

# **Impacts of Personalized Newsletters**

## **A Multidimensional View**

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# 1 Introduction

## 1.1 Background

The advent of the World Wide Web and the proliferation of broadband connections made the internet an everyday technology. As a result, this has also had considerable impacts on the way business is done. New technologies and the emergence of new business models have opened a big range of new opportunities and challenges for producers as well as consumers.<sup>1</sup> One of the greatest advantages of the internet is the easy access to information.<sup>2</sup> Nevertheless, to understand how this may change the behavior of consumers and producers one also has to be clear about the role that information plays in the buying process.

The most important event in every business transaction is the decision to make a deal. One can think of this as a bilateral decision process in which both sides, suppliers and demanders, make up their mind whether or not they want to agree to an exchange with the other party. In plain economical thinking, this decision is governed by the calculation of the benefits and costs of the exchange.<sup>3</sup> If one party concludes that the benefits are higher than the costs then the exchange is favorable to them and would generate added value. It is in the nature of business transactions that both parties must consider the exchange acceptable so that an agreement is reached.

It is obvious that for an informed decision the parties need to know about the characteristics of the goods to be exchanged and the terms of exchange. Thus, communication and the acquisition of information is an important prerequisite for a buying decision.<sup>4</sup> Internet technologies have the capacity to promote this process considerably. On the one hand, producers have received a vast potential market to spread information about their products and services, thus reaching new potential customers.<sup>5</sup> On the other hand, consumers have access to a nearly unlimited quantity of infor-

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<sup>1</sup> See Chittenden/Rettie (2003), p. 203, Chu/Park (2009), p. 691.

<sup>2</sup> See Pires/Stanton/Rita (2006), p. 937.

<sup>3</sup> See Steffenhagen (2008), p. 21.

<sup>4</sup> See Senecal/Nantel (2004), p. 160.

<sup>5</sup> See Fleder/Hosanagar (2007), p. 192.

mation and many different offers with a huge choice of products and services.<sup>6</sup> This allows comparing offers and prices and finally choosing the most satisfying alternative from of a very big sample.

## 1.2 Problem Statement

Classical information economics assumes that the amount of information searched for is a function of the search costs.<sup>7</sup> A consumer will search for additional information as long as the expected marginal benefits equal the marginal cost of the information search. In theory, the use of the internet implies lower search costs, thus resulting in more information being searched about competitors and their products. With the bigger choice and the technical evolution, consumers get more and more educated and demanding at the same time.<sup>8</sup> Producers nowadays have to manage a very complex clientele and great product diversity. Despite the vast possibilities, the internet offers today, they often fail to satisfy the individual needs and wants of their customers adequately.<sup>9</sup>

Besides the rather rationalistic explanation of information search for buying decision in information economics there is another argument that is based on the cognition of a limited information processing capacity of human beings. One aspect thereto is the problem of information overload.<sup>10</sup> This expresses the assumption that consumers are exposed to too much information so that they cannot process all the information available. In the internet, they are faced even more with an information overload problem.<sup>11</sup> The huge quantity of available information makes it very difficult to filter and process the necessary information. Research in this area has shown that too much information not only entails lower decision quality, more arbitrary information

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<sup>6</sup> See Fleder/Hosanagar (2007), p. 192.

<sup>7</sup> See Stigler (1961), p. 216.

<sup>8</sup> See Pires/Stanton/Rita (2006), pp. 939-940.

<sup>9</sup> See Pires/Stanton/Rita (2006), p. 942.

<sup>10</sup> See e.g. Eppler/Mengis (2004), pp. 325-344, Jacoby (1984), pp.432-435, Liang/Lai/Ku (2007), p. 49.

<sup>11</sup> See Liang/Lai/Ku (2006), p. 49.

search and a lower amount of information searched.<sup>12</sup> It also affects the personal situation of the consumer. Customers faced with an information overload are less satisfied, often demotivated and feel confused.<sup>13</sup>

In the logic of mass media campaigns, the idea is to get the message through by strong signals and the use of push media. However, as empirical research has shown, the efficiency of mass media campaigns is probably not very high.<sup>14</sup> Furthermore, the huge mass of unrequested and irrelevant information can cause a negative attitude of the consumers towards the company.<sup>15</sup>

An alternative approach abandons impersonal mass media logic and prefers information that is tailored specifically to the customers and their respective needs. Personalization is at the core of a new 1:1 marketing approach. The successful implementation of such an approach relies heavily on the availability of a lot of information on customers, their specific needs and behavior. The specific characteristics of the internet technologies and the tracking of user behavior are beneficial for these concepts.

