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Brand Building on the Internet – An empirical Analysis

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Abstract:

On the Internet today, a type of customer called “Information Seeker” may develop more easily, who tries to gather independent sources of information about different products prior to purchase and thus makes a deliberate selection rather than trusting sellers or brands. Therefore, the function of brands in transmitting information will lose significance, with enormous impact on brand loyalty, especially for information-based products. However, within a model of brand perception, we argue that non-describable aspects of products, experience and trust properties, will compensate for this effect. Thus, the importance of brands in transmitting non-describable information will rise leading to new success factors for brand building on the Internet. Based on this theoretical background, we empirically analyze the success factors for brand building on the Internet. We show how brand loyalty may actually rise despite the advent of the “Information Seeker”. Empirical evidence is taken from a sample survey of electronic commerce strategies among German companies.

1 Introduction

1.1 Product information on the Internet

Sustaining customer loyalty is one of the major challenges companies face in electronic commerce today, and it becomes harder for companies to gain a large base of satisfied customers. In this paper, we analyze from the perspective of information economics how branding may raise customer loyalty on the Internet. Regarding information, two major implications of the Internet may be identified:

- **Reduction of search costs and information seeking activities:** With search engines or portal sites, buyers may easily obtain information about products or quality of service, and even entire transactions may be conducted without difficulty [27]. In general, buyer search costs are reduced by Internet technology [3], and Web surfing patterns follow utility maximizing behavior [13]. Thus, customers who want to make deliberate purchases by being better informed about products – called “Information Seekers” [25] – will be able to rely on various sources of information and base their purchasing decision rather on price and quality than brand image. In fact, behavioral research provides evidence for the emergence of information seeking customers [5], and their use of sophisticated search techniques described by e.g. [6]. Thus, brand building is potentially threatened because brands are a substitute for information [8], and the latter becomes distributed more easily.
- **Quantity and quality of information on the Internet:** On the other hand, publishing information has become cheaper as well as searching for information. Increased information quantities have led to the phenomenon of information overflow. Finding specific information may be a challenging task for customers on the Internet, processing

all available information about a product may be impossible. Thus, although cheaper to obtain, information is far from being costless [22]. Also, the quality of the information obtained is not guaranteed. Untrustworthy firms, hate sites, etc. may appear as serious sources, and customers face the risk of trusting false information. Actually, the unreliability of information is one of the most recognized hurdles of electronic commerce, e.g. [20], and an overall failure of electronic markets may result from uncertainties about reputation of sellers, e.g. [17]. Thus, an information filtering mechanism providing useful and reliable information, like a brand, as a signal of product quality [16] may yet be necessary.

1.2 Brand building on the Internet

A brand is “a name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers” [1] Brand building aims for brand loyalty, i.e. repeated purchases from one brand for other reasons than price [26]. This is achieved by creation of brand publicity and brand image, and thus a monopoly position in customer awareness [9]. Besides awareness and involvement as rather “soft” factors resulting from branding, with a strong and unique brand a seller also increases his mark-up margin.

From the perspective of information economies, brands reduce uncertainties as customers can only absorb and process limited quantities of information, and for experience and trust characteristics of goods (see ch. 1.3), they must rely on brands as surrogates for information. Brands may be surrogates for information because they trustworthily signal quality for three reasons:

- Brand building and care impose fixed costs on sellers. If the seller's image shrinks due to untrustworthy behavior, these costs are sunk costs [26], and therefore, sellers signal their reputation with brands.
- Large sale numbers are a signal of quality because otherwise press coverage is expectable [26].
- Preferences of other customers may be observable, and their behavior allows conclusions about quality to be drawn [15].

