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**One-to-one Marketing and Customer Loyalty in Electronic  
Commerce – An Empirical Analysis**

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**IIG-Berichte: 2/03, ISSN-Nr. 0945-800X**

# **One-to-one Marketing and Customer Loyalty in Electronic Commerce – An Empirical Analysis**

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*Abstract:*

*One-to-one marketing, a combination of relationship and customized marketing, is a new concept for increasing customer loyalty for companies in electronic commerce. As loyalty itself is a construct of several factors influencing behavior, we show separately how they are influenced by the components of one-to-one marketing. Our results, taken from a sample survey in german speaking countries, show that the potential of one-to-one marketing is not fully utilized yet.*

# 1 Introduction

## 1.1 The problem of customer loyalty

Sustaining customer loyalty is one of the major challenges companies face in electronic commerce today: As market transparency increases due to declining search costs [1], customers may easily migrate to competitors. Thus it becomes harder for companies to gain a large base of customers quickly, tied to recurrence either by satisfaction or „lock-in“[2].

There are several ways in which companies may avoid customer search activities. One way is to offer added value through some sort of information filtering, as information often is excessively distributed, e.g. through branding, time-savings or convenience [3]. Another way is to engage in individualized buyer-seller relationships [4] through one-to-one marketing, which is a combination of relationship and customized marketing.

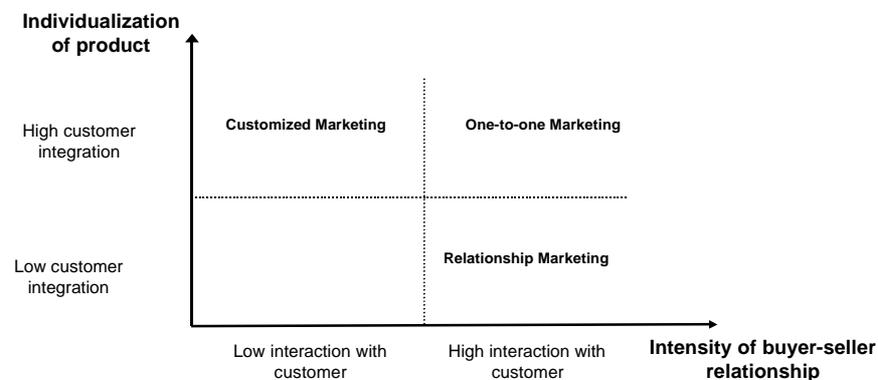


Figure 1: Sustaining customer loyalty in Electronic Commerce, according to [5].

Relationship marketing aims at addressing customers individually and establishing a communication channel (interaction). A long lasting relationship should raise customer satisfaction as well as switching costs. Customized marketing aims at offering customers individually designed products and incorporating them in the production process (integration) [6]. With individualized

products, meeting customer preferences should be easier. Thus, one-to-one marketing may be one way to sustain customer loyalty. This coherence is analyzed in this paper.

## **1.2 A Concept of Customer Loyalty**

Customer loyalty is a figure that may be measured either directly – as actual repeated sales to customers – or indirectly, via further parameters determining loyalty. The former brings along two disadvantages: Sales repetition cycles differ in time, e.g. shopping in a certain supermarket may occur frequently while people may buy a new car just once a decade [7]. Thus, for analysis of marketing effects on loyalty, intertemporal shifts would have to be included. Also, in order to calibrate selected marketing measures, their effects on loyalty might be contradictory while their influence on loyalty parameters may be straightforward.

Therefore, we follow an approach of indirect loyalty measurement. We deploy the model by [8] who counts four independent parameters of customer loyalty (see Figure 2):

- The most recognized parameter is customer satisfaction which results from a product meeting (at least) customer expectation [7]. Empirical evidence shows satisfaction to be the decisive cause parameter for customers voluntarily deciding to behave loyally [9], [10].
- Network externalities or customer “lock-in” [2] affect resales, because customers facing prohibitive switching costs from migrating to competitors will stick to a certain seller even if they are not contented with him [11] and thus behave loyally involuntarily.
- The attractiveness of alternate offerings of competitors influences purchasing behavior.
- Customers have an intrinsic variety seeking behavior, i.e. they want to alter products and sellers just for the sake of change.

