
Chapter 2 Literature Review

2.1 What is Personalization?

“Personalization” is an easily understood yet incredibly ambiguous term. It has been classified based on different perspectives from which it is viewed. The dominant domain of personalization research is on personalization technologies and their techniques, as will be presented in Section 2.4. King, Linden, MacMillan, and Sarner (2001) has classified personalization into three doctrines based on how customer information is gathered: explicitly, implicitly, or a combination of both. Kambil and Nunes (2001) say personalization is to use artificial intelligence to observe and analyze users’ demographic and behavioral data in order to make recommendations.

However, personalization should not be confined within the IT department because *design* for the overall personalization experience of customers is often more difficult and at the same time more important than personalization technologies. Consequently, the focus on personalization has gradually shifted from technology to strategy that demands the dedication of the company, especially the marketing department.

Berg, Janowski, and Sarner (2001) contend that personalization is a strategy designed to address tailoring customer interactions across all customer-facing departments such as sales, marketing, and customer service. Such tailoring strategy entails treating individual customers as market segments of one, hence Bernstein and Claps (1999) pointed out that the practice of one-to-one marketing has become synonymous with personalization.

The term personalization is also widely used in articles on CRM (customer

relationship management). Personalization is sometimes viewed as a logical component of CRM (Fruin, 2001), or as part of the *technologies* to achieve good CRM (Harney, 2002; Coner 2003). However, there are also people who see personalization as a *state* that is realized by good CRM practices (Schneider, 2001). CRM is essentially about better managing all aspects of a company's relationship with its customers. It often entails better knowing your customer as the first step, while the second step is to utilize that knowledge to more effectively target and serve your customers. Regardless of the various definitions on the relationship between CRM and personalization, their common theme is to intimately know your customers and serve them effectively by better targeting their individual characteristics and needs.

It is evident that personalization entails tailoring interactions with customers to their individual characteristics and preferences. However, what extent of the tailoring would constitute personalization? If customers receiving the products that meet their *unique* needs signify personalization, then would selling shoes of different sizes to different customers constitute personalization? If varying one variable, i.e. shoe size, is too little to represent personalization, then does that mean when more variables, e.g. size, color, style, material and so on, are involved, it is personalization? If so, how many variables does it take to represent *true* personalization? The answer would undoubtedly be arbitrary. Therefore, personalization cannot be defined in terms of the degree to which services or products are differentiated for each customer.

When every customer receives the exactly same services or products, it is standardization. It seems plausible to believe that standardization is the opposite of personalization, as customers often receive distinct services or products under personalization. Nonetheless, we cannot define personalization as the opposite of standardization. If we do, we would fall into endless debate of what *degree of non-standardization* constitute personalization.



Figure 1: The continuum from standardization to personalization.

We *could* argue that personalization occurs when *every* feature of the services/products is different for *every* customer to pamper everyone's unique needs. While this argument is rhetorically defensible, it is rarely economically feasible. Few, if any, current practices of personalization achieve this ultimate state. Further, as shown in Figure 1, it is meaningless to arbitrarily divide the continuum from standardization to personalization.

In short, we cannot define personalization as the opposite of standardization, and the standardization-personalization continuum illustrated above is misleading. We could only give personalization a more general definition: serving *individual* customer's *unique* needs. As Coner (2003) said, "personalization enables a business to match the right product or service to the right customer, for the right price, at the right time. This gives each customer a unique experience." Note that although the emphasis is on "individual" and "unique", it is up to the company to decide how finely they want to segment their markets.

Also, serving customers' needs involves not just the *purchased* products or services. It includes everything the customer experiences from the moment he comes into contact with the company – from first being attracted by company's advertisement to how he is treated during the initial product inquiry stage, to the last maintenance and even disposal stage. As such, serving customers' needs in personalization involves designing for an entire *customer experience*. By that account,

even the attitude of the customer service representatives contributes to serving customers' needs, which can be emotional or material. When one customer is willing to pay extra to be treated like royal in every interaction with the company, another customer might care about only price and the quality of the purchased product. This customer is relatively unconcerned about whether he is treated like a VIP, which is an emotional need. It is more reasonable to say that the opposite of standardization is differentiation, and that personalization often leads to some form of differentiation. In other words, differentiated services and products are the likely outcome of personalization but differentiation is not personalization itself.

2.2 Personalization versus Customization

Personalization and customization share the same goal, that is, to tailor to customers/users' needs. As such, there has been confusion over what distinguishes these two terms apart. While some people use these terms interchangeably, others make clear that they are different. Some said that customization has an element of active user involvement where a user actively influences the result of customization. This could be done when users ask for a specific output. On the other hand, personalization does not necessitate active user involvement and, thus, is often done by behind-the-scene systems (Kambil and Nunes, 2001; SIGIA-L, 2000). Allen (2003) argues that customization is merely requesting something different from the standard offering, whereas personalization is like an interactive conversation with another person. According to Allen, "the real benefit of personalization occurs when an individual has an "aha!" experience that occurs when the content adapts itself based on the person's profile, and provides something new, different, and possibly

unexpected.” For the users to experience the unexpected, he reasons, a behind-the-scene personalization engine is necessary to provide a *personal conversation* between the user and the system. The idea of exceeding customer expectation to produce the “aha!” is echoed by Landolt (2002), who defines personalization as anticipating and serving customers’ needs even before they realize they have such needs.