The discourse on E-Business and E-Commerce is focused to a considerable extent on web sites and their effects. This neglects that there are also other internet services that are relevant for information and communication between producers and their customers. Among them, the E-Mail service is undoubtedly the most popular form. For companies, E-Mails are relevant for inbound as well as outbound communication. In contrast to web sites, E-Mails and especially newsletters allow pushing information to a customer. Thus, E-Mail-Marketing has become a very popular means to transfer every kind of information to potential customers. But still, many newsletters contain a lot of information that is irrelevant for the client.<sup>16</sup> Even though newsletters are only sent with the consent of an addressee who must have had a certain interest in this information, many of the E-Mail newsletters are read only cursory or not

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<sup>12</sup> See Eppler/Mengis (2004), p. 333, Jacoby (1984), p. 432, Liang/Lai/Ku (2007), p. 49, Malhotra (1982), p. 427.

<sup>13</sup> See Eppler/Mengis (2004), p. 333, Jacoby (1984), p. 433.

<sup>14</sup> See Howard (2006), p. 158.

<sup>15</sup> See Speier et al. (1999), p. 351, Eppler/Mengis (2004), p. 331.

<sup>16</sup> See Tezinde/Smith/Murphy (2002), pp. 31-32.

at all. Therefore, to counteract the numerous difficulties discussed above, the relevance of the content has to be improved. A great potential thereto is been holding the combination of newsletters and personalization based on recommender systems.<sup>17</sup> In this context, the following sections discuss the principles and benefits of personalization and digital newsletter with recommender systems.

## 2 Problem Approaches

### 2.1 Personalization and Recommender Systems

As diverse studies have shown, an important measure to counteract the information overload problem is to reduce the quantity of information.<sup>18</sup> Less information reduces the time and effort that is required to obtain the necessary facts and therefore eases the information search process.<sup>19</sup> Personalization is one mean to support this objective. Its main purpose is to structure and filter the information in such way, that the customer only sees that information that is of relevance and interest for him.<sup>20</sup> One possibility to reach this is to choose some options and suggest them to the customer with regard to the reduction of the number of selectable alternatives. This mechanism is normally supported by means of a recommender system.

A good recommender system suggests a specific choice of products and information for a consumer that corresponds to his interests and helps him to choose the best alternative.<sup>21</sup> It therefore reduces the effort and cost of processing the information and increases the convenience to obtain the required information by giving fewer and more relevant information.<sup>22</sup>

Recommender systems are mostly applied in the context of website personalization, where the visitor gets an individually adapted content or layout. But this calls for the consumer actively visiting the website to receive the information.

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<sup>17</sup> See DuFrene et al. (2005), p. 65.

<sup>18</sup> See Schafer/Konstan/Riedl (1999), p. 158, Liang/Lai/Ku (2007), p. 67.

<sup>19</sup> See Liang/Lai/Ku (2007), pp. 48-49.

<sup>20</sup> See Schafer/Konstan/Riedl (2001), p. 116.

<sup>21</sup> See Garfinkel et al. (2006), p. 8.

<sup>22</sup> See Garfinkel et al. (2006), p. 8, Liang/Chen/Turban (2009), p. 280.

Concerning marketing activities, companies also need tools that allow them to communicate proactively and to call a customer's attention. In contrast to websites, e-mails enable companies to contact the customers themselves and actively convey the relevant information. In combination with a recommender system, digital newsletters hold a great potential in a direct and still personalized mass communication, as the next section explains.