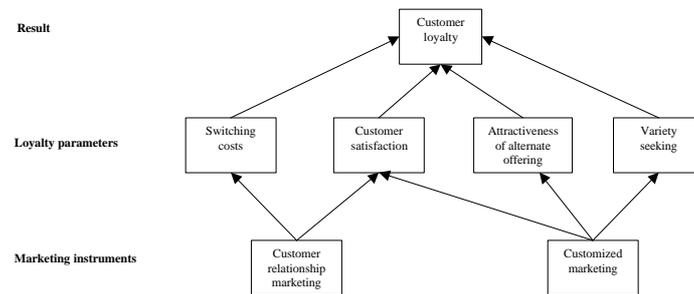


Figure 2: A concept of customer loyalty

## 2 Hypotheses

### 2.1 Relationship Marketing

Relationship marketing aims for customer loyalty by establishment of a lasting, intensive, and individual buyer-seller relationship, called a „learning relationship“ [12], [13], [14].

Initially, a first contact to the customer is present. At this point, the customer should already get incentives for re-buying and thus for beginning a relationship with the seller. Therefore, the seller needs information about customer preferences prior to the first contact. Then, the customer provides preferences, e.g. about personal interest, with his first purchase. The seller may use this data for profiling and individual addressing of the buyer subsequently. With every repeated purchase, the seller is able to rely on an improved database with enhanced profiles. As he realizes customer's preferences and willingness to pay, he is able to offer products really demanded and to focus his marketing efforts leading to lower costs for generating additional purchases [14].

#### 2.1.1 Relationship Marketing and Customer Satisfaction

If buyer and seller establish a “learning relationship”, sellers are increasingly enabled to offer price-product combinations actually demanded. Customers profit from this as they may reduce the risk of potential mispurchases resulting from vague communication of preferences. When sellers and their

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products (at least) meet customer expectations, customer satisfaction rises [15]. Thus, simply by relying on the relationship, customers should be more contented with a seller. This leads to

**H1:** Companies practicing relationship marketing realize higher customer satisfaction than companies not practicing relationship marketing.

### 2.1.2 Relationship Marketing and Switching Costs

If sellers are able to establish prohibitive high switching costs, buyers will behave loyally because migrating to competitors will be too expensive for them. Prompting customers to invest in a buyer-seller relationship is one way to set up switching costs [16]. There are four types of switching costs [8]:

- **Direct switching costs:** Direct switching costs are the costs resulting from product search when purchasing from an alternate, previously unknown partner. Buyers face a trade-off (which is differently valued among various customers) between either investing time and effort for searching alternate products, or remaining with the known brand. Search costs are, generally, reduced in electronic commerce [1] leaving only limited possibilities for sellers to induce direct switching costs on buyers, especially for commodity products. However, if buyers are well informed about the features of a product and the quality of one seller, as they are when associating with that seller closely, their opportunity costs of search increase. Thus, a seller that offers pre-sale services, such as extensive information about products, terms of payment, or delivery conditions will raise opportunity costs of search. Note that pre-sale services are equated with Internet-based direct switching costs [17].

**H2:** Companies practicing relationship marketing improve pre-sale services compared to companies not practicing relationship marketing.

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- **Learning costs:** Learning costs are customer's opportunity costs of losing product specific know-how when migrating to competitors. Learning costs decisively depend on the specificity of a product [10]. With a specific technology, customers are locked-in to a certain seller, enforcing subsequent purchases, because otherwise investment of time and effort in learning the technology would be lost. However, learning costs even exist with unspecific products because customers need to alter shopping habits and get to know new shopping environments when switching sellers. Establishing a buyer-seller relationship should increase learning costs as buyers adopt to a seller's shop and products [16].

**H3:** Companies practicing relationship marketing raise learning costs compared to companies not practicing relationship marketing.