Of the people who differentiate customization and personalization, there is a general consensus that could be derived: customization is tailoring to customers/users’ needs *based on customers/users’ requests*. When you go to a restaurant, you may want your soup to be less salty and spicier. The waiter takes your order and later delivers a *customized* dish based on your request. On the other hand, personalization is to *anticipate or predict customers/users’ needs* based on what personalization provider already knows about the customers/users. Suppose every Friday at noon you walk into Mickey’s Café and order from the waitress Kate a clubhouse sandwich and an ice tea for lunch. As Kate grows to know your preferences and routine, when you walk into Mickey’s Café again at Friday noon, Kate would ask you, “clubhouse sandwich and an ice tea, sir?” And all you have to do is nod. That is personalization. The caterer serves your needs without you asking. In a nutshell, while customization requires active user involvement, personalization is performed automatically as if a user is interacting with an intelligent human being who not only serves you but also, like a psychic, knows more about your needs than yourself.

Although sometimes “customization” and “personalization” are used interchangeably, no one has formally stated that the two terms mean exactly the same. This paper will distinguish the two concepts by active or passive user involvement.

2.2.1 Personalization and Customization Complement Each Other

Personalization and customization complement each other and are often inseparable. Many websites use both personalization and customization to serve users' needs. A typical example is as follows: a new user logs onto the website and makes several selections to customize the site as he desires. These choices he makes are saved as the first batch of information in his individual profile. Information in his profile accumulates gradually every time he logs on using his ID. As the analytical engine behind the website observes and learns enough about the user, personalization can be applied by predicting his needs and offering products and services that he most likely needs. However, no predictive mechanism could be 100% accurate every time; furthermore, people's preferences and interests do change over time. This is where customization capability is crucial. Customization capability allows a user to correct unsuitable personalization features by rejecting further similar actions or by modifying parts of the current personalization tactics.

Much of the frustration and annoyance personalization tactics impose on users arise from inappropriately personalized items. For instance, purchasing history is often used to decide which products to promote to a customer on an e-commerce site. However, some purchases are gifts or happen only once in a lifetime, which implies a one-time purchase would incur numerous similar promotions that are remotely relevant to your current needs. Inappropriately personalized suggestions are not just ignored; they are an annoyance to customers. Customization capability that allows users to reject further related promotions improves customer satisfaction, and further helps the company learn more about its customers.

When creating a customer profile, there are two methods of data collection: explicit and implicit (Linden, 2002). Explicit data collection is done by explicitly ask

the user to enter his or her information, such as filling a personal information form or specifications for the product he or she desires. Implicit data collection, such as tracking user's web browsing behavior, works behind the scene without direct user involvements. Based on the definitions of personalization and customization used in this paper, customization involves mainly explicit data gathering, whereas personalization would use the results from both explicit and implicit data gatherings.

Figure 2 illustrates how personalization and customization collaborate in producing recommendations that target a particular customer's needs. It may start with a new customer adding his personal information into the company's customer database, which is represented by "Customer Profile". "Customer Profile" usually contains demographic information but may also store customer preferences and behavioral data that accumulate from past dealings with the customer. Customer information may also be purchased from external information sources such as census organizations. The personalization engine first categorizes the customer into appropriate customer segment based on his profile. The resulting information is then matched with suitable company offerings to produce recommendations for this customer. The outcome of the recommendation either succeeds, which results in a purchase, or fails. The observation function records and analyzes customer's reaction and adds that knowledge to "Customer Profile". When a customer receives a recommendation, he might first show an interest but later abandons the purchase; or he might not immediately react to the recommendation but rather wait a while to buy when the need arises, all this information should be noted by the observation function. In addition to observing customer's reaction to recommendations, the observation function is also responsible for monitoring other customer behaviors, such as click stream and web usage of online customers. Upon recommendation failure such as one that is remotely relevant to the customer's interests, customer should be able to reject

further related recommendations. Or when the recommendation only partially meets the customer's needs, he should also be given a channel to voice his situation. The "Customization" capability is responsible for taking in direct customer input, then using that information to rectify the customer's profile in order to improve the precision of future recommendations. The goal of the personalization-customization cycle is to know more about customers and provide them offerings that would get purchased. It can be considered as a learning model in which company learns more about customers by observing their behavior and listening to direct customer comments.

It also makes sense for personalization to encompass the knowledge bodies "Customer Profile" and "Company Offerings" because personalization will not work without the back-end support that feeds information into the matching capability. However, the main purpose here is to distinguish customization and personalization based on the *functions* they serve; therefore, supporting resources are not encircled with the personalization functions.

