and there is a strategy driving personalization as a corporate endeavour, companies can better benefit from personalization.

A process analysis further identifies the key stumbling blocks that arise from ineffective integration of these phases. It also suggests which functions marketing companies can source from market based services to avoid heavy investments in the technologies and skills needed for effecting personalized marketing.

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