- **Artificial and contractual switching costs:** Artificial and contractual switching costs are immediate monetary costs of migrating to a competitor. Mostly, they result from contract arrangements and price differentiation measures by sellers which is not focused on here as it is outside the scope of this paper. Yet, artificial switching costs also stem from special marketing actions providing monetary incentives for customers to behave loyally. For instance, bonus programs like frequent flyer systems provide incentives for buyers to remain with one seller. In addition, sellers obtain further information about customer preferences from collecting and redeeming bonuses. For sellers practicing relationship marketing, it should be easier to target such programs and thus to raise artificial switching costs [16].

**H4:** Companies practicing relationship marketing implement more special marketing actions than companies not practicing relationship marketing.

- **Social-psychological switching costs:** Social-psychological switching costs result from a customer building trust or commitment for a certain seller and thus voluntarily becoming reluctant to migrate to a competitor [15]. Trust results from non-opportunistic, but rather

cooperative behavior of both seller and buyer. If a customer trusts a seller, he deliberately abandons eventual information and monitoring activities he could otherwise commence. Trust – as a “record of past deeds” [18] – is based on previous experiences buyers made with sellers, and thus we expect bilateral trust to emerge from a buyer-seller relationship. Commitment or an “inner bound” between buyer and seller involves intensive communication, common views and memories, moral indebtedness, and empathy with the seller’s image or brand [8]. It implies that the buyer has incentives to invest in the relationship with the seller on his own behalf, e.g. by exchanging information with him. The most important tool to generate commitment is the creation of communities [15], especially for specific topics where people with similar background are hard to find. A seller having close relationships with customers and knowing their preferences thus should rather be able to bring together attractive communities.

<b>H5:</b> Companies practicing relationship marketing are more trustworthy and establish more communities than companies not practicing relationship marketing.
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## 2.2 Customized Marketing

Customized marketing aims for an individual production of services according to preferences of each individual customer by assimilating him with the manufacturing process [6]. It decisively depends on *active* involvement of the customer in the manufacturing process. The customer expresses his individual demands which the seller tries to consider in production. Regardless of actual realization of engineering methods, e.g. by individual fabrication or modular design, it is important that the customer gets the *impression* of being involved and receiving an individualized product [19].

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### 2.2.1 Customized Marketing and Customer Satisfaction

If sellers are able to deliver products according to customer preferences, they realize an immediate competitive advantage, because as they (over-) fulfil customer expectations, satisfaction rises, and loyal behavior results [7]. Thus we expect

<b>H6:</b> Companies practicing customized marketing realize higher customer satisfaction than companies not practicing customized marketing.
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### 2.2.2 Customized Marketing and attractiveness of alternate offerings

Customer loyalty also depends on alternative offerings available, because if a customer finds an assimilable product in the market more attractive to him, his incentives to migrate to a competitor rise. For instance, a competitor might offer better service, design, terms of guarantee, or product or seller image. Regardless of offering this himself, which is outside the scope of the special features of one-to-one marketing, a seller may yet use customized marketing to increase his comparative advantage over competitors by offering more choices to the customer [6], [20]. We expect that a seller who is able to offer individualized products also owns a wider array of products, which increases choice and thus reduces attractiveness of alternate offerings.

<b>H7:</b> Companies practicing customized marketing offer a wider array of products than companies not practicing customized marketing.
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### 2.2.3 Customized Marketing and variety seeking behavior

Variety seeking behavior forces sellers to build special shopping environments in order to offer diversified shopping experiences for customers [21]. Thus, buyers' intrinsic desire for change may at least partly be satisfied because they realize altering forms of "excitement" and thus a variety of experiences with just one seller [22]. Sellers who integrate customers in the manufacturing process,

as they do with customized marketing, may offer such shopping experiences, e.g. by offering individual, product-specific value added services.

**H8:** Companies practicing customized marketing offer more product-specific value added services than companies not practicing customized marketing.

### **3 Methodology**

We define one-to-one marketing as a tool for raising customer loyalty by a combination of relationship and customized marketing. This combination of relationship and customized marketing as in [5] differs slightly from individual addressing customers, combined with market segmentation and differentiated supply according to market segments [23], [24]. In the latter rather „top-down“ oriented approach, market segmentation of target groups is ever further granulated until a “segment of one” is reached. We follow a different approach where customer profile data is used for immediate individual production without market segmentation. The potential of mass customization to meet customer preferences may thus be utilized better [13], [6], [19].