## 2.2 E-Mail-Marketing and Digital Newsletters

E-Mails have become a very popular way to provide consumers with information.<sup>23</sup> They allow pushing selected information to a certain group of customers without having to wait for them to ask for the information. For a company, E-Mails therefore provide a tool to actively communicate to potential and actual customers.<sup>24</sup> Besides, they are fast and cost efficient to send.<sup>25</sup> Moreover, for a customer they may reduce the time to retrieve the necessary information.<sup>26</sup>

But on the other hand, e-mails also increase the probability of getting useless information and therefore the information overload problem. Especially unsolicited mass marketing E-Mail campaigns (SPAM) have discredited the instrument and have come to be one of the biggest problems in using the E-Mail service. These e-mails are perceived to be intrusive, irritating and are violating a consumer's privacy.<sup>27</sup> Therefore, sending of SPAM is ruled to be illegal in many countries of the world. Consequently, companies had to switch to permission-based marketing where the sending of E-Mail newsletters is based on the registration of a client.

Different are newsletters that are sent based on a preliminary registration. Communication by digital newsletters, also called permission marketing, first requires an action of a customer in terms of a registration to get the newsletter. This excludes those customers from the recipients that are not interested in this information.<sup>28</sup> Hence, un-

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<sup>23</sup> See Morimoto/Chang (2005), p. 8.

<sup>24</sup> See Bonfrer/Drèze (2009), p. 251.

<sup>25</sup> See Chittenden/Rettie (2002), p. 204, Katz (2003), p. 33.

<sup>26</sup> See Edmunds/Morris (2000), p. 25, Eppler/Mengis (2004), p. 331.

<sup>27</sup> See Morimoto/Chang (2006), pp. 14-16, Yu/Cude (2009), p. 507.

<sup>28</sup> See Tezinde/Smith/Murphy (2002), p. 30.

interested consumers do not get the newsletter and therefore also receive less information.

The registration also changes the newsletter from a push to a pull medium, as the initiating action comes from the customer and not the company.<sup>29</sup> This significantly increases the probability of the content being read. Besides, it improves the attitude towards the brand and can finally increase the level of trust and the purchase intentions.<sup>30</sup> Newsletter Marketing is therefore a lot more efficient than e-mails sent without a specific permission.

Besides, the registration for digital newsletters holds one big advantage in the context of a quite frequent paradox. Customers are usually unwilling to provide any personal information for the purpose of a personalized content, even though they do appreciate receiving more accurate content according to their interests.<sup>31</sup> By contrast, requesting newsletters forces consumers to indicate some registration data that again can be used as a basis to personalize the content. Digital Newsletters based on permission therefore provide a good mean to convey information generated by a recommender system and bring many benefits, as the next section explains further.

### 3 Benefits of Personalized Newsletters

In the next section, the benefits of personalized newsletters will be discussed based on empirical results of previous studies. Prior research has mainly been conducted on the impacts of either personalization or newsletter marketing in general. But only few studies explicitly investigate the impacts of personalized newsletters.<sup>32</sup> Therefore, the analysis of the benefits of personalized newsletters in this chapter is based on a synthesis of previous research on personalization and newsletter marketing in general, combined with the results of some studies concerning benefits of personalized newsletters. The discussed impacts of personalization range from a direct response behavior in terms of click behavior up to direct and indirect influence on customer attitude and behavior as well as on economic measures. The results will first be shown in an overview in the following table and then explained in more detail.

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<sup>29</sup> See Chittenden/Rettie (2002), p. 203.

<sup>30</sup> See DuFrene et al. (2005), p. 72.

<sup>31</sup> See Awad/Krishnan (2006), p. 24.

<sup>32</sup> See e.g. Postma/Brokke (2002), White et al. (2008).