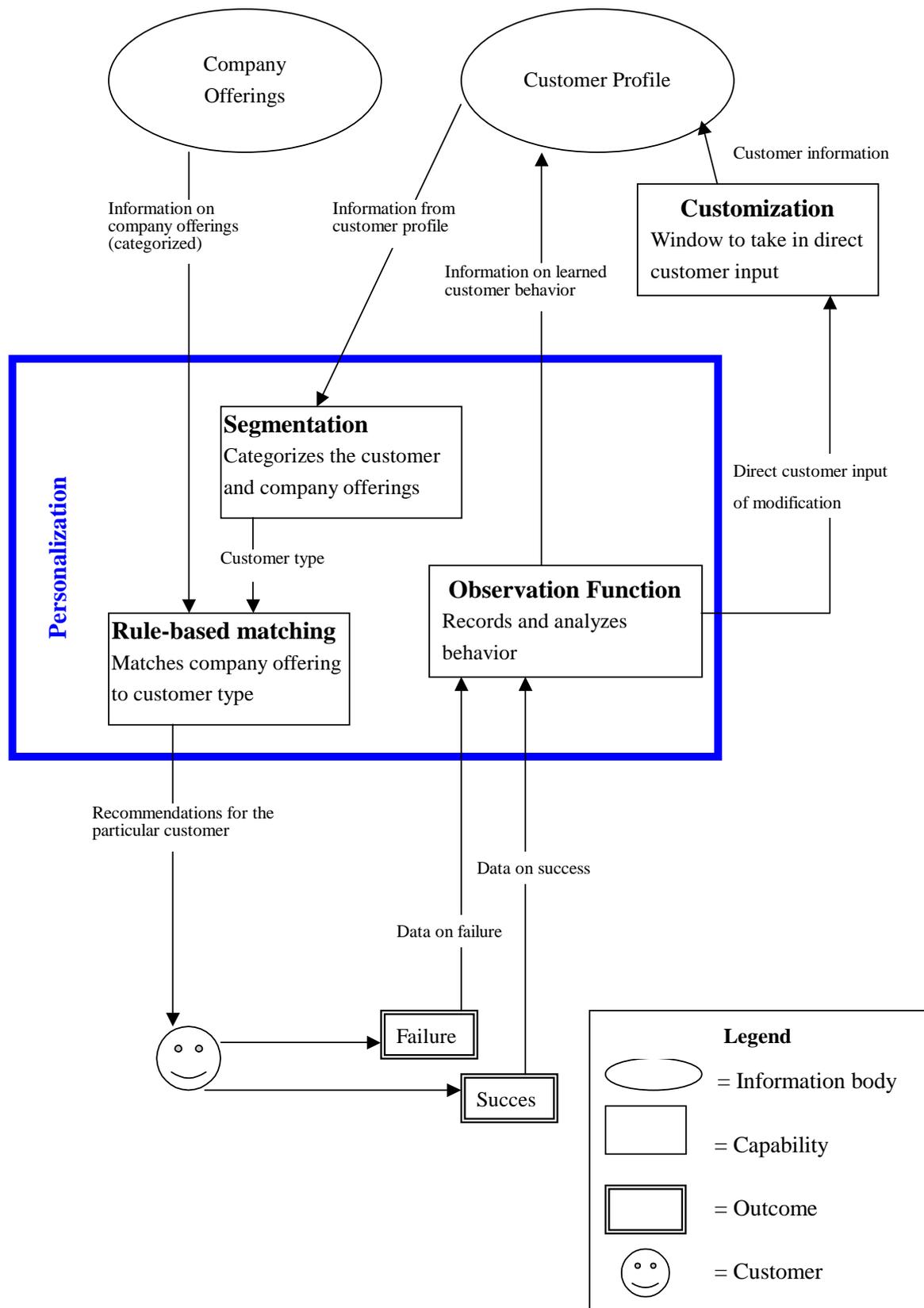


Figure 2: Conceptual diagram of how personalization works and the interdependency between personalization and customization.

2.3 Possible Applications of Personalization

A business can apply personalization in five areas: product, service, price, offer, and content (Berg, et al., 2001 & Janowski and Sarner, 2001). Product personalization is parallel to the concept of mass customization, in which each product is manufactured based on individual customer's requests. However, it is the stance of this research that personalization has a winning edge against simple mass customization. To customize a product is to manufacture based on customer's requests. However, while customers can certainly tell you what they prefer within a range of choices, they do not know what *else* is feasible beyond the plate of choices they are given. But companies do. Companies have a better knowledge of product manufacturability given the current constraints and limitations. With personalization, companies know not only what product specifications come with the order, but also what else might the customer want but is currently not offered to the customer.

Berg, et al. (2001) defined service personalization as "the front line for real-time customer interactions." They pointed out that call center is critical for personalized interactions. As much of today's customer services become automated, it loses the personal touch. Customers are sometimes forced to go through seemingly endless call transfers and telephone-button-pushing before they are finally placed on call waiting for a service representative who might solve their problems. When customers do not even get to talk to a human representative, they have to talk to a computer system and experience the stressful communication gap between humans and machines. It would certainly be much faster and more convenient for the customers to dial a number and immediately talk to a human service representative who can solve the problem immediately. But it would also certainly be much more

costly for companies. Personalization technologies today may help ease customers' stressful experience and, at the time, reduce the costs of personalizing customer interactions. One of the keys to cost reduction is automation where labor is expensive. Customers still reach a computer when requiring services, but the computer now is smarter. As to be discussed in the following section, computer systems that attempt to resemble human intelligence are capable of providing a personalized experience. Also, personalization engines can help service staff to serve customers better and faster. It is done by automatically pooling relevant information and providing it to the staff who is helping a customer. This way, service staff can quickly have a holistic view of the customer and other information to solve customer's problems quickly or to create a sales opportunity.