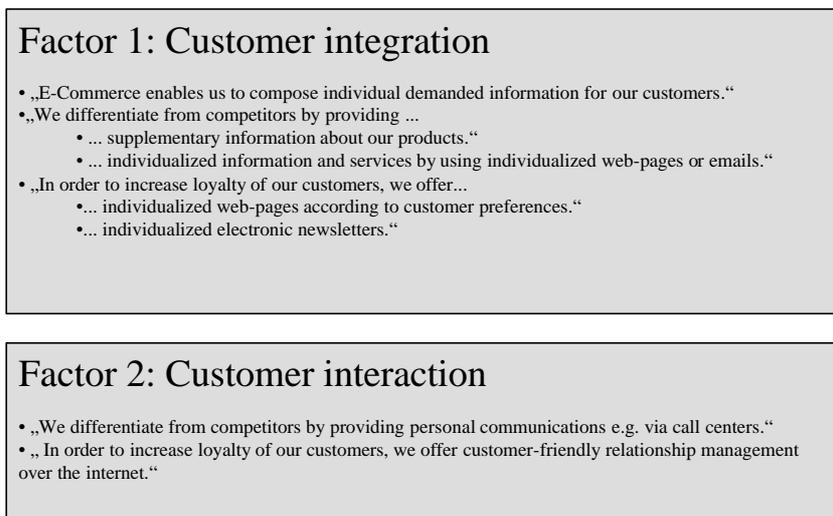
Also, one-to-one marketing so far has been accounted for rather as a measure of implementing customer focus strategies than increasing customer loyalty [13]. Empirical analyses on loyalty effects have just covered aspects of either relationship marketing [10], [25] or customized marketing [26], [27], but not both. The actual mode of action of one-to-one marketing on the parameters determining loyal customer behavior has not been analyzed empirically, from the entrepreneurial perspective, yet. This paper aims for closing this gap.

### 3.1 Data

Our data accrues from a sample survey<sup>1</sup> among executive managers in Germany, Austria, and Switzerland conducted by the University of Freiburg, Consulting Partner, Heyde AG, and Infratest Burke. In June 2000, 1,308 business representatives were questioned with 204 queries about several Electronic Commerce perspectives, e.g. marketing aspects, strategic implications, etc. [28].

### 3.2 Coding

Business representatives were asked seven questions about their marketing efforts to interact with customers and to integrate them in the manufacturing process. In order to group companies according to their engagement in relationship and customized marketing, we deployed a factor analysis which is a technique for achieving parsimony by identifying the smallest number of descriptive terms to explain the maximum amount of common variance in a correlation matrix.

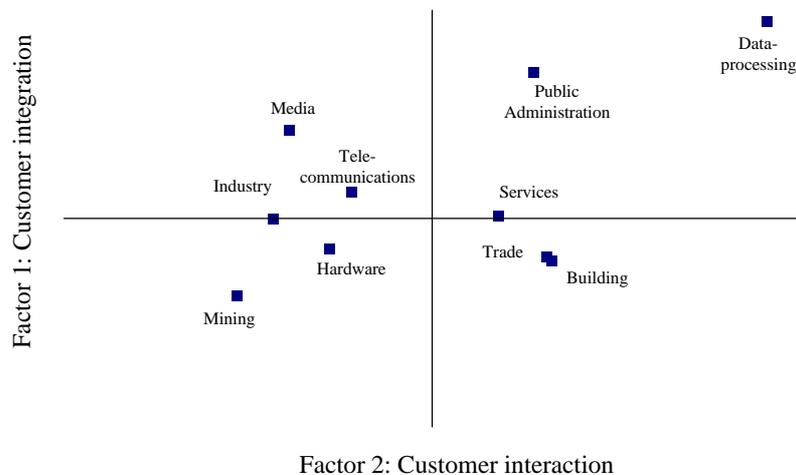


*Figure 3: Dominant factors of marketing activities*

In order not to distort results, we considered only those cases where all seven questions were answered (n=543) in the factor analysis [29]. Two factors could be extracted (Guttman-Kaiser

criterion, i.e. eigenvalue  $> 1$ ), resulting in an interpretation as depicted in Figure 3 (solution after varimax rotation). The two factors account for 40.6% of total variance, yielding a decent model. Thus, with confirmative factor analysis we validate that the two factors “interaction” and “integration” are the relevant dimensions of marketing efforts for achieving customer loyalty in electronic commerce.