1.3 Product information and product characteristics

Despite the fact that information about products may be more or less easily acquired, nevertheless some uncertainty remains with the buyer about product quality and whether it actually meets his preferences. Uncertainty may even rise on the Internet because e.g. untrustworthy firms may try to achieve short-term profits [27]. Uncertainty is due to the fact that some product characteristics cannot be communicated. Product characteristics may be allocated in three categories [16] [7]:

Search and inspection characteristics: These are properties that a customer may evaluate completely prior to purchase, e.g. price, color, size, etc. Information about search attributes may be communicated easily on the Internet. As information seeking customers engage in searching for price and features of a product, the need for brands as substitute for information is reduced. Price search is particular feasible in commodity markets where price comparison is straightforward. Also, a general rise in cost transparency on the Internet increases sensibility for price mark-ups and encourages customers to conduct price searching even in rather intransparent non-commodity markets [21]. Also, product features may be presented easily on the Internet, promoting partial commoditization of heterogenous products. In

conclusion, information asymmetries between seller and buyer may be levelled by information seeking customers on the Internet. Thus, in respect of search characteristics, they will rather rely on collected information than on brands, and brand value will depreciate.

Experience characteristics: These are properties a customer may evaluate after purchase when consuming the product, e.g. the taste of food products. Information about experience characteristics is rather difficult to obtain, hence consumers either rely on their own experiences from previous purchases (internal information) or on external knowledge, e.g. reviews by other users like at dooyoo.com. However, when sharing knowledge with others, credibility of the source of information is essential [29]. Thus, only partial levelling of information asymmetries is possible on the Internet, and customers still need to trust brands in respect of experience characteristics.

Trust characteristics: Trust characteristics can never be judged entirely by a customer, because asserting their truthfulness yields prohibitive costs [28], e.g. proving car safety in a crash will be too expensive for a customer. As gathering information is too expensive, in order to reduce remaining uncertainties about product quality, customers must trust other sources of information, e.g. rely on brands [18] [19]. Trust in a seller – or a third party rating a seller – is global, i.e. relating to the overall quality of a seller, not a specific product [28]. In respect of trust characteristics, credibility and branding remain important ways of reducing information asymmetries on the Internet.

Therefore, with branding, a seller will aim for establishing the brand as a surrogate for information with respect to three product characteristics. Sellers will inform customers about product features. On the Internet, sellers may thus provide extensive product information as

part of their branding, we will call this aspect “information branding” in the following. Experience characteristics may be promoted by e.g. establishing communities on the Internet where customers share their experiences with others (“experience branding”). Finally, trust may be endorsed by e.g. privacy protection, certified trustworthy shops, etc. (“trust branding”).

2 Hypotheses

In this paper, we analyze the impact of branding on brand loyalty in electronic commerce. Measuring loyalty may be conducted either directly – as actual repeated sales to customers – or indirectly, via further parameters determining loyalty. The former brings along the disadvantage of intertemporal shifts because 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 [23]. With the latter approach, we focus on customer satisfaction as the most recognized cause parameter for customer loyalty (e.g. [14], [12]) rather than brand publicity and image, because, other than image, satisfaction measures may be directly compared. Customer satisfaction results from a product meeting (at least) customer expectation [23].

Generally, we expect customer satisfaction to rise when sellers establish brands. For information branding, customers should profit from the brand as an information filtering mechanism, resulting in, among other things, a more distinct perception of their expectations [12]. For experience and trust branding, customer satisfaction should rise as well if the brand truthfully signals product quality. This leads to

Hypothesis 1: With information branding, companies raise customer satisfaction.

Hypothesis 2: With experience branding, companies raise customer satisfaction.

Hypothesis 3: With trust branding, companies raise customer satisfaction.

Furthermore, we want to analyze the strength of the correlation between branding and customer satisfaction. From the high substitutability between information and brands with respect to information characteristics of products, and the increased information seeking activities from customers, we infer that information branding will be less successful than trust and experience branding in general.

Hypothesis 4: Information branding is less influential on customer satisfaction than both experience and trust branding.