Content personalization is much touted in recent years. The main channel is the Internet. It is done by dynamically changing web content to fit preferences derived from information in individual viewer's profile. Two types of content personalization are emerging. One is personalization of web pages that gives users the ability to use GUI (graphical user interface) editor to change web pages as they see fit. Another is the marketing of products and services based on information held about an individual (Riecken, Wells, Wolfers, 2000). Content personalization may be manually set up by viewers, automated by web administrators, or achieved through a combination of both (Berg, et al. 2001). Content personalization is often supported by recommendation engines, as will be illustrated in the following section.

Offer and price personalization is heavily marketing-oriented. Offer personalization entails matching customers with sales and marketing offers that most likely meet customers' needs and capability. Price personalization involves applying multiple pricing strategies to different customer segments.

2.4 Technologies Used to Apply Personalization

When applying personalization, there is no better means than an experienced human staff who is not only knowledgeable of both the clients' needs and company's offerings and capabilities, but is also enthusiastic in providing a personalized customer experience. To understand why such a staff is the ideal means, we could decompose the components that make him/her the best means of applying personalization services. He/She is:

- *Knowledgeable of clients' needs*: the ultimate goal of personalization is to serve clients' needs in the most effective and efficient manner. To do so, the prerequisite is to know your clients and their needs intimately.

- *Knowledgeable of company's offerings and capabilities*: the staff needs to be familiar with what is currently offered by the company in order to appropriately match offerings (e.g. products, services, prices, marketing programs) to a customer's needs. Even if there are currently no matching offerings to a particular need, he/she, who is conversant in the company's capabilities, i.e. knowing what would be feasible even if it is presently non-existent, could design the needed offering to meet future requests.

- *Experienced in the personalization tasks*: as personalization is about matching the right offerings to the right customers, experience in the matching process is important. Having knowledge of only clients' needs and company's offering and capabilities is insufficient because you also need to know that offering X is right for

need Z. Such matching knowledge is a complex amalgamation of your intuition, business sense and professional experience. But most importantly, it is built as you gain more experience in the matching process of personalization.

- *Enthusiastic in providing a personalized customer experience*: it is often easier to follow routine and provide the standard package to every customer regardless of his/her individual needs. To provide personalized customer experience, staffs need to go that intangible extra mile to add the personal touch for different customers. Consequently, there must exist an incentive to motivate staff to put more effort into the tasks of personalization.

Evidently, human staffs who fit the description of all of the above four qualities are rare. Fortunately, today's information technology can help filling the voids.

2.4.1 How Can IT Help?

The first two qualities, intimately knowing all your customers' needs and company's offerings and capabilities, require the ability to probe customer information and to know yourself well. After you've done that, you still need a good memory. Perhaps it is not too difficult when the information load is low (e.g. having few customers and different offerings), but as customers and offerings increase, there comes a point when a human brain is insufficient. Imagine the boss of a small corner store. He is the sole employee of his business and, therefore, is responsible for all business operations, from procurement to customer interaction. The store serves a small population that live in the close-by neighborhood. Knowing one's preferences is

not a particularly difficult task – when the business size is small. The boss knows his customers, most of whom are frequent buyers who have formed a fraternal relationship with him. From years of friendship, the boss knows his customers’ personality, background, family history, and most importantly, their preferences and needs. His knowledge about his customers helps him to make better business decisions. However, when his business expands and customer base increases, he cannot be conversant in all of his thousands, or even just hundreds, of customers. This is the situation with many big corporations; they simply have too many customers to listen to, let alone catering to individuals’ unique needs. Information technologies readily compensate human’s limitations in speed and capacity. Not only does it have accurate and enormous memory, analytical technologies can allow humans to see information in oceans of raw data.

Recommendation Engines

Recommendation engine, a commonly used technology that analyzes individual customer’s characteristics to make personalized recommendations, can be found in various channels, such as e-commerce websites, mobile devices, and call centers. Its core function is to match a particular customer to the most appropriate company offer. There are many matching techniques, for example:

- Manual decision rule: Matching rules are manually specified by administrator. It allows administrator to incorporate business rules in the rule set that affects recommendation results.
- Collaborative filtering: It deploys “look-alike” matching rules to generate recommendations to different users who seem to share similar

preferences. Suppose Peter buys book X online and the recommendation engine has records showing that many people who buy book X also buy book Y. Then book Y will be recommended to Peter as well. A branch of this collaborative filtering is content-based filtering, which is a popular tool in creating web content that changes dynamically according to viewer behaviors.

- Statistical derivation: Pools of customer data are fed into statistical analysis engine to yield trends and behavioral patterns that are used to predict customer preferences.
- State-based: The matching engine uses the current information in customer profile to determine what recommendations are most suitable. This technique can be found on e-commerce websites that guide customers through the decision-making process of a purchase.

All the above techniques (Berg et al. 2001; Cooley, Mobasher, and Srivastava, 2000) have to refer to some rules when performing the matching. What distinguishes them apart is how the rules are created or derived. Thus it is reasonable to enlist all matching techniques under the term “rule-based matching”. As shown, the matching rules can be manually specified, derived from analysis, or created using both methods.