As a first result of factor analysis, Figure 4 shows the distribution of marketing efforts according to different industrial sectors. Axes represent factor loads of zero, i.e. the mean of the population, because variables are standardized ( $\mu = 0$ ;  $\sigma = 1$ ). Thus, deviation from either axis represents the relative distance from mean value. In the following, however, sector-specific results will be disregarded, as case numbers would be too low.



*Figure 4: Marketing activities according to industrial sector*

For further analysis, we group cases according to their factor loads on factor “integration” and “interaction”, respectively. Cases with positive factor loads, i.e. higher parameter values than average, on the factor “interaction” represent companies practicing relationship marketing, negative

<sup>1</sup> The Inratest Burke Arbeitsstätten Master Sample was used.

factor loads stand for inactivity in this field. Equally, positive factor loads on the factor “integration” represent companies practicing customized marketing, etc. This proceeding yields a distribution of the 523 total cases according to marketing measures as in Table 1:

Factors:	Marketing activities	Number of cases
Customer interaction	Companies practicing relationship marketing	262
	Companies not practicing relationship marketing	281
Customer integration	Companies practicing customized marketing	251
	Companies not practicing customized marketing	292

Table 1: Marketing activities of the companies questioned

We tested our hypotheses by searching for significant differences between either of the two groups. We used one-factorial analysis of variance (ANOVA) with Scheffé testing. This test is rather conservative, supporting the null hypotheses [30].

## 4 Results

### 4.1 Relationship Marketing and Customer Satisfaction

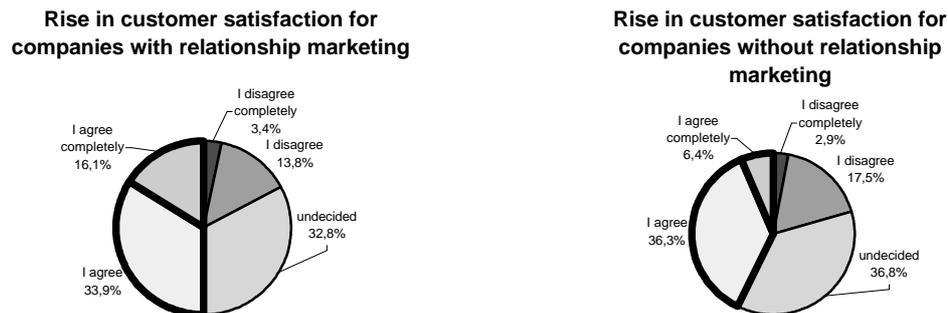


Figure 5: Customer satisfaction and relationship marketing

The business representatives were asked for the shift in satisfaction of their customers as a consequence of their electronic commerce engagement. Among all companies not practicing relationship marketing, 43.4% experienced raised satisfaction (sum of answers “I agree” and “I

agree completely”), while 50.0% of sellers with relationship marketing saw a rise in customer satisfaction. These values differ significantly ( $\alpha=0.01$ ), supporting H1, i.e. companies practicing relationship marketing realize higher customer satisfaction than companies not practicing relationship marketing.

#### 4.2 Relationship marketing and search costs

Business representatives were asked about their efforts in providing information for customers before conducting a transaction. 61.6% (sum of “I agree” and “I agree completely”) of the companies without relationship marketing were enabled by electronic commerce to offer detailed information and guidance about their products and services. Companies with relationship marketing confirmed this significantly ( $\alpha=0.01$ ) higher in 68.7% of the cases. However, questioned about providing product information from external sources, just random differences between the two groups resulted, leading to rejection of H2. It seems that companies building a close buyer-seller relationship rather use pre-sale services as a value-added service than a measure to increase opportunity costs of search. Possibly, they fear higher market transparency from impartial valuation of their products.

