Electronic Word of Mouth: Motives for and Consequences of Reading Customer Articulations on the Internet

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ABSTRACT: The Internet makes it possible for consumers to obtain electronic word of mouth from other consumers. Customer comments articulated via the Internet are available to a vast number of other customers, and therefore can be expected to have a significant impact on the success of goods and services. This paper derives several motives that explain why customers retrieve other customers' on-line articulations from Web-based consumer-opinion platforms. The relevance of these motives and their impact on consumer buying and communication behavior are tested in a large-scale empirical study. The results illustrate that consumers read on-line articulations mainly to save decision-making time and make better buying decisions. Structural equation modeling shows that their motives for retrieving on-line articulations strongly influence their behavior.

KEY WORDS AND PHRASES: Customer articulations on the Internet, customer-opinion platforms, electronic marketing, word of mouth.

Word of mouth, defined as "all informal communications directed at other consumers about the ownership, usage, or characteristics of particular goods and services or their sellers" [36, p. 261], is an important determinant of consumer behavior [3, 5, 15, 18]. Using the Internet, consumers are able to obtain information related to goods and services not only from friends, acquaintances, and colleagues, by means of personal communication, but also from a myriad of other people, otherwise unknown to them, who have had experience with the relevant products [26]. So-called virtual opinion platforms (sometimes also called "consumer portals") have emerged as special Internet offerings that allow consumers to tap articulations (i.e., opinions, comments, etc.) of other consumers on a great number of goods, services, and companies. Such opinion platforms are found in the United States, South America, Europe, and China. As of July 2002, the two largest German opinion platforms, ciao.com and dooyoo.de, had fast-growing archives of more than 5.6 million articulations that consumers can view at any time at no charge.

The wide dissemination of virtual opinion platforms and their high level of acceptance by consumers suggest that customer articulations on opinion plat-

The authors thank the customer affairs department of the Deutsche Bahn AG for helping to organize the data sets used in this research. They acknowledge the support of Ursula Hansen, Vanessa Eifler, and Frank Datz from the Customer Articulations on the Internet Project team for their many valuable comments. Special thanks go to Lutz Helmcke of einsmedia.de, Bremen for his sedulous efforts in programming the questionnaire as well as to the management of ciao.com, dooyoo, hitwin, and Vocatus for their support of this research project. Finally, the authors are especially grateful to two anonymous *IJEC* reviewers for their helpful and insightful comments.

International Journal of Electronic Commerce / Winter 2003–4, Vol. 8, No. 2, pp. 51–74.

1086-4415/2004 $9.50 + 0.00.

forms exert an influence on consumer buying and communication behavior and, consequently, on the market success of products [31, 32]. It is important, therefore, to know how much consideration consumers give such articulations when making decisions and what factors have the most influence. With regard to the latter aspect, consumers' motives for reading articulations on opinion platforms are an important research issue.

Customer Articulations on Virtual Opinion Platforms

The Internet offers various ways to obtain product-related information from consumers (e.g., boycott sites, guest books, customer chats, discussion forums, news groups). Owing to their significance in terms of numbers of users and applicability to all branches of commerce, the discussion in this article will focus on virtual opinion platforms. Consumer articulations have been defined as Internet communication directed at a multitude of consumers "by potential, current or former customers . . . relating to consumption experiences and circumstances" [32, p. 242]. Articulations on virtual opinion platforms are published in a part of the Internet that is controlled, not by a company or by the consumer, but by a third party, the platform conductor. Virtual opinion platforms make it possible for consumers to read the opinions and experiences of other consumers in many different areas of consumption. Those who consult the platforms can also write (i.e., publish) their own contributions. Virtual opinion platforms require less Internet-related expertise than news groups and other articulation modes. They are not aimed at small specialist groups but provide information on almost every area of consumption.

Virtual opinion platforms are a global phenomenon offered to consumers in many regions, including North America (e.g., epinions.com, consumer review.com), Western Europe (e.g., dooyoo.com and ciao.com in the United Kingdom, France, Germany, Spain, and Italy; livra.com in Spain and Portugal; plebiscity.fr in France), South America (e.g., livra.com in Argentina, Brazil, and Mexico), India (e.g., customerpowernyou.com and mouthshut.com), and China (e.g., it168.com). Although the owners have not disclosed detailed statistics on platform performance and success, one may infer from the available information that platforms are well accepted by Internet users. In Germany alone, the three biggest platforms, ciao.com, dooyoo.com, and Vocatus.de, collectively claim about 40 million page impressions per month, with approximately 1.5 million registered members.

Virtual opinion platforms differ in minor ways but have similar basic functions. They enable consumers to read the opinions and experiences of other consumers relating to a wide range of product and service categories. Contributions on opinion platforms usually include both a verbal account of a consumer's experience with a product and a formalized rating of the product. Readers have the opportunity to assess the quality and trustworthiness of individual contributions,[1] and their ratings are visible to other readers. In addition to offering contributions by consumers, opinion platforms may support the decision-making process though links to on-line retailers and ratings or product evaluations by consumer-interest organizations (e.g., the National

Consumer Council in the United Kingdom, the Stiftung Warentest in Germany), all of which enhances the accrual of a virtual "circle of friends." The platforms have similar business models. Revenues are earned from banner advertising and from offering market-research services. Some income may also derive from sales commissions, and this, of course, is a possible source of conflict with the platform's trustworthiness [19].