### 3.1 Overview

Variable	Impact of Recommender Systems in Newsletters (RS-NL)	Sources
<b>Click-Through-Rate (CTR)</b>	RS-NL clearly increase CTR, up to a doubled CTR.	Postma/Brokke (2002), White et al. (2008)
<b>Convenience</b>	RS-NL increase the convenience in the information search and decision process for a customer.	Liang/Lai/Ku (2007),
<b>Information Overload</b>	RS-NL reduce the amount of Information and therefore also the Information overload.	Iwata/Saito/Yamada (2008), Liang/Chen/Turban (2009), Liang/Lai (2002)
<b>Customer Satisfaction</b>	RS-NL increase customer satisfaction due to higher convenience and lower information overload.	Iwata/Saito/Yamada (2008), Liang/Lai/Ku (2007), Mittal/Lassar (1996), Szymanski/Hise (2000)
<b>Customer Interest</b>	RS-NL increase a consumer's interest in the content of the newsletter, the company and its website.	DuFrene et al. (2005), Katz (2003), Postma/Brokke (2005)
<b>Trust</b>	RS-NL increase a consumer's level of trust towards the company through higher customer satisfaction.	DuFrene et al. (2005), Joo (2007), Schafer/Konstan/Riedl (2001)
<b>Attitude</b>	RS-NL positively influence the attitude of consumer towards the company and the brand.	DuFrene et al. (2005), Gretzel/Fesenmaier (2006)
<b>Customer Loyalty</b>	RS-NL increase customer loyalty through the influence in customer satisfaction, trust and attitude.	Schafer/Konstan/Riedl (2001), Zahedi/Lu (2003)
<b>Willingness to pay</b>	RS-NL increase the tolerance of customer concerning the price level and increases the willingness to pay.	Bergemann/Ozmen (2006), Garfinkel et al. (2006), Schafer/Konstan/Riedl (2001)
<b>Subscription Periods</b>	RS-NL increase a customer's subscription period of a newsletter.	Iwata/Saito/Yamada (2008)
<b>Purchase Intention</b>	RS-NL positively influence the purchase intention through the positive influence on customer satisfaction, trust and attitude.	Chen/Pu (2002), DuFrene et al. (2005)
<b>Purchases and Sales</b>	RS-NL increase purchases and sales.	Iwata/Saito/Yamada (2008), Schafer/Konstan/Riedl (2001)
<b>Customer Lifetime Value (CLV)</b>	RS-NL increase the CLV by increasing the purchases and the period a customer stays loyal to the company.	Iwata/Saito/Yamada (2008)
<b>Profit</b>	RS-NL increase a company's profit by reason of a low cost structure and increased sales.	Bonfrer/Drèze (2008), Chen et al. (2007), Chittenden/Rettie (2002), Katz (2003), Hauke/Wilde (2010)

## 3.2 Empirical Results

### 3.2.1 Click-Through-Rate

In the case of newsletters, one basic pre-condition for the achievement of marketing goals is that the newsletter is read and taken in by the customer. Therefore, to determine the success of a personalized newsletter, direct response behavior must be considered.<sup>33</sup> One important measure for this purpose is the click-through-rate (CTR). The CTR is generally defined as the percentage of receptors that click on the newsletter compared to the overall sample. As Postma/Brokke (2002) have shown, personalized newsletters clearly increase the click-through-rate (CTR).<sup>34</sup> In case of full personalization and when the suggested content is of use for the customer, the number of clicks in relation to the number of recipients is twice as high as with a non-personalized one. This effect of personalization even grows over time.<sup>35</sup>

### 3.2.2 Convenience and Reduction of Information Overload

As discussed above, there are two main problems which companies and customers face in the information: the information overload on the one side and the problem to differentiate oneself from other providers combined with the difficulty to satisfy the increasingly demanding clients on the other side. Personalization is seen as a possibility to counteract these problems.<sup>36</sup> With a good recommender system, a consumer gets a selection of information that is of interest for him so that he doesn't have to search any further.<sup>37</sup> The personalized content therefore fastens the information search process and reduces the effort and time to get the relevant information.<sup>38</sup> Consequently, it increases the convenience of the information search process and contributes to a lower information overload.<sup>39</sup>

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<sup>33</sup> See Bonfrer/Drèze (2008), p. 252.

<sup>34</sup> See Postma/Brokke (2002), pp. 139-141.

<sup>35</sup> See Postma/Brokke (2002), pp. 141-142, White et al. (2008), p. 47.

<sup>36</sup> See e.g. Chu/Park (2009), p. 691, Garfinkel et al. (2006), p. 8, Liang/Lai (2002), p. 211, Liang/Lai/Ku (2007), pp. 60-62, Mittal/Lassar (1996), pp. 101-102.

<sup>37</sup> See Garfinkel et al. (2006), p. 8, Victor et al. (2008), p. 127.

<sup>38</sup> See Liang/Lai/Ku (2007), p. 46.