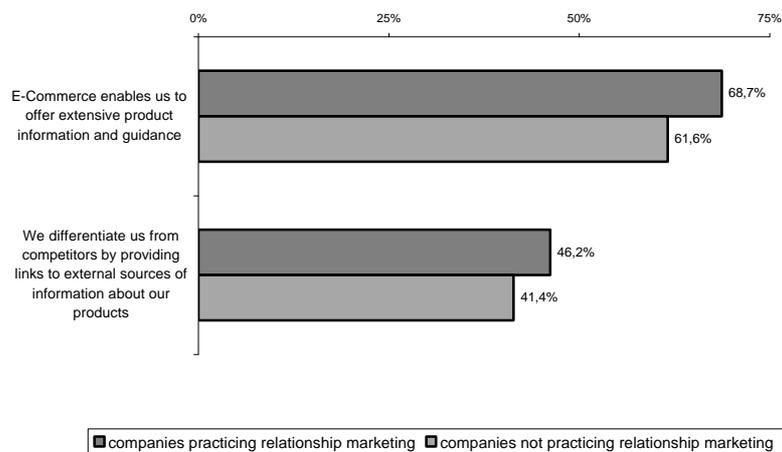


Figure 6: Pre-sale services in Electronic Commerce

### 4.3 Relationship marketing and learning costs

Companies were asked about problems of advanced training in electronic commerce in general and in particular in implementation of CRM software. As there were no significant differences between the two marketing groups, no data supporting H3 could be detected. Obviously, Internet-based buyer-seller relationships (or, products exchanged over the Internet) are still too standardized to yield an increase in costs of learning when migrating to a competitor's shop.

### 4.4 Relationship Marketing and special marketing actions

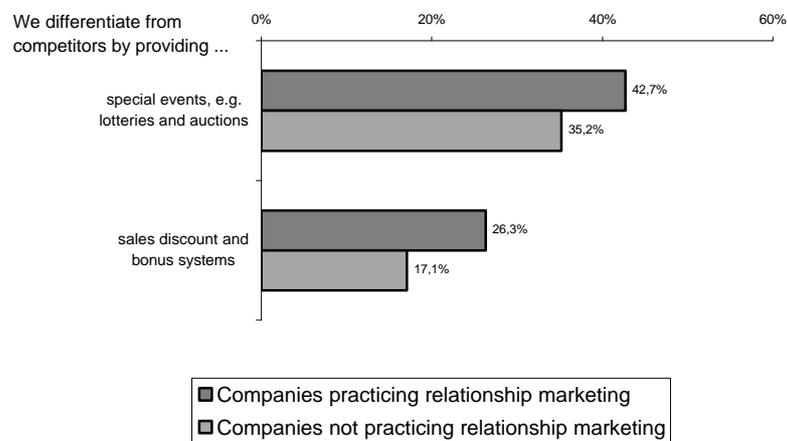


Figure 7: Special pricing actions

Business representatives were asked about their use of special pricing actions on the web to increase customer loyalty. Sales discount and bonus systems were used by just 17.1% of those companies not practicing relationship marketing, but by 26.3% of those that do so. Also, special events like lotteries or auctions, providing the possibility for customers to gain monetary benefits, were used by 32.5% of the companies without, but 42.7% of those with relationship marketing. All numbers differ significantly ( $\alpha=0.01$ ), supporting H4. However, we could not approve of that data about customer preferences resulting from participation in loyalty programs is in turn used for profiling to improve the buyer-seller relationship. Thus, the increment in special pricing actions for companies engaging in a close relationship with customers is not due to better targeting of such measures.

Rather, it seems companies use price differentiation like loyalty programs as an additional instrument, complementary to relationship marketing, to raise customer loyalty. They know about customer preferences, but cannot ascertain their willingness to pay efficiently.