A prerequisite of the matching is to segment customers into groups based on relevant characteristics. For example, income is an important segmentation variable for financial services, but it may not be as important for an online bookstore. Likewise, reading preference is an important segmentation variable for an online bookstore, but not for financial services. Customers are segmented into clusters of many or even just one person, and then a collection of recommendations can be designed for a specific

segment with its own unique characteristics.

The personalization conceptual diagram in Figure 2 includes the observation function as part of personalization. It is with constant observation that company can learn more about their customers. Also, information learned by the observation engine is more objective than information inputted by customers. It is because an observation engine records and analyzes every customer the same way, whereas information that comes directly from customers has been tainted by human perception or sometimes deception.

Many recommendation engines act like an expert system that guides the user through the decision process of a purchase. Reflect.com's recommendation engine guides customers through the processing of picking the most suitable cosmetics based on her individual characteristics and needs, like skin type and occasion of intended use (Levison, 2002). Ediet, an online weight loss center, personalizes for each member his/her weekly fitness and meal plans according to his/her eating habits, dietary preferences, medical conditions, and emotional and weight loss needs (Levison, 2002). While the above two examples illustrate personalization in e-commerce sites, personalization is certainly not limited to the Internet. Used by Bell Canada's customer service staff, recommendation engine helps them better serve and retain their customers. The technology combines personalization features with real time analytics on customer "psychodemographic" information. For example, it provides the staff with not only customer profile and history, but also whether the customer is at high risk of switching to a competitor. Then the staff receives a tailored list of suggested alternative products and services from the recommendation engine (Colkin, 2001).

CRM Technology

Personalization is often found alongside customer relationship management (CRM). The potential of CRM lies in its ability to help companies increase their profits by identifying profitable customers and tailoring company offers to customers' needs, willingness to pay, and profitability. A successfully implemented CRM enables the company to know its customers intimately and, thus, target their needs more effectively. A successful CRM implementation helps not only the company, customers also benefit from products and services that better address their preferences. Armed with knowledge about their customers, companies would not waste resources on futile strategies whose only effect is to annoy customers. Although not every CRM initiative involves using a recommendation engine for personalization, such initiatives could be considered to include personalization capabilities as long as they involve some form of customer experience tailoring.

The terms “customer relationship” in CRM implies building a profitable and on-going relationship with the customers. When one intends to build a relationship with another person, he or she must get to know that person – not just one aspect of the person but the “whole” person. Likewise, when a company intends to realize the potential of CRM, it is mandatory to know the customers intimately. Therefore, analysts suggest that the first step in any CRM initiatives is to build a good customer database that provides an integrated and holistic view of customers (Clarke, 2001). Incidentally, personalization also requires a good customer database and the business intelligence on customers. As a result, personalization and CRM make a great team in turning a company into a customer-centric organization.

SAS (2000) divides CRM technologies into the operational and analytical

components. The operational component takes care of the daily business operation and interaction with customers. It commonly includes:

- Call centers
- Customer service
- Campaign management
- Sales force automation
- E-commerce web

The analytical component takes in data generated from daily business operation and turns data into useful business information, such as which segment of customers is the most profitable. Commonly found functions in analytical CRM are:

- Call behavior analysis
- Monitoring
- Quality of service analysis
- Behavioral analysis
- Web analysis
- Sales analysis
- Needs analysis
- Risk analysis
- Campaign analysis
- Profitability analysis
- Segmentation and profiling
- Customer valuation

Brown (2000) has categorized CRM into four types. The first one is win back or save. Its purpose is to persuade customers who have defected to rejoin, or to convince those who are considering leaving the company to stay. The second type is prospecting. The goal of which is to attract new customers. Companies need to first develop an accurate understanding of the potential market before they can segment the market and target potential customers' needs with matching offers. A frequently touted strength of CRM is its ability to reinforce customer loyalty, which is the third type of CRM. Research (Famulla, 1999) showed that it costs about five times more to acquire a new client than it does to retain an existing one. Also, "among established clients, service-related issues account for nearly 70% of defections in some areas" (Famulla 1999, p.98). By improving service quality with CRM, companies may enhance customer loyalty. The final type is cross-sell/up-sell. It aims to increase the wallet share the company has with each customer. A savings-account customer may also become a mutual-fund customer when the bank cross sells other investment offers to the customer. Whereas cross-sell focuses on complementary products, up-sell occurs when existing customers pay more for an upgrade.

Two essential ideas in CRM are selectivity and segmentation. Selectivity means that company retains and attracts only profitable customers, minimizing waste of scarce corporate resources on unprofitable customers. This requires that company analyze the profitability of every existing or potential customer. For unprofitable customers, the company either devises a way to convert them into profitable ones or tactfully end further business dealings with them. Segmentation has two goals. One is to segment profitable customers based on their profitability in order to ascertain how much profit they are contributing to the company. The result of a profitability analysis is used to determine how much resources are allocated to serve customers of different profit segments. Another goal of segmentation is to personalize products or services

to customers' individual characteristics. As to be discussed later, there are several popular segmentation schemes that provide companies with a multifaceted view of customers.