Motives for Reading Customer Articulations on Virtual Opinion Platforms

Identifying Motives

To examine the impact of virtual opinion platforms on consumer decision-making, it is necessary to identify the motives that induce consumers to seek information from these sources.[2] Motives are the "general drivers that direct a consumer's behavior toward attaining his or her needs" [1, p. 78]. As a result, they significantly determine consumer behavior and therefore are useful in explaining why consumers read other consumers' articulations on virtual opinion platforms. Drawing on established theories and concepts of communication and consumer behavior, the research described in this article uses a deductive approach to examine motivations for consulting virtual opinion platforms. The deductive analysis began by identifying theories and concepts that would help explain why users read customer articulations on the Internet (i.e., identification of motives), especially on Web-based opinion platforms.[3]

In the context of opinion-leader theory [6, 12], Schiffman and Kanuk speculate on the communication motives of opinion followers (i.e., consumers who seek information from opinion leaders) [28]. Drawing on Dichter's motive typology for information givers, they theoretically derive corresponding motives for information-seeking behavior [9]. Schiffman and Kanuk refer to *risk reduction* with regard to buying decisions and the *reduction of search time* as "self-involvement motivations" [28, p. 560]. The first motive results directly from risk-related theoretical considerations. The second can be explained as an effort to reduce the time needed to procure a product, motivated by the consumer's self-perceived lack of time [8, 30]. Wiedmann, Walsh, and Mitchell provide support for the relevance of both motives, arguing, "As markets become saturated with information and products, it is increasingly difficult for consumers to know and process all alternatives. . . . in such circumstances, competent advisors . . . can help consumers become informed without their engaging in cognitively demanding and time-consuming search activities" [37, p. 196].

Schiffman and Kanuk designate another group of motives, *learning how a product is to be consumed* and *learning what products are new in the marketplace*, as "product-involvement motivations" [28]. The first motive's relevance with regard to on-line articulations was supported empirically by Granitz and Ward, who reported that 20 percent of the 204 customer articulations in a news group "were devoted to discussions of how to use a product" [17, p. 164]. Such customer articulations will have a high degree of relevance for the reader's spe-

cific consumption situation because opinion platforms allow customers to search for information in an individualized manner. Curiosity and novelty-seeking explain why consumers need to learn what products are new in the marketplace.

The social function of consumption is the source from which Schiffman and Kanuk derive "other-involvement motivations" [28]. Presumably consumers read product-related information on opinion platforms in order to evaluate the product and its associated social prestige (i.e., to *determine their social position*).[4]

Another motive can be derived from the theory of cognitive dissonance [e.g., 35]. Having decided on a specific product, consumers often experience cognitive incongruence related to information about the alternative offers they have rejected. Cognitive incongruence may also be caused by conflicting information from other sources (e.g., a friend's recommendation vs. an advertisement). Incongruence can be reduced by neutral or unbiased information that confirms the consumer's assessment of a consumption situation or the soundness of the consumer's choice. Since virtual opinion platforms offer unbiased information on a host of products, they are an appropriate information source for reducing cognitive incongruence after a purchase. Consequently, *dissonance reduction* is a motive category for reading contributions on opinion platforms.

In addition to the motives mentioned above, which are rooted in traditional consumer research, two additional motives can be derived from the specific characteristics of virtual articulations. First, many opinion platforms reward consumers, directly or indirectly, for reading contributions.[5] The motivational character of monetary incentives has been demonstrated in numerous psychological studies (especially in organizational psychology [7]), and therefore one may expect that *remuneration* represents an independent motive for reading other consumers' on-line articulations.

A final motive can be derived by applying social-psychological Internet-related community research to readers of contributions who become members of a virtual user community (e.g., [11, 16]). Such membership, manifested in the exchange of product opinions, is usually linked to an intrinsic motivation: "Consumers may be turning to the Internet to interact with others who share their 'consuming passions' " [17, p. 161]. This motive is designated as *belonging to a virtual community.*[6]

Empirical Assessment of Motive Relevance and Structure

The relevance of the eight theoretically derived motives for reading customer articulations on opinion platforms was assessed through an on-line survey in December 2000. The questionnaire was accessible through (1) a banner link on the home page of the Deutsche Bahn AG (German Rail; one of Germany's more frequented Web sites),[7] (2) pop-ups on the Web sites of two platforms (dooyoo.com and hitwin.de) that pointed users to the survey, and (3) individualized e-mails to a random sample of registered members of two other platforms (ciao.com and Vocatus.de). The participating opinion platforms were

chosen for the study because they are the four most frequented platforms in Germany.[8] In every case, respondents were informed that the survey was part of a scientific project to study consumers' use of opinion platforms. As a participation incentive, 20 discount cards ("Bahncards") and 50 books were raffled among participants. All told, there were 4,274 responses. From these, 2,968 subjects who had already read comments on opinion platforms were considered. Questionnaires from which more than 10 percent of the requested information was missing were discounted (n = 65). The final sample consisted of 2,903 usable questionnaires. Table 1 provides basic demographic information on the subsamples generated from the German Rail site and the four platform sites and on the overall sample.

Since there were no established scales on motives for reading customer articulations on-line, new ones had to be developed. Two items were formulated for each reading motive, because the questionnaire was not long enough for a larger number of items per motive. An extensive multi-item scale might have been created, but recent research has questioned the usefulness of such instruments [10]. All the motives showed strong reliabilities ($a > 0.74$; see Appendix 1). No immediate measure of construct validity was available because the development of theory with regard to customer on-line articulations is still in an early stage. In consequence, several proxies were used to ensure the validity of the scales.

Expert validity was secured by including experts from three German platforms in the item-generation process. During several feedback loops, the CEOs or heads of market research of ciao.com, dooyoo.com, and Vocatus.de commented on the relationship of the items to the respective motives and also on their understandability.