In particular, we also expect differing influence of branding aspects on loyalty according to market segment. For instance, the information characteristics of producer goods, including raw and auxiliary material, diminish along the value chain, and are least identifiable for end users [11]. Thus, in business-to-business markets, the substitutability between brands and information should be higher than in business-to-consumer markets. This implies a greater threat to branding on the one hand and on the other, an increase in relative importance of information branding in the business-to-business segment compared to business-to-consumer. Also, we expect the relative importance of trust branding to be higher in the business-to-consumer segment because in the business-to-business segment trust in a seller may emerge from other sources than branding, e.g. long lasting buyer-seller relationships [10].

Hypothesis 5: Branding has less influence on customer satisfaction in the business-to-business segment than in the business-to-consumer segment.

Hypothesis 6: The relative influence of information branding on customer satisfaction in the business-to-business segment is higher than in the business-to-consumer segment.

Hypothesis 7: The relative influence of trust branding on customer satisfaction in the business-to-consumer segment is higher than in the business-to-business segment.

3 Methodology

3.1 Data

Our data accrues from a sample survey¹ 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. [24].

3.2 Coding

Business representatives were asked nine questions about their marketing efforts in brand building. In order to prove our concept of brand building according to information, experience, and trust characteristics, 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.

¹ The Infratest Burke Arbeitsstätten Master Sample was used.



Figure 1: Factors determining brand building

In order not to distort results, we considered only those cases where all nine questions were answered (n=941) in the factor analysis [2]. Three factors could be extracted (Guttman-Kaiser criterion, i.e. eigenvalue > 1), resulting in an interpretation as depicted in figure 1 (solution after varimax rotation). The factors account for 53.0% of total variance, yielding a proper model. Also, the factor solution is very robust to changes, i.e. for separate factor analyses with slight parameter changes, we achieve the same qualitative results. Thus, with confirmative factor analysis we validate that the three factors “information branding”, “experience branding”, and “trust branding” are the relevant dimensions of brand building in electronic commerce.

For analyzing **general correlation** between a brand dimension and customer satisfaction, as a determinant of loyalty, we group cases according to their factor loads on each of the factors, respectively. Cases with positive factor loads, i.e. higher parameter values than average, on the factor “information branding” represent companies engaging in establishing a brand as a

presentation of information characteristics of products, negative factor loads stand for inactivity in this field. Equally, positive factor loads on the factor “experience branding” represent companies whose brand building aims for communicating experience characteristics, etc. This proceeding yields a distribution of the 941 total cases according to brand building measures as in table 1. We tested our hypotheses 1-3 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 [4].

Factors:	Branding activities	Number of cases
Information branding	Companies practicing information branding	505 (53.7%)
	Companies not practicing information branding	436 (46.3%)
Experience branding	Companies practicing experience branding	456 (48.5%)
	Companies not practicing experience branding	485 (51.5%)
Trust branding	Companies practicing trust branding	435 (46.2%)
	Companies not practicing trust branding	506 (53.8%)

Table 1: Brand building activities of the companies questioned

For analyzing **relative importance of brand ingredients** (H4), we subsequently conducted (hierarchical) cluster analysis (WARD method) on the three factors [2]. With cluster analysis, relative homogenous groups compared to variance in population may be identified, in our case four clusters were identified (Elbow criterion). This way, we are able to group companies according to their parameter value of branding activities. The distribution of companies among the clusters is shown in table 2.

Cluster number	Number of cases	Percent of cases	Parameter Value			Market Segment		
			Information branding	Experience branding	Trust branding	B-C	B-B	B-A
1	327	34,8	High ($\mu=.81, \sigma=.50$)	Low ($\mu=-.53, \sigma=.61$)	Medium ($\mu=-.19, \sigma=.84$)	46.1%	50.8%	3.1%
2	300	31,9	Low ($\mu=-.31, \sigma=.95$)	High ($\mu=.92, \sigma=.70$)	Low ($\mu=-.41, \sigma=.73$)	46.6%	51.0%	2.4%
3	99	10,5	Medium ($\mu=.31, \sigma=.54$)	High ($\mu=.87, \sigma=.80$)	High ($\mu=1.74, \sigma=.55$)	46.9%	46.9%	6.3%
4	215	22,8	Low ($\mu=-.95, \sigma=.74$)	Low ($\mu=-.88, \sigma=.31$)	Medium ($\mu=.06, \sigma=.86$)	45.1%	48.8%	6.1%
Total	941	100,0	($\mu=0, \sigma=1$)	($\mu=0, \sigma=1$)	($\mu=0, \sigma=1$)	46.1%	50.0%	3.9%