<sup>39</sup> See Iwata/Saito/Yamada (2008), p.1, Liang/Chen/Turban (2009), p. 280.

### 3.2.3 Customer Satisfaction

Closely related to these mentioned aspects are the impacts of personalization on customer satisfaction resulting from the newsletter.<sup>40</sup> As several authors have shown, personalization has a positive impact on customer satisfaction.<sup>41</sup> This is mainly due to the impacts of increased convenience and lowered information overload explained above. The positive relation between convenience and customer satisfaction is outlined by Szymanski/Hise (2000).<sup>42</sup> They mention time savings and the ease to get the necessary information as influence factors of convenience and customer satisfaction – measures that are also supported by personalized newsletters.<sup>43</sup>

Furthermore, a reduction of the information overload contributes to a higher customer satisfaction.<sup>44</sup> As Liang/Lai/Ku (2007) have shown, personalized content with a clearly reduced number of proposed information performs significantly better on customer satisfaction than non-personalized content with a bigger amount of information.<sup>45</sup> These arguments support the use of recommender systems to personalize the digital newsletter for increasing customer satisfaction.

### 3.2.4 Customer Interest

Personalization is also meant to increase a consumer's interest in the content of a newsletter as well as in aspects such as interest in the company itself and its website. When a recommender system catches well a user's preferences, his interest in the personalized content will be higher than in non-personalized, as Postma/Brokke (2002) show.<sup>46</sup> In case of only partially personalized content, the user's interests mainly focus on the personalized parts and pay only few attention to the general ones. Other authors observe an increased interest in the website of a company after sending permission based newsletters with recommender systems.<sup>47</sup>

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<sup>40</sup> See Liang/Lai/Ku (2007), pp. 62-64.

<sup>41</sup> See Iwata/Saito/Yamada (2008), p. 1, Liang/Lai/Ku (2007), p. 56, Mittal/Lassar (1996), pp.101-104, Szymanski/Hise (2000), p. 318.

<sup>42</sup> See Szymanski/Hise (2000), p. 318.

<sup>43</sup> See Szymanski/Hise (2000), p. 316.

<sup>44</sup> See e.g. Liang/Lai/Ku (2007), pp. 59-63.

<sup>45</sup> See Liang/Lai/Ku (2007), pp. 59-61.

<sup>46</sup> See Postma/Brokke (2002), p. 142.

<sup>47</sup> See DuFrene et al. (2005), pp. 71-73, Katz (2003), p. 33.

### 3.2.5 Trust, Attitude and Customer Loyalty

A high customer satisfaction is generally also known to positively influence customer retention and customer loyalty.<sup>48</sup> In combination therewith, previous studies also found interesting results in the context of personalization and newsletters. Especially on aspects of trust and attitude as well as loyalty towards the brand and the company, a positive influence could be observed.<sup>49</sup> In an empirical study DuFrene et al. (2005) support the positive correlation between the number of permission based marketing interactions in the form of e-mails and the level of trust in the company as well as the customer's attitude towards the brand and the company.<sup>50</sup> This indicates a positive influence of the personalized newsletter on trust with an increase of the effect over time. Furthermore, they argue that the trust-enhancing effect of personalization also has a positive influence on the attitude.<sup>51</sup> The effect is especially visible by comparing personalized to non-personalized newsletters.

Also Joo (2007) observes a trust-enhancing effect of personalization.<sup>52</sup> As he explains, the personalization provides more convenience, quicker service, better communication and a greater level of customer participation.<sup>53</sup> These aspects contribute to a higher level of trust. There is thus empirical evidence for the assumption of a trust-enhancing effect of personalization.<sup>54</sup>

As Gretzel/Fesenmaier (2006) explain, the change in customer attitude also happens through the persuasive potential of the recommendation in the newsletter.<sup>55</sup> Based on the results of an empirical study, they find that a recommendation by a recommender system can directly and indirectly shape the opinion formation of a customer. Based on the level of trust it persuades a customer and therefore also influences his attitude.

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<sup>48</sup> See e.g. Henning-Thurau/Klee (1997), p. 738, Homburg/Bruhn (2008), p. 10, Oliver (1999), p. 33.