Criterion validity was ensured by asking two platform-using students and one market academic not involved in the study to assign each item to one of the eight motive categories. Items assigned to a motive different from the one they were intended to measure were reformulated until the testers assigned them to the corresponding motive (see Appendix 1 for a full list of items). This procedure ensured that all the respondents would have an understanding of each item that would correspond to the overall meaning of the respective motive.

Using the widely respected measures suggested by Fornell and Larcker [13], each scale's convergent validity was tested by confirmatory factor analysis. The t-values of all motive items were significant, and the average variance extracted was greater than 0.5 for every motive except one (i.e., "To learn what products are new in the marketplace"). Thus convergent validity was confirmed.

The questionnaire rated all the motive items on a five-point "agree–disagree" scale, in which 1 represented the highest level of agreement and 5 the lowest, simulating German school grades. Table 2 lists the mean values for the relevance assessments for all motives. The results show that the level of agreement varied strongly between motives, with mean values between 2.03 for *risk reduction* and 3.25 for *remuneration*. Based on a comparison of means, *reducing buying-related risks* and *decreasing search time* can be considered the most important motives for reading on-line customer articulations.

Variable		German Rail	dooyoo. de	ciao. com	Vocatus. de	hitwin. de	Total sample	German Internet users in %[a]
Percentage of total sample		11.3	44.2	8.7	22.3	13.6	100.0	100.0
Number of cases		328	1,282	252	647	394	2,903	
Age	< 20	17.7	15.3	28.6[b]	9.1	17.6	15.7	14.60
	20-29	50.2	42.8	43.3	47.4	39.4	44.3	21
	30-39	20.5	27.5	17.5	31.2	29.2	26.9	25.20
	40-49	6.1	10.3	7.9	8.5	9.7	9.1	20.80
	>50	5.5	4.1	2.8	3.7	4.1	4.0	18.40
Gender	Male	67.5	65.4	67.1	68.6	61.6	66.0	58
	Female	32.5	34.6	32.9	31.4	38.4	34.0	42
Education	Not graduated from school	3.1	2.2	6.0	1.1	3.8	2.6	–
	Lower secondary school (*Hauptschule*)	5.3	6.4	7.2	6.3	10.8	6.9	29.60
	Intermediate secondary school (*Realschule*)	11.8	24.8	30.8	21.7	31.3	24.1	38.80
	A-levels (*Abitur*)	36.3	34.9	39.6	35.1	34.4	35.5	14.60
	University degree	43.5[b]	31.7	16.4[b]	35.8	19.7[b]	31.0	16.90

Table 1. Demographic Profile of the Sample and of the German Internet Population.

[a] Source: G&J Electronic Media Service 2001.
[b] Indicates a difference of ten or more percentage points compared to the total sample.

Motive	*M*
Risk reduction	2.027
Reduction of search time	2.155
To learn how a product is to be consumed	2.579
Dissonance reduction	2.912
Determination of social position	2.529
Belonging to a virtual community	2.854
Remuneration	3.253
To learn what products are new in the marketplace	2.954

Table 2. Importance of Motives.

Note: Scale ranges from 1 = "fully agree" to 5 = "fully disagree."

The independence of the identified motives was examined by performing a principal component analysis on the 16 items. A measure of sampling adequacy gave a value of 0.864, which indicated that the correlation matrix was "meritorious" for principal component analytical purposes (see Appendix 2 for the full correlation matrix) [23].[9] Based on the Kaiser criterion, to extract all factors with eigenvalues greater than 1, a four-factor solution was chosen in the first place, which accounted for 67 percent of the variation of all items. After a varimax rotation of the factor loadings, the first factor combined items from the original motives, *risk reduction*, *decreasing search time*, and *to learn how a product is to be consumed*, which did not enable a meaningful interpretation. This is a difficulty not unusual to principal components analysis (PCA) because the identification of the accurate number of factors represents a problem inherent in factor analysis methodology. The Kaiser criterion can be considered a good indicator of the *minimum* number of factors, but must not be misinterpreted as a rule that delivers the "true" factor number [33]. Thus, we decided to allow for the extraction of a fifth factor, which had an eigenvalue of 0.87. Increasing the number of factors not only accounts for the limitations of the Kaiser criterion, but also accords with the finding that "over-factoring by one or two factors has less severe consequences for the final solution than does taking too few factors" [33, p. 59]. The procedure resulted in an increase of explained variance of 73 percent and, most important, a more meaningful factor structure.

The five factors (or motive dimensions) and their relationships with the original theoretically derived motives improve our understanding of articulation motives. By focusing on inter-motive correlations, the application of principal-components analysis helps to increase the parsimony of the original motive systematization. The resulting factors are described below (*see Figure 1*).

The first factor combines the items from *risk reduction* and *reducing search time*, which are both related to making a buying decision. Accordingly, we labeled this factor *obtaining buying-relevant information.*

The second factor contains items from *determination of social position* and *dissonance reduction*, which both express a *social orientation through information.*

The third factor contains items from *belonging to a virtual community* as well as *learning what products are new in the marketplace*. The integration of items

Figure 1. Relationships Between Electronic Word-of-Mouth Motives, Items, and Motive Factors

from the two factors suggests that users of opinion platforms view the exchange of information not related to an acute buying decision as part of the community experience. Accordingly, this factor is labeled *community membership.*

Factors 4 and 5 correspond to the previously derived motives, *remuneration* and *to learn how a product is to be consumed,* respectively.