2.5 Design for Personalization

There are many personalization technologies available in the marketplace. However, no matter how efficient these tools are, the effectiveness of a tool is determined by how it is put to use. Personalization tools can carry out what companies wish to deliver, but in the end, it is up to the human designers to determine what personalization features to offer. It is often a process full of ambiguity and debate, as customer needs is not a math equation that results in one single answer for everyone every time. Two different designers looking at the same customer profiles would likely predict different needs for the same customers. It is because customer profiles contain facts. Designers must interpret the facts to come up with possible customer needs, and interpretations are subject to human bias. Two different designers will not see exactly the same information from the same set of data because they have different background and personality. The different customer needs they conjuncture will lead to different personalization feature designs and the debate on how best to combine the initial designs to form the final version. Using goal decomposition graphs when predicting customer needs and deciding what personalization features to offer would help make the designing process more clear-cut.

2.5.1 Technique to Assist Personalization Design – Goal Decomposition Graphs

In designing personalization features, goal decomposition graphs (Kramer, Noronha, and Vergo, 2000) may help designers to better understand what personalization features will truly create real values for their customers.

The first step in creating goal decomposition graphs is goal and task analysis (Figure 3). The analysis helps designers learn what motivates the customers (trigger), what desire (goal) may arise from the trigger, and finally, what actions (tasks) might the customers take in order to accomplish the goal.



Figure 3: Goal and task analysis.

It is important to know that a given trigger can spark different goals for different customers (Figure 4); conversely, a given goal might need to be induced by different triggers for different customers (Figure 5). Also, different people use different methods (tasks) to achieve the same goal (Figure 6).

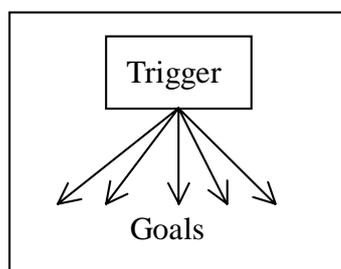


Figure 4

One trigger sparks different goals

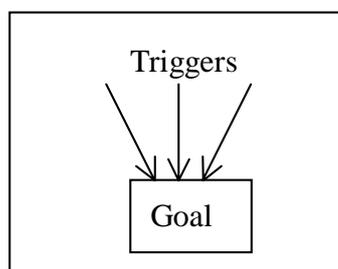


Figure 5

Different triggers spark same goal

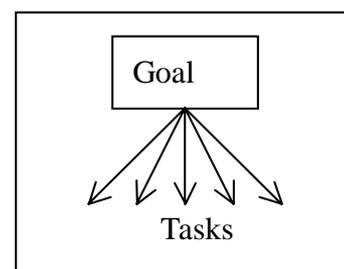


Figure 6

Different methods to achieve the same goal

Finally, goal decomposition graphs can be created by first consolidating triggers, goals, and tasks; and then identifying sub-goals that exist between the ultimate goal and tasks. Figure 7 illustrates a goal decomposition graph from a one-goal perspective. Note that sub-goal layers can be as many as required, although only one layer is shown.

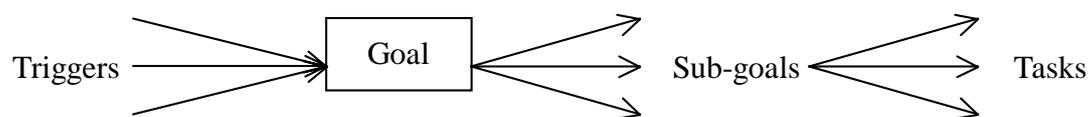


Figure 7: Goal decomposition graph from a one-goal perspective.

When we also consider that a given trigger can spark different goals for different customers, the graph may look like Figure 8.

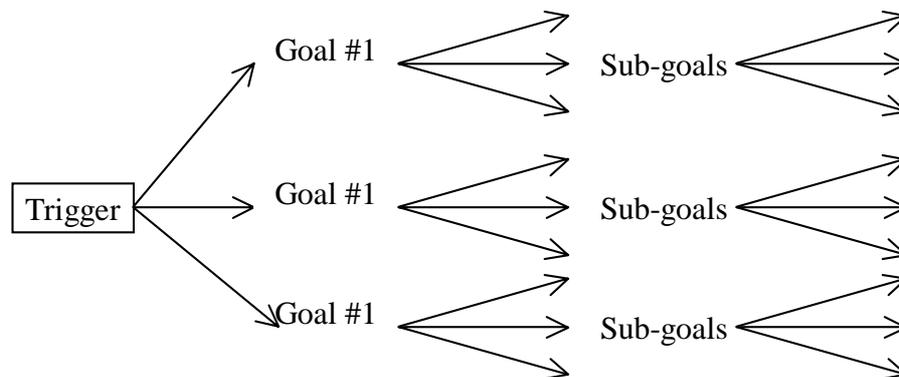


Figure 8: Goal decomposition graph from a one-trigger perspective.

To be more realistic, we should combine the one-goal and one-trigger perspectives, but it would also be much more complex. Complexity is sometimes unavoidable in real life cases, but the designer should decide on a balance between necessary details

and degree of sophistication. A sophistication level that goes beyond what a human can comprehend is certainly meaningless. The goal decomposition graphs help designers detail out each stage during a customer's purchasing process. It also helps designers recognize that different customers do things differently and, thus, require different personalization features. Ultimately, goal decomposition graph is to help human designers to identify the needs of customers.