Table 2: Brand building activities of different clusters

In **cluster 1**, there are 327 cases with a positive load on the factor information ($\mu=0.81$, standard deviation $\sigma=0.50$), low balance on experience branding, and an average value on trust branding, with respect to values in population. In this group, the “information branding cluster”, spreading across market segments is similar to population, but companies accrue more from the trade and commerce branch (23.6%) than in population (19.9%). Internet experience is fairly low: 80.4% of the companies are on the Internet for less than 3 years (56.4% less than 2), and only 4.8% for more than 5 years. The distinctive feature of **cluster 2** is experience branding, while the other branding instruments are deployed less than in population. Companies rather belong to the media sector (7.9% compared to 6.0% in population), and Internet experience is on the average (mean value of 2-3 years). Companies in **cluster 3** engage in trust and experience branding. They are overweighted in the business-to-administration market segment, and they rather come from public administration (2.0%

resp. 0.8%) and rather not from manufacturing industry (23.2% resp. 31.9%). Their Internet experience is highest with 37.9% being on the Internet for more than 3 years. Companies in **cluster 4** also rather belong to the business-to-administration sector, but they are far less active in branding than others. These companies more likely are manufacturers (36.5% resp. 31.9%) and less likely in the data processing branch (1.9% resp. 3.8%). Also, they have low Internet experience with 80.0% being on the Internet for less than 3 years (54.5% less than 2). All clusters represent subsets from population that are more homogenous than it, which can be inferred from the fact that all standard deviations of factor loads within clusters are lower than the standard deviation of population.²

For analyzing **relative importance of brand ingredients according to market segments**, we repeated factor analyses separately for each of the market segments business-to-business (n=463) or business-to-consumer (n=427) the companies felt belonging to. Companies belonging to business-to-administration or not having answered this question (n=51) have been excluded from further analysis. Interestingly, for both market segments the factor analysis yields the same results as for population (see figure 1), i.e. correlations between variables and factors have the same amplification. The three factors account for 54.0% of total variance in the business-to-business segment and 52.0% in the business-to-consumer segment. Also, ranking of variables in explaining factors as well as of factors in accounting for variance remains the same. From this we can infer that there are no systematic distortions on branding activities from market segment.

² Note that the averages of 0 and standard deviation of 1 in population are due to standardization of variables.

4 Results

4.1 General correlation between brand building and customer loyalty

The impact of **information branding** on customer satisfaction is obvious: 43.6% of the 505 companies practicing information branding state that customer satisfaction has increased due to their Internet commitment (sum of "I agree" and "I agree completely"), but significantly ($\alpha=0.05$) less only 30.5% of those not practicing information branding (see figure 2).