<sup>49</sup> See DuFrene et al. (2005), pp. 72-75, Joo (2007), pp. 56-57, Schafer/Konstan/Riedl (2001), p. 145, Zahedi/Lu (2003), p. 2257.

<sup>50</sup> See DuFrene et al. (2005), pp. 70-74.

<sup>51</sup> See DuFrene et al. (2005), p. 72.

<sup>52</sup> See Joo (2007), p. 57.

<sup>53</sup> See Joo (2007), p. 56.

<sup>54</sup> See also Massa/Bhattacharjee (2004), p. 234.

<sup>55</sup> See Gretzel/Fesenmaier (2006), pp. 93-95.

In accordance to the theory of customer loyalty and customer retention, the constructs of trust and attitude are important preconditions for customer loyalty.<sup>56</sup> Also in the context of personalized newsletters, a positive influence on customer loyalty can be observed.<sup>57</sup> Schafer/Konstan/Riedl (2001) explain this relation with the increased value added by the recommender system.<sup>58</sup> The system captures precisely the customer's needs and wishes and therefore increases customer loyalty.

### 3.2.6 Willingness to pay

Other authors have investigated the effects of personalization on a customer's willingness to pay. Garfinkel et al. (2006) find empirical evidence that personalization in terms of recommendation provides an increased flexibility for retailers to adjust the prices.<sup>59</sup> Also Bergemann/Ozmen (2006) and Schafer/Konstan/Riedl (2001) support the statement that a good quality personalization reduces price sensitivity and increases a customer's willingness to pay a positive price premium as a consequence to the recommender system.<sup>60</sup> There is thus a potential to increase the price and the possible margin of a firm.

Generally, changes in customer attitude are also known to influence customer behavior.<sup>61</sup> In this context, also the behavioral consequences of personalized newsletters should be examined. The next sections discuss several aspects of customer behavior. In the context of personalized newsletters, the empirical results especially indicate extensions in subscription periods of newsletters as well as increases in purchase intention, purchases, sales, customer lifetime value and profit.<sup>62</sup>

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<sup>56</sup> See e.g. Dick/Basu(1994), p. 100, Garbarino/Johnson (1999), pp. 71-81, Gustafsson/Johnson/Roos (2005), pp. 211-216, Morgan/Hunt (1994), p. 22.

<sup>57</sup> See Chen et al. (2007), p. 1033, McNee et al. (2003), p. 152, Schafer/Konstan/Riedl (2001), p. 145.

<sup>58</sup> See Schafer/Konstan/Riedl (2001), p. 117.

<sup>59</sup> See Garfinkel et al. (2006), pp. 21-24.

<sup>60</sup> See Bergemann/Ozmen (2006), pp. 11-12, Schafer/Konstan/Riedl (2001), p. 145.

<sup>61</sup> See Ajzen (1991), p. 179.

<sup>62</sup> See e.g. Chen et al. (2007), pp. 1042-1046, Chevalier/Mayzlin (2006), p. 354, Iwata/Saito/Yamada (2008), p. 9, Katz (2003), p. 32, Sarwar et al. (2000), p. 11, Schafer/Konstan/Riedl (2001), p. 117.

### 3.2.7 Subscription Periods

Another argument in favor of the use of recommender systems in newsletters are the impacts on the subscription period. Iwata/Saito/Yamada (2008) state that in subscription services (as e.g. digital newsletters), recommender systems clearly extend the average subscription period.<sup>63</sup> Thereby, they find that the effectiveness of extending the subscription period may be lowered if the recommender system only proposes high purchase probability items or items based on the customer's previous behavior.<sup>64</sup> This leads to the conclusion that to reach its full potential, a good recommender system should not only monitor previous interests or propose items out of the interests of the mass but also propose new items in an extended field of interest.

### 3.2.8 Purchase Intention

DuFrene et al. (2005) find positive empirical evidence in the relation between personalization in permission-based e-mail marketing and the purchase intention.<sup>65</sup> They explain this effect with the increased level of trust and attitude created by the personalized newsletter. These variables again have a positive influence on the purchase intention.<sup>66</sup> Also Chen/Pu (2002) approve a positive influence of the personalization on the purchase intention. They observe that a customer more frequently returns to a company when the recommender system is used, on condition that the system provides good and reliable information.<sup>67</sup>

### 3.2.9 Purchases and Sales

In accordance to the higher purchase intentions, also an increase in purchases can be observed. Iwata/Saito/Yamada (2008) find on the one hand an increase in the purchase frequency and on the other hand an increase in the number of purchased items after the use of a recommender system.<sup>68</sup> However, the effect is clearly depending on the quality of the recommender system.<sup>69</sup> It only works, if the recommended choice of information corresponds to the user's interests.