#### 4.5 Relationship marketing and trustworthiness

Business representatives were asked what measures they undertake to appear as a trustworthy entity. Among all those practicing relationship marketing, 31.2% (not practicing relationship marketing: 16.0%) use a high level of security, 23.3% (12.1%) signal trustworthiness by e.g. certificates or „trusted shops“, and 57.3% (34.2%) deploy customer-friendly protection of privacy. Also, with 18.7% compared to 0.1%, companies practicing relationship marketing more frequently offer community functionalities on their web site. As all differences are significant ( $\alpha=0.01$ ), H5 is accepted, meaning relationship marketing is a measure to raise social-psychological switching costs.

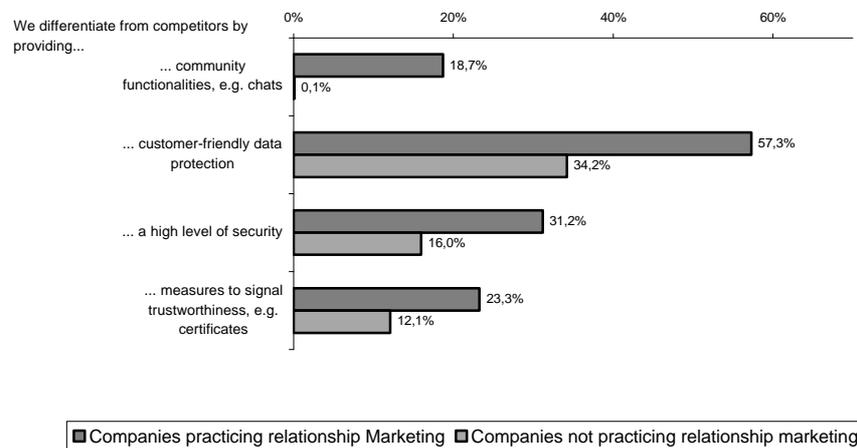


Figure 8: Relationship marketing and trustworthiness

#### 4.6 Customized marketing and customer satisfaction

Our data does not support an increase in satisfaction due to customized marketing in any way, and thus H6 is rejected. Possibly, with individual products, customer expectations rise as well, making it more difficult for companies to keep up with these requirements.

#### 4.7 Customized marketing and attractiveness of alternate offerings

Of all companies practicing customized marketing, 60.2% answered Electronic Commerce would enable them to offer a wider array of products, compared to 51.2% of those not integrating customers in the manufacturing process. Also, 75.3% (67.9%) have higher actuality of their offerings on the web. Thus, as these numbers differ significantly ( $\alpha=0.01$ ), companies are able to increase customer choices, and we accept H7.

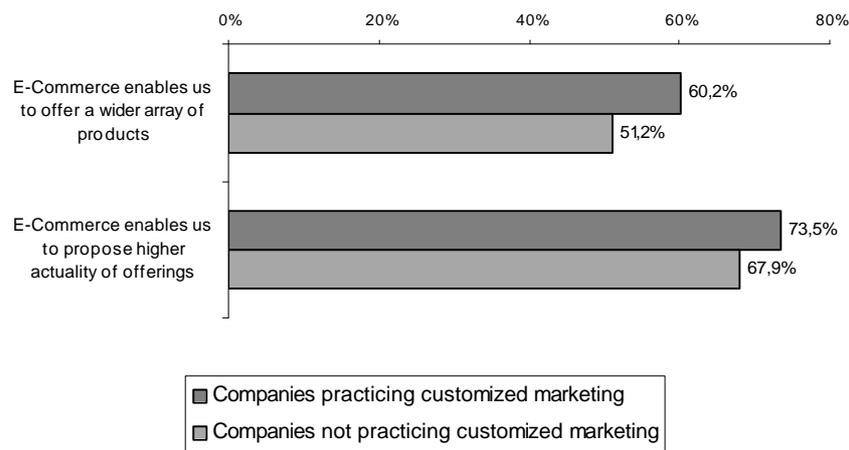


Figure 9: Customized marketing and array of products

#### 4.8 Customized marketing and variety seeking behavior

Shopping experiences offered by sellers have been questioned indirectly, by asking business representatives about how they include product specific value added services in their offerings. 31.1% of the companies practicing customized marketing, compared to 24.3% not doing so, offer value added services for mobile commerce, while 41.5% (34.9%) offer new services for electronic

commerce. These differences are significant ( $\alpha=0.01$ ), supporting H8 and indicating that variety seeking behavior by customers may be countered by customized marketing well.