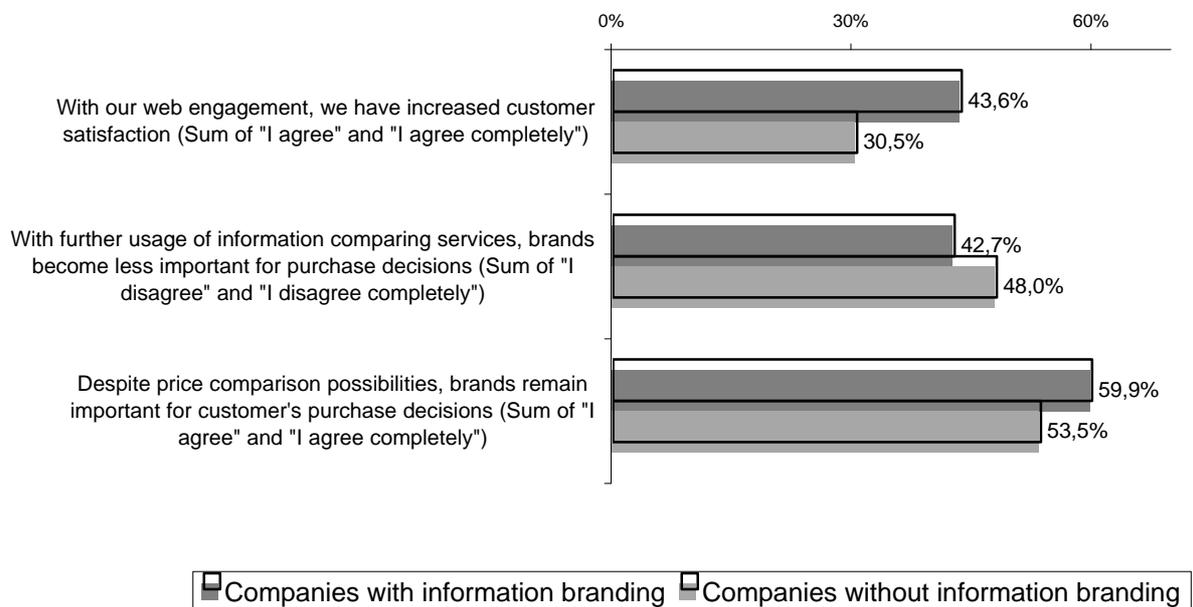


Figure 2: Information branding

It is interesting to note that the companies practicing information branding also fear a significant ($\alpha=0.05$) higher threat for their brands from information comparing services on the Internet, while they worry less about price comparing services, with respect to those companies not practicing information branding. Our explanation of this is twofold: Information branding is one way of product differentiation, and thus exacerbated price comparison is less of a danger. Transparency of information may yet rise in respect to core

product features. In other words, the threat to brands results rather from commoditization of product features than from levelling of prices. Secondly, information branding may actually be the response to information transparency. In fact, 56.5% of the companies fearing information transparency conduct information branding compared to 53.7% of population. Also, 78.3% of companies practicing information branding (compared to 71.5% who do not) state that their customers became more demanding, i.e. closer to be “Information Seekers”. All differences are significant ($\alpha=0.05$), and H1 is supported.

For **experience branding**, we did not find evidence of an increment in customer satisfaction. Differences in satisfaction between companies practicing experience branding (40.2%) and those not (35.4%) were stochastic. Thus, H2 is rejected.

Trust branding is a measure to increase customer satisfaction: 45.3% of the companies committing trust branding noticed more satisfied customers, and only 29.9% of those not doing so (see figure 3). H3 is supported ($\alpha=0.05$).

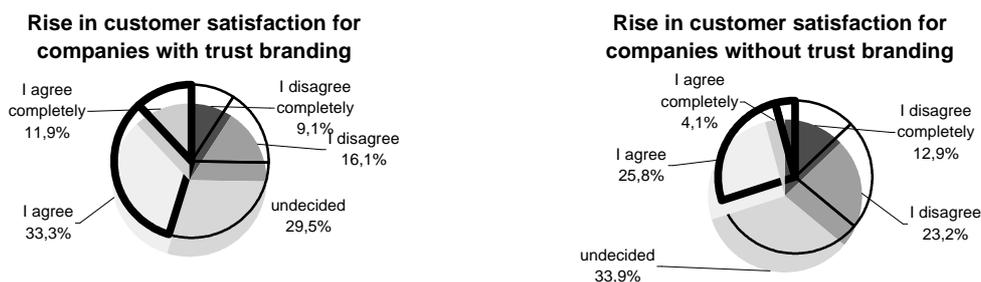


Figure 3: Customer satisfaction and trust branding

4.2 Relative importance of brand ingredients for raising customer loyalty

How companies combine brand ingredients is shown in table 2. In cluster 4, none of the factors is deployed. Only 30.1% of the companies in this cluster are able to raise customer

satisfaction (sum of “I agree” and “I agree completely”), significantly ($\alpha=0.05$) less than all other groups (see figure 4). The difference between companies practicing just information branding (38.1%) and those practicing just experience branding (36.5%) is stochastic, i.e. experience branding does not have a larger influence on customer satisfaction, leading to rejection of H4. The separation of trust branding as a sole factor was not possible. Only the combination of trust and experience branding (53.5%) proves to raise satisfaction more than just information branding ($\alpha=0.1$).