With the exception of factor 5 ($\alpha = 0.74$), all the factors had α-values greater than 0.80, indicating their high degree of reliability. The discriminant validity of the five-factor structure was tested with confirmatory factor analysis. Drawing on the restrictive criterion suggested by Fornell and Larcker [13], which postulates discriminant validity for a pair of factors if the variance of each factor explained by its measurement items is higher for both factors than the shared variance of the two factors (i.e., the squared inter-factor correlation), discriminant validity was established for each pair of factors (see Appendix 3). Table 3 contains the factor loadings of the rotated solution, Cronbach's alpha reliabilities, and the coefficients of determination of each item from the confirmatory factor analysis.

Factor (Cronbach's alpha, average variance explained)	Item	f_1	f_2	f_3	f_4	f_5	r^2
Factor 1: Obtaining buying-related information (α = 0.875, AVE = 0.715)	Because contributions by other customers help me to make the right buying decisions.	0.846	0.182			0.119	0.795
	To benefit from others' experiences before I buy a good or use a service.	0.834	0.134			0.103	0.708
	Because here I get information on the quality of products faster than elsewhere.	0.825	0.117	0.130		0.133	0.721
	Because one saves a great deal of time during shopping when informing oneself on such sites before shopping.	0.752	0.136	0.165		0.195	0.634
Factor 2: Social orientation through information (α = 0.832, AVE = 0.612)	Because I can see if I am the only one who thinks of a product in a certain way.	0.179	0.814	0.193			0.684
	Because I like to compare my own evaluation with that of others.	0.269	0.764	0.207			0.650
	Because through reading one can get the confirmation that one made the right buying decision.	0.161	0.747	0.169	0.126	0.239	0.621
	Because I feel much better when I read that I am not the only one who has a certain problem.		0.695	0.144		0.415	0.493

(continued)

Factor (Cronbach's alpha, average variance explained)	Item	f_1	f_2	f_3	f_4	f_5	r^2
Factor 3: Community membership (α = 0.805, AVE = 0.570)	Because I am interested in what is new.			0.746		0.314	0.360
	Because I enjoy participating in the experiences of other community members.	0.267	0.333	0.741	0.118	-0.113	0.735
	Because I really like being part of such a community.	0.202	0.305	0.729	0.214		0.784
	Because I get to know which topics are "in."		0.152	0.666	0.290	0.350	0.399
Factor 4: Remuneration (α = 0.897, AVE = 0.874)	Because I get a reward for reading and evaluating contributions.		0.130	0.185	0.919		0.860
	Because it allows me to earn a few more Deutschmarks.			0.209	0.915		0.888
Factor 5: To learn how a product is to be consumed (α = 0.740, AVE = 0.650)	Because I find the right answers when I have difficulties with a product.	0.383	0.246	0.228		0.671	0.701
	To find advice and solutions for my problems.	0.418	0.189	0.124		0.666	0.599

Table 3. Results of Principal Component and Confirmatory Factor Analysis.

Note: Global fit of confirmatory factor analysis: CFI = 0.90; NFI = 0.90; RMR = 0.05; RMSEA = 0.11.

Influence of Reading Motives on Consumer Behavior: Model Development and Testing

Change of Behavior as Outcome Variable

The relevance of reading motives arises mainly from their postulated impact on consumer behavior as a reaction to reading articulations on opinion platforms. Such a relationship can be expected to exist for several of the motives identified. For example, the fact that consumers search for buying-related information on opinion platforms is likely to induce a change in their behavior due to the content read. The discussion that follows uses structural equation modeling to examine the relationship between consumers' reading motives and buying behavior. The main goal of the examination is to determine the strength and significance of the influence of the motives.

Buying behavior and communication behavior, two important behavioral dimensions in terms of the profitability of products and services, are expected to be influenced by the reading of on-line articulations. Consumers will probably adapt their buying behavior after reading a positive or negative comment on-line (i.e., they will buy a recommended product or refrain from buying a negatively evaluated product). In an off-line context, negative articulations influence consumer behavior more strongly than positive articulations [5], and the same pattern is expected in on-line environments (i.e., for on-line articulations of consumers). Changes in buying behavior based on articulations on opinion platforms may affect both on-line and off-line purchasing. As for communication behavior, it seems plausible that reading on-line comments will cause a change in the reader's word-of-mouth communication with other consumers (e.g., friends, colleagues, or relatives) about the respective product because of the trustworthiness attributed to other consumers' on-line articulations due to the concept's similarity to traditional word of mouth. Both behavioral constructs were measured on a five-point scale (ranging from 1 = "always [change my behavior]" to 5 = "never [change my behavior]"), with two items for each construct. The buying-related items were "When a report is negative, I refrain from buying the product in question" and "When a report is positive, I buy or plan to buy the product." The items capturing the communication behavior were "I tell my friends about it" and "I speak to my colleagues and acquaintances about it."[10]

The empirical findings support the assumption that contributions on opinion platforms are relevant for the reader's buying and communication behavior. Focusing on mean values, on-line comments have their strongest impact on refraining from buying a product ($M = 2.67$), followed by "telling friends" about the on-line articulation (2.85), buying a recommended product (2.92), and "speaking to colleagues and acquaintances" (2.92). Comparison of the impact of positive and negative articulations shows, as anticipated, that negative customer articulations on opinion platforms tend to have a greater impact on consumer buying behavior than positive ones. Specifically, whereas 43.5 percent of readers "always" or "mostly" refrain from a purchase after reading a negative contribution (i.e., marking a value of 1 or 2), only 28 percent "always" or "mostly" buy a product after reading a positive contribu-

tion. It should be noted, when considering such absolute numbers, that the measurement focused on areas of consumption that consumers regarded as important, which was explained to respondents in the questionnaire.