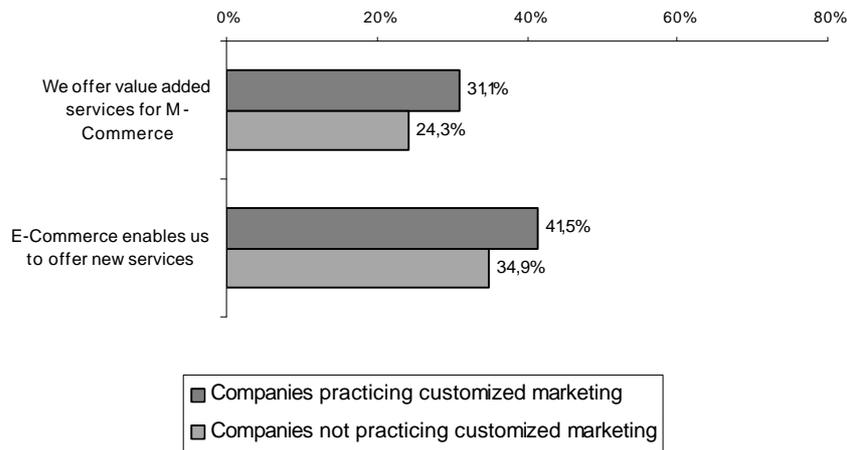


Figure 10: Customized marketing and shopping experience

## 5 Discussion

In order to regain customer loyalty in electronic commerce, companies may utilize the instrument of one-to-one marketing as a combination of relationship and customized marketing. Our main results for the effect on loyalty are:

1. Companies practicing relationship marketing are able to increase customer satisfaction, social-psychological switching costs, and partly artificial switching costs.
2. With relationship marketing, companies cannot increase direct switching costs and learning costs.
3. Companies practicing customized marketing are able to reduce the attractiveness of competitor's offerings and to counter variety-seeking customer behavior.
4. With customized marketing, companies cannot raise customer satisfaction.

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Surprisingly, customer satisfaction increases when firms practice relationship marketing, but is not further raised by individualized offerings. However, this may be due to special problems of restructuring production and unresolved efficient customer integration in electronic commerce when implementing customized marketing. This has not been reflected here, and it is an area for further research. More general, we observe two problems for implementation of one-to-one marketing: costs and privacy issues.

One-to-one marketing is combined with high risks for sellers. Contrary to mass marketing, the first customer approach already yields high costs, returns result not until a time period for establishing a buyer-seller relationship has passed by [12]. These costs are sunk costs, as the seller solely bears the risk of customer migration after few transactions. Also, individual production may generate high costs [6]. Thus, the additional benefits of meeting customer preferences should relate reasonably to costs. A seller should be able to individualize products or services by mass production. For instance, when mass customization is combined with modular design, a variety of product variants may be offered without variety of production processes [19].

Moreover, cooperative customer behavior is a precondition of one-to-one marketing. Otherwise, profiling will not be efficient. Customers must be willing to reveal private data with their first purchase and ongoing, subsequently. However, many customers reject this and refuse to engage in a relationship with sellers closer than necessary, because they do not realize immediate benefits from this [19], and because of a lack of mutual trust [28]. Thus, mutual trust between buyer and seller is another precondition for one-to-one marketing. In order to promote trust, privacy of the data collected must be ensured.

Generally, our interpretation is that one-to-one marketing is a powerful instrument for raising customer loyalty, even if sustainable success in doing so could not be proved yet due to the short time horizon. Despite implementation problems, in order to counter competitive pressures in

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electronic commerce, it is thus recommended for companies to carefully examine arranging their organizational structure according to one-to-one marketing.

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