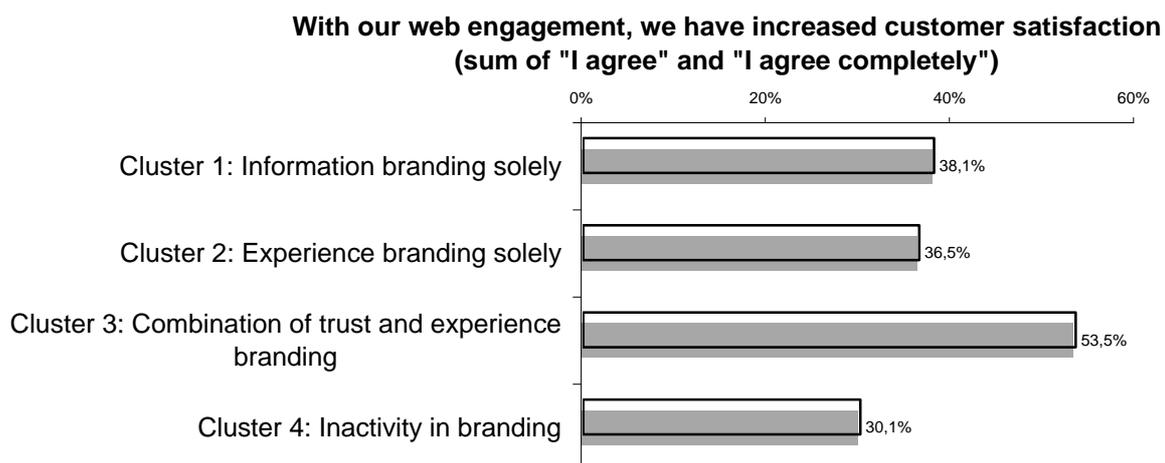


Figure 4: Brand ingredients and customer satisfaction

With further implications from our cluster analysis, we interpret our results in the following way: The group of companies committing experience branding (cluster 2) aims for a rather “classical” form of branding on the Internet, where promoting experience characteristics is the first step of marketing beyond simple presentation of information characteristics of products. However, they are not very successful in achieving loyalty, and with longer experience on the Internet, companies realize the importance of trust, and they commit both experience and trust

branding (cluster 3). This explains why there is no group practicing trust branding solely. Thus, despite rejection of H4, the combination of trust and experience branding nevertheless successfully increases brand loyalty on the Internet.

On the other side, some companies profit from market transparency, and they use information branding as a way to enhance commoditization in the market (cluster 1). This interpretation is supported by the fact that among the firms in cluster 1, 27.1% follow the strategic goal of cost leadership, compared to 13.4% in cluster 2 and 17.7% in cluster 3. These differences are significant ($\alpha=0.1$). The separation of information branding as a different strategic approach than trust and experience branding also explains the fact that there did not appear a group practicing all three branding aspects together in our cluster analysis. This result even holds for separate cluster analyses we performed with slight parameter changes not presented here.

4.3 Relative importance of brand ingredients according to market segments

The general influence of branding in different market segments is shown in figure 5 and figure 6. In the business-to-business segment, 31.0% of all companies observed an increment in customer satisfaction (sum of “I agree” and “I agree completely”). This value was further upraised by those committing information branding in the sector to 35.7%, compared to 25.2% without information branding. For experience branding, 31.3% compared to 30.8% resulted, for trust branding 34.1% resp. 28.3%. Only the difference in information branding was significant ($\alpha=0.05$). In the business-to-consumer segment, overall satisfaction was at 46.9%. The business-to-consumer companies committing information branding realized 52.2% (compared to 40.2% that did not), 49.2% for experience branding (otherwise 44.6%), and 55.7% resp. 38.2% for trust branding. The advances in satisfaction resulting from information and trust branding were significant ($\alpha=0.1$).