Model Development, Operationalization, and Goodness of Fit

To test the impact of readers' motives on their behavioral adaptations to other consumers' on-line comments, we first tested a full structural model containing path vectors from each of the five motive factors to both consequences variables (i.e., change in buying behavior and change in communication behavior). The motive dimensions were operationalized with the items as assigned in principal components analysis. Changes in buying behavior and in communication behavior were measured with two items each (see above for item formulation). Both behavior scales had sufficient reliability, with Cronbach's alpha of 0.71 and 0.89 for buying behavior and communication behavior, respectively.

The full structural model was tested via structural equation modeling (SEM). SEM enables researchers to test complex theoretical models simultaneously instead of testing each relationship in isolation [e.g., 24]. By this powerful method, theoretical constructs were interpreted as latent variables, with each construct measured via a set of items, allowing the calculation of measurement error for each construct. Global goodness-of-fit criteria indicated that the tested model represented the data adequately (Comparative Fit Index = 0.90; Normed Fit Index = 0.90; Root Mean Square Residual = 0.05; Root Mean Square Error of Approximation = 0.09). With regard to the local fit of the model, which focused on the individual model elements, the average variance extracted was above the critical value of 0.50 suggested by Bagozzi and Yi for all elements of the model [2]. With the exception of one community motive item, every item had a coefficient of determination above 0.40. The average variances extracted were: *remuneration* 0.874, *buying information* 0.714, *consumer learning* 0.650, *social orientation* 0.612, and *community motive* 0.570.

Structural Model Results

Looking first at the *change in buying behavior* induced by the reading of on-line customer articulations, the results show that with a coefficient of 0.42, *buying information* is the strongest reading motive, nearly twice as strong as *social orientation* (0.22). These two motives are also the only ones that have a clear impact on the consumer's behavioral change due to the reading of on-line articulations. The impact of the remaining three reading motives is significant but weak for *community* and *consumer learning,* and nonsignificant for *remuneration*.

The results for reading-induced *changes in consumers' communication behavior* are different. Here the reading motive *consumer learning* has the strongest influence, with a path coefficient of 0.20, followed by *community* (0.16) and

social orientation (0.15). In contrast to its key role for changes in buying behavior, *obtaining buying-related information* has no significant impact on consumer word of mouth. In the case of *remuneration*, there is even a weak negative impact (i.e., a customer who is strongly motivated to read on-line articulations because of economic incentives is less likely to talk to other customers about the content of the on-line comment).

All told, 35 percent of the changes in buying decisions due to reading contributions can be explained by the identified reading motives, of which a considerable part can be attributed to the motives *obtaining buying-related information* and *social orientation*. The word-of-mouth activities of readers of contributions are explained to a smaller degree (18%) by the five reading motives considered, perhaps because readers assess contributions in a way relevant to their own buying behavior. Communicating the learned information might be a byproduct rather than a planned action (i.e., based on specific motives).

Alternative Model Testing

In an additional step, an alternative structural model was tested that included only the significant paths of the full model. A model comparison approach is conceptually consistent with SEM, for as Kelloway states, "The focus of assessing model fit almost invariably should be on comparing the fit of competing and theoretically plausible models" [24, p. 39]. For model comparison issues, the appropriate method varies with the relationship of the models to be compared [27]. In this case, the two models are in a nested relationship, meaning that "one can obtain the model with the fewest number of free parameters by constraining some or all of the parameters in the model with the largest number of free parameters" [24, p. 35]. Comparisons of nested structural models can be made using the chi-square test, because the difference in the chi-square statistic is shown to be chi-square-distributed with different degrees of freedom between the two models [e.g., 27]. Since in this case, the increase in chi-square statistic of 7.34 exceeds the theoretical test statistic of 5.99 (2 df) at $p = 0.05$, the full model cannot be rejected as "overly complex" [24, p. 37].[11] Figure 2 contains the standardized path coefficients of the complete model and the path coefficients of the alternative model.

Discussion

The Internet offers many different ways for consumers to share personal experiences and opinions with other consumers. Customer articulations on virtual opinion platforms like epinions.com are controlled and moderated by a third party (the platform provider). They represent a special and frequently visited kind of product-related customer articulation on the Internet. This article addresses the question of what motivates consumers to read the articulations of other, mainly anonymous, consumers, and what consequences result from their reading such articulations and from the motives underlying the reading process.