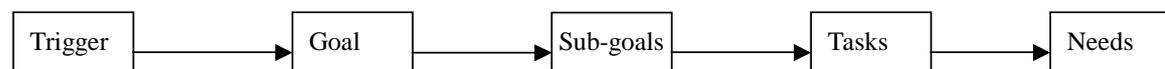


Figure 9: Deriving customer needs from goal decomposition graph.

2.5.2 Customer Segmentation in the Financial Industry

An essential element in personalization design is customer segmentation because it is the basis on which customers receive distinct products, services, or treatment. As financial services will be the target industry in this research, we first examine how the financial industry is doing its customer segmentation. The financial industry has a long genealogy of customer segmentation models: (ABA Bank Marketing, 2002; Famulla, 1999; Trotsky, 1999)

- ◆ Products / Services segmentation
- ◆ Customer profitability segmentation
- ◆ Need-based segmentation
- ◆ Demographic (e.g. income, total assets) segmentation
- ◆ Life-stage segmentation
- ◆ Communities of interest segmentation
- ◆ Attitudinal segmentation
- ◆ Behavioral segmentation

A survey conducted by Ernst & Young on 125 banking institutions based on more than 20 countries offers a glimpse on how banking industry is deploying their segmentation strategy. (Stoneman, 1999)

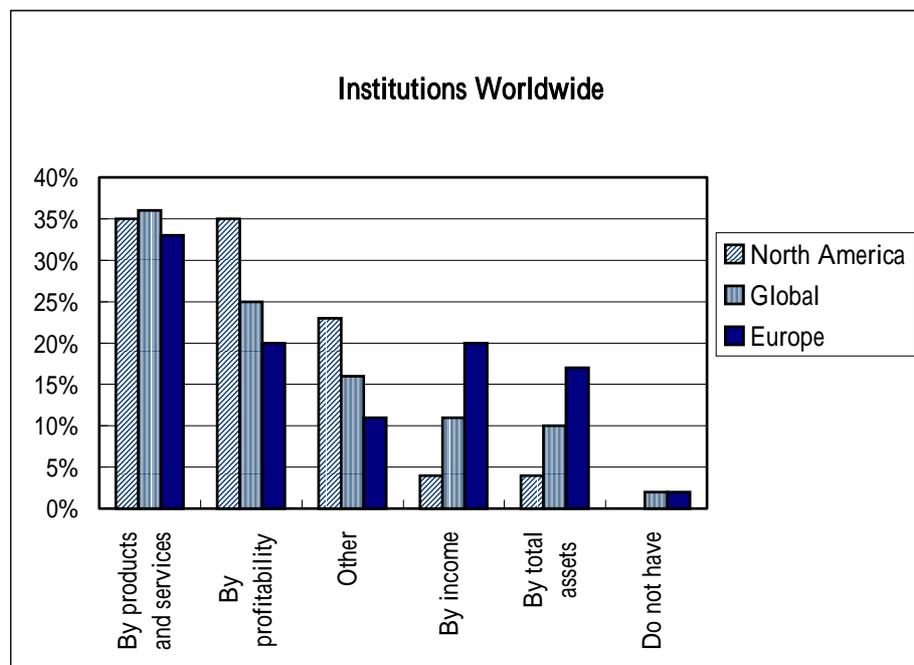


Figure 10: Top criteria for customer segmentation at major financial institutions worldwide.

Profitability Segmentation – Holy Grail or a Misused Tool?

Profitability segmentation theory emerged in the 1990s and was soon hailed as the Holy Grail of the banking industry. High-value clients are pampered while low-value clients are either moved to lower-cost channels of the bank or to its competitors. While some banks rejoice in their retention of profitable clients and removal of negative-value clients, i.e. those who hold low balance and require much of the expensive teller assistance, Stoneman (1999) has identified limitations of profitability segmentation:

1. Description, not prescription

The profitability analysis shows a “profitability skew” – 20% clients contribute most profits. Instincts lead us to the philosophy of coddling your best customer, serving your average customers, and getting ride of your negative-value customers (better yet, encourage them to your competitors). Though this understanding is useful, profitability segmentation itself does not provide any guidance on the “*how*”. It shows you the status quo but does not give you a solution.

2. Remedies for the unprofitable segment can backfire

Customers often react to policy change in unexpected manners that throw off original projections. First Chicago Corp. imposed a teller transaction fee on some of its customers in 1995 in an attempt to raise the profitability of its unprofitable segments. The result was an exodus of a third of its 210,000 checking accounts after re-pricing. Learning from other’s experience, banks like Centura Banks try to show carrots instead of stick: “By arranging for direct payroll deposit and avoiding using a teller in a given month, the customer reduces the monthly account fee from \$8 to \$1.”

3. Categorizing a shooting star along with stars

There are various reasons why a particular customer is profitable. In the same “high-value” segment, there are customers ranged from large borrowers to those who repeatedly overdraw their accounts and rack up heaps of penalty fees. Obviously, there is no segment driven strategy applicable to both extreme cases.