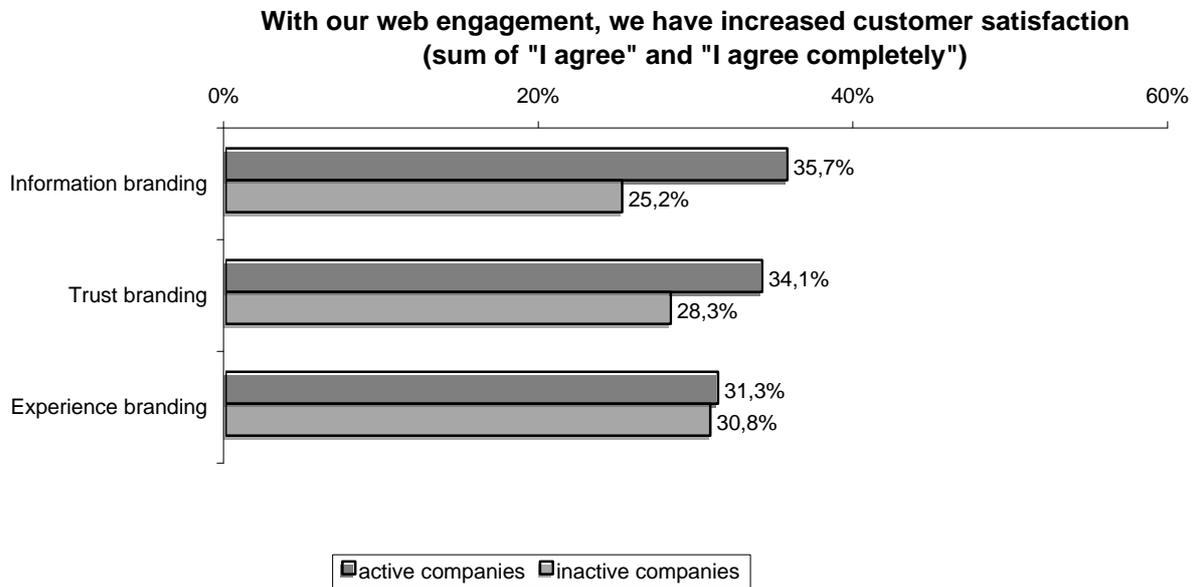


Figure 5: Brand ingredients in the business-to-business sector

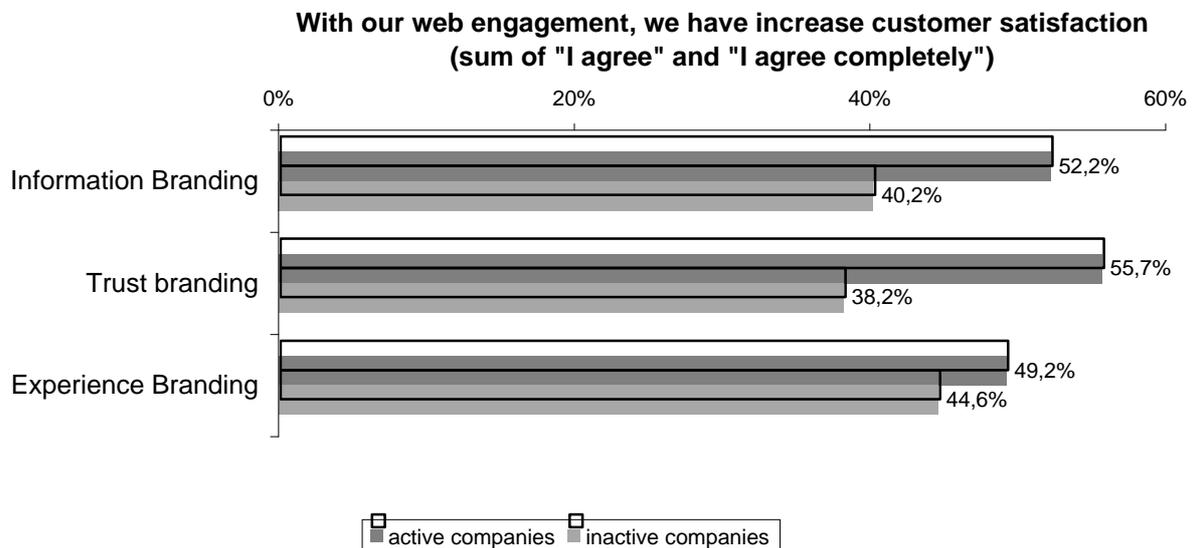


Figure 6: Brand ingredients in the business-to-consumer sector

Thus, we observe that the qualitative influence of branding in the business-to-business segment is lower than in the business-to-consumer segment, because only one of the factors of brand building keeps influence, supporting H5. In the business-to-business sector, aspects like intensive buyer-seller relationships play a role, substituting for branding. Furthermore, firms committing information branding raise the value of observed increments in customer satisfaction from 40.2% to 52.2% in the business-to-consumer segment, i.e. by 30%, compared to a step from 25.2 to 35.7% in the business-to-business sector, i.e. by 42%. This data supports H6. Finally, trust branding does not have a significant influence on customer satisfaction in the business-to-business segment while it does in the business-to-business segment, supporting H7.

In conclusion, results are resumed in table 3:

Hypothesis	Result
H1: With information branding, companies raise customer satisfaction	accepted
H2: With experience branding, companies raise customer satisfaction	rejected
H3: With trust branding, companies raise customer satisfaction	accepted
H4: Information branding is less influential on customer satisfaction than both experience and trust branding	rejected
H5: Branding has less influence on customer satisfaction in the business-to-business segment than in the business-to-consumer segment.	accepted
H6: The relative influence of information branding on customer satisfaction in the business-to-business segment is higher than in the business-to-consumer segment.	accepted
H7: The relative influence of trust branding on customer satisfaction in the business-to-consumer segment is higher than in the business-to-business segment.	accepted

Table 3: Total results

5 Discussion

Branding may be utilized in order to regain customer loyalty in electronic commerce. We differentiated the three instruments information, experience, and trust branding, and analyzed their effect on customer satisfaction as a measure for brand loyalty. Our main results are:

- With the instruments information branding and trust branding, companies can raise customer loyalty.
- Implementation of experience branding as a sole instrument cannot raise loyalty. Information seeking customers mistrust information sources on the Internet. Therefore, sellers need to promote the reliability of information sources with trust branding in order

to increase loyalty. The combination of trust and experience branding indeed proves to be successful in doing so. Trust branding is particularly important in the business-to-consumer segment where buyer-seller relationships are less intensive than in the business-to-business segment.

- Information branding is a strategic approach to increase market transparency, whereas trust and experience branding rather aims for the opposite. Thus, with the former, the brand is deployed as a measure to reduce the information overflow by commoditization of products, i.e. the quantity of information about products needed in the market. With the latter, brands are utilized as information filtering mechanisms by enhancing the quality of information in the market and promoting uniqueness of products.
- In the business-to-business market segment, branding is less influential on purchasing decisions because other substitutes for brands exist.

Generally, our interpretation is that branding is a powerful instrument for raising customer loyalty on the Internet that may even be combined with other marketing techniques in an overall brand building policy, e.g. one-to-one marketing, with additional impact on loyalty. As Internet maturity grows, and as establishment of new brands settles, we expect the importance of trust branding to rise further in the future. Trust is particularly important on the Internet, but it cannot be established within a short time horizon. For instance, the currently emerging reputation mechanisms on the Internet still need to prove reliability in successfully preventing untrustworthy behavior in electronic commerce [17].

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