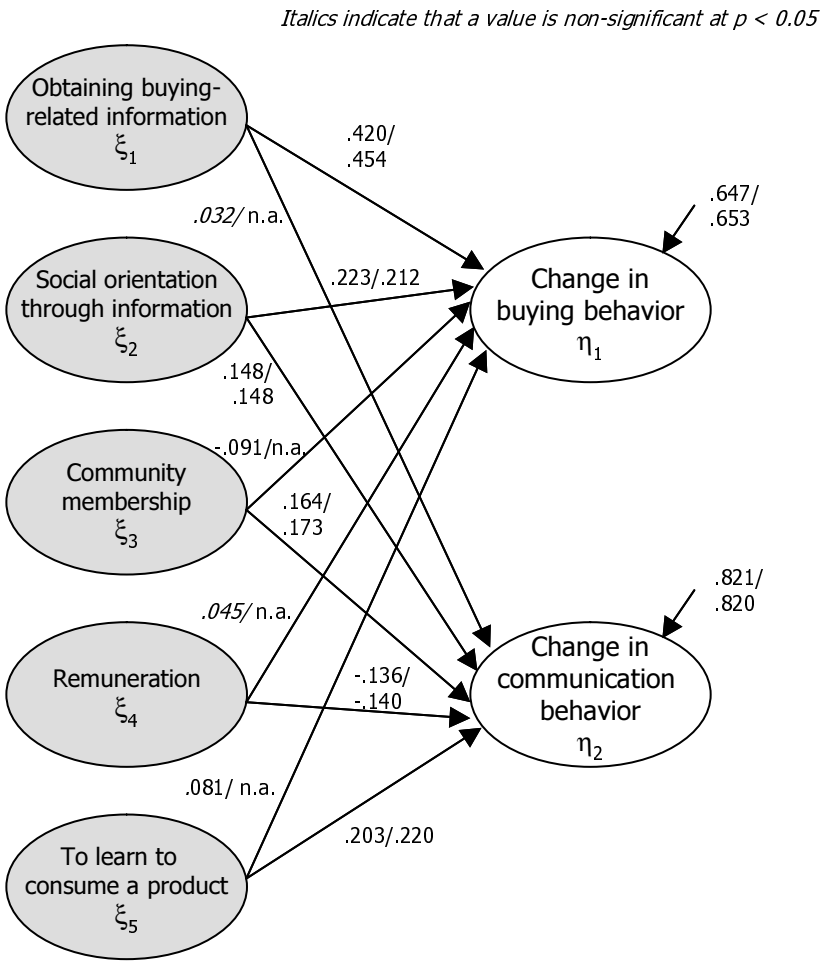

Figure 2. Impact of Electronic Word-of-Mouth Motives on Behavior: Path Coefficients and Explained Variance for Full and Trimmed Structural Model

Notes: Numbers are standardized path coefficients of the full model/standardized path coefficients of the alternative model. n.a. = not applicable.

Using a deductive approach, eight motives for reading virtual customer articulations were identified. An empirical study of about 2,900 German platform users illustrated that readers view the information content as particularly important because it allows them to make better buying decisions and to complete their searches in less time (i.e., offering them relevant buying-related information). The results also show that virtual opinion platforms sometimes function as "social positioners," meaning that they serve as the infrastructure of a virtual community that offers social and information utility by helping consumers to compare and process their product experiences.

Implications for Platform Providers

The motives for reading customer articulations on-line are a powerful predictor of the behavioral reaction to the on-line comments. As the relevance of on-line comments for behavior is crucial to the success of on-line platforms, platform providers should investigate their community's motive structure thoroughly.

The five factors (i.e., reading motives) identified in this study can help platform providers to develop a more customized environment, with specific offers aiming at the satisfaction of each motive factor. In doing this, platform providers must consider the different impacts of reading motives on readers' behavior. Customers who are driven by a need to obtain buying-related information will most probably adapt their buying behavior to the information they obtain on on-line platforms. Customers searching for social orientation through information on on-line platforms can also be expected to change their buying behavior in a way compatible with the values and behavior of their virtual reference group. Platform providers could improve the fulfillment of these two functions by structuring information according to the readers' information search processes and by increasing the amount of available information dealing with products relevant to customers' social positioning.

The results illustrate that remuneration is a problematic motive. For users driven by incentives offered by platform providers, the information they read had no impact on buying behavior and a minor, but significant, negative impact on personal communication. This suggests that customers who read consumer comments on-line primarily for economic reasons are of limited relevance to the companies whose products are the subject of discussion on on-line platforms. Even worse, psychological theory suggests that economic (i.e., extrinsic) incentives can "destroy" a reader's actual interest in the content of on-line comments (e.g., [14]). This is particularly relevant when high degrees of intrinsic motivation exist, which is likely to be the case when opinion platforms are used. Hence, platform providers need to critically review their reward systems.

The reading motivation can be viewed as a necessary, but not sufficient, condition for a change in buying behavior due to reading contributions on opinion platforms. In order to extend the explanation of such changes in consumer behavior, it is necessary to consider further traits. Since the reader has only limited knowledge and trust of the author of an on-line articulation on an opinion platform, as compared to the source of traditional of word of mouth, the quality of the contribution or the reader's experiences on having read other contributions can be expected to serve as a potent moderator of the articulation-behavior relationship [20].

On-line Articulations as a Challenge for Manufacturers

For companies offering goods and services that are the subject of customer articulations, opinion platforms are an information medium that can exert a strong influence on consumer buying and communication behavior. From the

company's point of view, customer articulations on opinion platforms offer opportunities as well as risks. Among the opportunities deriving from on-line articulations, the structure of the Internet makes it possible for a company to follow and protocol customer articulation in a detailed manner that is clearly not possible with traditional word of mouth. Systematic monitoring of customer articulations could identify weak points and thus contribute to improving the quality of the company's goods and services. Further information with respect to users of opinion platforms and their congruency with a company's target group would increase the value of such information.

At the same time, the virtual opinion platform poses a risk in that negative information about a company's products can be spread rapidly to a virtually unlimited number of people [31]. Unlike traditional word of mouth, this negative information will remain available to other consumers literally at any time. From a consumer's perspective, opinion platforms increase market transparency, making it harder for companies to establish long-term relationships with customers merely because of the superiority of the respective product, stressing the importance of firm-related customer loyalty. Strategic options with regard to addressing such risks involve cooperation or offering company-run Web sites. Cooperation could take the form of a company integrating comments addressing individual consumer opinions in opinion platforms. Companies may also try to move consumer articulations away from opinion platforms to their own discussion forums in which consumers can themselves articulate on company-related issues. However, the analysis in this paper of consumers' reading motives illustrates the limitations of manufacturer-controlled opinion platforms. For instance, consumers who seek buying-related information on products from different manufacturers are not likely to be pleased by a platform limited to a single company's products. In any case, for a company-controlled platform, the question of how to handle negative articulations is critical [25]. Further research is needed to identify adequate company reactions with regard to the phenomenon of global word of mouth on virtual opinion platforms.