4. The paradox of retaining high-value customers

Pampering high-value customers is usually carried out in a form of increased service level and special discounts. Thus, the attempt to coddle your best customers will in fact incur more costs, making them less profitable. Furthermore, sometimes the increased “pampering” could cause more annoyance than satisfaction.

5. Banks’ cost structure is high in fixed costs

When only variable costs are subtracted from a customer’s revenue, almost every customer is above break even. However, when fixed costs are spread over the customer base, the profitability skew phenomenon appears. Thus, when low-value customers migrate to competitors, the fixed costs remains unchanged but are now spread over a smaller customer base, eating away the profit contribution of the originally profitable customers. However, it is the stance of this research that if financial service firms take fixed costs into account and do not simply use average cost to determine customer profitability, this problem would be nonexistent.

Aside from the problems discussed above, profitability segmentation cannot salvage traditional banks from one major threat – the mass migration of customer base from insured deposits to uninsured investments that pay more interests. Such substitution threat is not one that can be overcome with the “pampering” strategy. Several analysts have suggested that banks now have no choice but to enter the brokerage and mutual funds markets.

When people realized that the once-widely-hailed segmentation scheme failed to meet their expectations, an heir was born – segmentation based on customer

needs. Profitability segmentation has, nonetheless, remained one of the most popular segmentation schemes, because it makes business sense. The difference now is that companies have realized that profitability segmentation alone does not solve all the problems. It is simply a useful tool that needs to be used in conjunction with other instruments. In fact, analysts have suggested that a combination of profitability and need-based segmentation strategies, complemented by other minor segmentation schemes when appropriate, will make the segmentation picture whole (Ciolli and Giltner, 1999). In any case, what sets success and failure apart is the *mind* that employs the tool, not the tool itself.

What Is So Hard About Segmentation?

Despite the countless segmentation methods, many of which were hailed as the Holy Grail as they first emerged, none has a solid record of successful proofs. While analysts and researchers blame flawed models, Klinkerman (2001) pointed out that the biggest challenge is implementation, rather than devising a model to serve as the silver bullet. Every model has its own merits and most of which are logical and appeal to human intuition. But things are always easier said than done. Needs-based segmentation proposes that financial institutions should first ascertain customer needs, segment customers by their needs and willingness to pay, then devise a service delivery method that satisfy the needs *profitably*. This hybrid model of needs and profitability analysis is certainly sound, but bank managers should not celebrate yet. Klinkerman (2001) warned that conceptualization is not the end of the segmentation exercise, but rather the beginning. Whenever a new model surfaces, managers learn what needs to be done but not *how*. They are left to figure out an *action* plan, without which, even the Holy Grail model remains ineffectual. While the same holds true for

models of any area, implementation may be particularly difficult in this case.

2.6 Why Do We Need a Personalization Strategy

There exist abundant researches on technologies that enable personalization, such as data warehousing, data mining, or analytical tools. However, concentrating solely on technologies will obscure other crucial components of personalization.

Section 2.1 has delineated the intimate relationship between CRM and personalization. Due to their similarities, some lessons learned in CRM are also applicable in personalization. In an article on Harvard Business Review, Reichheld, Rigby, and Schefter (2002) suggest that one the four perils of CRM is implementing CRM before creating a customer strategy. To implement CRM without market analysis and goals is, they say, like building a house without engineering measures or an architectural plan. “Still, most executives mistake CRM technology for a marketing strategy.” Similarly, when companies view personalization as pure technology and implement it without a strategic plan, they are walking in the woods without knowing their ultimate destination. As a result, companies easily fall into the trap of letting software vendors dictate what companies do with their customers.

Many financial institutions, which are pioneers in CRM, are now burned by their million-dollar investment in CRM (Malhotra. 2002). Malhotra (2002) found that “the financial services industry has gradually concluded that customer relationship management is an expensive exercise with minimal rewards... It seemed to be people (were installing) technology without really understanding what your customers wanted.” Being a close affiliate of CRM, and sometime part of a CRM initiative, the lack of a CRM strategy often means the lack of a personalization strategy. Despite a large amount of resources being poured into personalization (ref), in the end, it is the

personalization strategy that drives every single step of a personalization venture and determines its eventual success. Deployment of cutting-edge technologies is no longer considered a silver bullet. Technologies used to implement personalization are open to all enterprises with sufficient cash and the ability to implement the technologies, but a well-orchestrated strategy is hard to replicate. Consequently, there is an increasing recognition for the importance of strategies in personalization.

As pointed out by Maoz (2001), “our ability to collect data about customers far outstrips our capability to analyze that data. And our capability to analyze customer data far outstrips our ability to act on that analysis while interacting with the customer.” Although many people consider personalization limited to customization on websites, it extends far beyond that. Maoz suggested that enterprises must move away from piecemeal initiatives and think more holistically about how to personalize customer interactions consistently across all channels. As personalization touches all customer-facing points, it is even more important to have a strategy that leads the endeavors of all departments involved in personalization initiatives.

However, personalization is still a relatively nascent topic; consequently, there is insufficient research on what makes a personalization strategy great.

The conceptual model to be introduced contains elements that must be considered when planning and executing a personalization strategy.