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<sup>63</sup> See Iwata/Saito/Yamada (2008), pp. 6-8.

<sup>64</sup> See Iwata/Saito/Yamada (2008), p. 9.

<sup>65</sup> See DuFrene et al. (2005), p. 74.

<sup>66</sup> See DuFrene et al. (2005), p. 75.

<sup>67</sup> See Chen/Pu (2002), p. 143.

<sup>68</sup> See Iwata/Saito/Yamada (2008), p. 6.

<sup>69</sup> See Iwata/Saito/Yamada (2008), p. 6.

Schafer/Konstan/Riedl (2001) find an increase in sales due to the use of recommender systems.<sup>70</sup> As they explain, recommender systems can enhance sales in three ways: First, they help converting recipients of the information into buyers by recommending products they actually didn't intend to buy. Second, the choice of recommended products can also contain additional products of other product divisions and convince customer's to buy other offers. The recommender system therefore also has a cross-selling enhancing function. Third, in accordance with the above explained impacts on customer attitude, the recommender system can increase customer loyalty. Customers repay the value-add by returning to the vendor and buying his products.

### **3.2.10 Customer Lifetime Value**

As a consequence of all these above explained variables, an increase in the customer lifetime value (CLV) can be observed.<sup>71</sup> CLV is defined as the total profit a customer generates during his entire purchase history.<sup>72</sup> With the personalization in terms of a recommendation, customers are pushed to purchase more items and to extend their subscription periods. Therefore, sales and profit increase, which again have a positive influence on the CLV. Also the impacts of personalization on customer loyalty increase CLV, as the customer returns to the company and therefore generates higher profit over his purchase history.<sup>73</sup> Recommender Systems in newsletters are therefore seen to increase the CLV.

### **3.2.11 Profit**

Related thereto, increases in profit can be observed.<sup>74</sup> This can be explained with the increase in sales and in the customer lifetime value due to the recommender system on the one hand. On the other hand, newsletters are very cost-efficient compared to other mediums such as printed newsletters for example.<sup>75</sup> The low cost can first be explained with the digital character of the newsletter. There are no emerging physical

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<sup>70</sup> See Schafer/Konstan/Riedl (2001), p. 117. See also Chen et al. (2007), p. 1033.

<sup>71</sup> See Iwata/Saito/Yamada (2008), pp. 8-9.

<sup>72</sup> See Iwata/Saito/Yamada (2008), p. 1.

<sup>73</sup> See Iwata/Saito/Yamada (2008), pp. 2-3.

<sup>74</sup> See Chen et al. (2007), p. 1044.

<sup>75</sup> See Bonfrer/Drèze (2008), p. 252, Chittenden/Rettie (2002), p. 205, Katz (2003), p. 33, Hauke/Wilde (2010), p. 1795.

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cost such as print costs or costs for the advertisement. Second, the cost of sending the newsletter is a lot lower, as the mailing expenses are very little in relation to the number of recipients that can be reached.<sup>76</sup>

### 3.2.12 Conclusion

As discussed above, empirical research has observed a huge potential and numerous advantages with the use of personalized newsletters and recommender systems. They therefore contribute to counteract a big range of problems and difficulties in the context of marketing and internet.

But still, in newsletters, only few recommender systems are used. Furthermore, the recommendations that are made are often of an unsatisfying quality and fail to meet the expectations. Therefore, improvements in the recommender systems are needed. With B-Rank, we presents a new approach to better satisfy the needs of customers as well as producers. In the following **Fehler! Verweisquelle konnte nicht gefunden werden.**<sup>Th</sup> section, B-Rank and its benefits are introduced.

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<sup>76</sup> See Katz (2003), p. 33, Postma/Brokke (2001), p. 137.

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