Limitations and Implications for Future Research

The findings of this research demonstrate that customer articulations on opinion platforms influence consumer decision-making. As there has been very little research on such articulations, there is a strong need for a broadening and deepening of perspective, away from the identification of motives for seeking "electronic word of mouth" and their impact on consumer behavior, heading toward the development of managerial strategies that allow companies to effectively benefit from such articulations.

Future researchers on on-line articulations will have consider the limitations of the present study. First, although it began with a comprehensive literature review that led to eight reading motives, subsequently reduced to five motive factors in the course of data analysis, there may be other factors that can further our understanding of the effect of reading consumers' on-line articulations. An inductive research approach might usefully complement the

deductive approach of this study. Second, as with every new research field, the validity of the empirical results is in question insofar as there are as yet no established and validated scales for reading motives and changes in readers' behavior. Although the scales used in this study have been shown to be reliable, an extension of the number of scale items per motive would be helpful. With the development of a more sound theoretical background, nomological validation would be a worthwhile objective for future research. Third, the empirical results allow conclusions at an aggregate level, but make it difficult to detect differences at the subgroup level. To identify such differences future studies need to differentiate between articulations on different goods and services (e.g., high- and low-involvement) and articulations taking place in different phases of the consumption process as well as between subgroups of consumers. Fourth, there might be mitigating effects if a user reads both positive and negative contributions on a single product's quality. As this study focuses on individual comments, future research might also take into mind the existence of multiple comments and their possible behavioral consequences. Experimental research designs can be expected to be especially powerful. Fifth, since this study focuses on motives for *seeking* on-line articulations, examining writing motives, that is, motives for *providing* on-line word of mouth), would be another promising extension. Future research could also look into possible interactions between seeking and providing on-line word of mouth on consumer opinion platforms. Other factors that influence the impact of reading on-line articulations on readers' consumption behavior (trust in particular) would be better included in the development of a theoretical framework. Finally, the use of a German on-line sample implies the necessity for a replication of this study's findings in other cultures, such as the United States.

Conclusion

There is still much to do in this area, and therefore the discussion in this article concludes with a call for further research drawing on a variety of perspectives to create a more complete picture of on-line consumer-to-consumer communications. Additional research is needed because the ongoing diffusion and use of the Internet by consumers in an increasingly globalized economy is sure to make electronic word of mouth a major challenge for on-line and off-line companies.

NOTES

1. Readers who access contributions get some information on the users who wrote the contributions (e.g., how many contributions the user has written so far, how helpful the contributions have been to other readers, how much the user is trusted by other readers).

2. The present article only examines motives for retrieving and reading contributions from opinion platforms, not motives related to writing contributions.

3. Despite its closeness to customer articulations on the Internet, there has been surprisingly little research on the motives for consumer word-of-mouth communi-

cation (see [4, 15] on the similarities between customer articulations on the Internet and traditional word of mouth). Researchers who have examined motives tend to focus on motives for *giving* word of mouth but ignore motives for *seeking* it [9, 34]. Dichter's study contains a section on "listener motivations" [9], but this heading is misleading because the author does not deal with motives for retrieving information through word of mouth. Instead, Dichter addresses the question: "What . . . are the factors that decide whether a recommendation is to be rejected, or accepted and acted on?" [9, p. 152].

4. The concept of "imagery gatekeepers" emphasizes that information is relevant not only to a potential purchase but to the function of social orientation, which is particularly relevant in the assessment of "cultural goods" [29, p. 329] (i.e., goods that are the subject of societal discussion [e.g., movies]).

5. The scope of remuneration can vary considerably between opinion platforms. If a platform conductor sells user registration information, this might result in spam, so offering rewards to users could be interpreted as compensation for the inconvenience. However, none of the platforms discussed in this study admit selling user information to third parties.

6. In addition to the deductive approach described above, ten in-depth interviews with platform users and four expert interviews with members of the top management (CEOs, VPs, heads of communication) of four opinion platforms (dooyoo.de, ciao.com, Vocatus.de, and hitwin.de) were conducted to validate the theoretically developed set of motives. Interviews were partially unstructured and had an average length of 2–3 hours. During the interviews, the managers were asked why they thought consumers visited their platform's Web site and how important the different motives are to consumers. The relevance of the theoretically derived motives was also discussed with the managers. Interviews with platform users focused on users' personal reasons for visiting platforms and obtaining information from other consumers. No additional motives for reading consumer articulations on virtual opinion platforms were mentioned by managers and users.

7. The Deutsche Bahn Web site receives 19.7 million visits and 76.8 million page impressions a month [22].

8. For ciao.com and hitwin.de, information on site traffic is available through www.ivw.de. For dooyoo.de and Vocatus, no neutral information is available, so the selection decisions were based on media reports [21] and company information.

9. The measure of sampling adequacy (MSA) compares the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients, with high values indicating that the correlations between pairs of variables can be explained by other variables (i.e., factor analysis is an appropriate method for the data).

10. The items were introduced by the following text: "What effect does reading other consumers' opinions on Internet sites such as ciao.com have on you? Please think of a contribution that concerns a topic important to you."

11. It should be added that the model's global and local fits were similar to those of the full model.

REFERENCES

1. Assael, H. *Consumer Behavior and Marketing Action*, 6th ed. Cincinnati: Thomson, 1998.

2. Bagozzi, R.P., and Yi, Y. On the evaluation of structural equation models. *Journal of the Academy of Marketing Science, 16* (spring 1988), 74–94.

3. Bansal, H.S., and Voyer, P.A. Word-of-mouth processes within a services purchase decision context. *Journal of Service Research, 3*, 2 (2000), 166–177.

4. Bussiere, D. Evidence and implications of electronic word-of-mouth. *Developments in Marketing Science, 23* (2000), 321–322.
5. Buttle, F.A. Word of mouth: Understanding and managing referral marketing. *Journal of Strategic Marketing, 6,* 3 (1998), 241–254.
6. Chan, K.K., and Misra, S. Characteristics of the opinion leader: A new dimension. *Journal of Advertising, 19,* 3 (1990), 53–60.
7. Deci, E.L.; Koestner, R.; and Ryan, R.M. A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin, 125,* 6 (1999), 627–668.
8. Dhar, R., and Nowlis, S.M. The effect of time pressure on consumer choice deferral. *Journal of Consumer Research, 25,* 4 (1999), 369–384.
9. Dichter, E. How word-of-mouth advertising works. *Harvard Business Review, 44* (November/December 1966), 147–166.
10. Drolet, A.L., and Morrison, D.G. Do we really need multiple-item measures in service research? *Journal of Service Research, 3,* 3 (2001), 196–204.
11. Fischer, E.; Bristor, J.; and Gainer, B. Creating or escaping community? An exploratory study of Internet consumers' behaviors. *Advances in Consumer Research, 23* (1996), 178–182.
12. Flynn, L.R.; Goldsmith, R.E.; and Eastman, J.K. Opinion leaders and opinion seekers: Two new measurement scales. *Journal of the Academy of Marketing Science, 24* (spring 1996), 137–147.
13. Fornell, C., and Larcker, D.F. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18* (February 1981), 39–50.
14. Frey, B.S. *Not Just for the Money. An Economic Theory of Personal Motivation*. Cheltenham, UK: Edward Elgar, 1997.
15. Gelb, B., and Johnson, M. Word-of-mouth communication: Causes and consequences. *Journal of Health Care Marketing, 15,* 3 (1995), 54–58.
16. Glogoff, S. Virtual connections: Community bonding on the Net. *First Monday, 6* (March 2001). Available at **<<please provide on-line address>>**
17. Granitz, N.A., and Ward, J.C. Virtual community: A sociocognitive analysis. *Advances in Consumer Research, 23* (1996), 161–166.
18. Gremler, D.D.; Gwinner, K.P.; and Brown, S.W. Generating positive word-of-mouth communication through customer-employee relationships. *International Journal of Service Industry Management, 12,* 1 (2001), 44–59.
19. Helm, S. Meinungsportale im Internet (Opinion platforms on the Internet). *Das Wirtschaftsstudium, 30,* 1 (2001), 63.
20. Hennig-Thurau, T.; Hansen, U.; Eifler, V.; and Bornemann, D. Vertrauen in Kundenartikulationen auf virtuellen Meinungsplattformen (Trust in consumer articulations on virtual opinion platforms). *Jahrbuch Dienstleistungsmanagement, 3* (2002), 461–487.
21. Hölzel, B. Die Macht der Online-Shopper (The power of on-line shoppers). *e-Markt, 2,* 48 (2000), 52–54.
22. IVW. Zusatzinformationen för Deutsche Bahn AG, July 2001. Available at www.ivw.de/data/getinfo.php3?fshort=bahnonl&tcval=200107&screen=alpha&aselect=%%&get_info.x=14&get_info.y=8/.
23. Kaiser, H.F. An index of factorial simplicity. *Psychometrika, 39* (1974), 401–415.

24. Kelloway, E.K. *Using LISREL for Structural Equation Modeling: A Researcher's Guide*. Thousand Oaks, CA: Sage, 1998.
25. McWilliam, G. Building stronger brands through online communities. *Sloan Management Review, 41* (spring 2000), 43–54.
26. Ratchford, B.T.; Talukdar, D.; and Lee, M.-S. A model of consumer choice of the Internet as an information source. *International Journal of Electronic Commerce, 5,* 3 (spring 2001), 7–22.
27. Rust, R.T.; Lee, C.; and Valente, E., Jr. Comparing covariance structure models: A general methodology. *International Journal of Research in Marketing, 12* (1995), 279–291.
28. Schiffman, L.G., and Kanuk, L.L. *Consumer Behavior*, 3d ed. Englewood Cliffs, NJ: Prentice Hall, 1987.
29. Solomon, M.R. Building up and breaking down: The impact of cultural sorting on symbolic consumption. *Research in Consumer Behavior, 3* (1988), 325–351.
30. Spears, N. Time pressure and information in sales promotion strategy: Conceptual framework and content analysis. *Journal of Advertising, 30,* 1 (2001), 67–76.
31. Stauss, B. Global word of mouth. Service bashing on the Internet is a thorny issue. *Marketing Management, 6,* 3 (1997), 28–30.
32. Stauss, B. Using new media for customer interaction: A challenge for relationship marketing. In T. Hennig-Thurau and U. Hansen (eds.), *Relationship Marketing*. Berlin: Springer, 2000, pp. 233–253.
33. Steward, D.W. The application and misapplication of factor analysis in marketing research. *Journal of Marketing Research, 18* (February 1981), 51–62.
34. Sundaram, D.S.; Mitra, K.; and Webster, C. Word-of-mouth communications: A motivational analysis. *Advances in Consumer Research, 25* (1998), 527–531.
35. Sweeney, J.C.; Hausknecht, D.; and Soutar, G.N. Measuring cognitive dissonance: A multidimensional scale. *Psychology and Marketing, 17,* 5 (2000), 369–386.
36. Westbrook, R.A. Product/consumption-based affective responses and postpurchase processes. *Journal of Marketing Research, 24* (August 1987), 258–270.
37. Wiedmann, K.-P.; Walsh, G.; and Mitchell, V.-W. The German Mannmaven: An agent for diffusing market information. *Journal of Marketing Communications, 7,* 4 (2001), 195–212.

Appendix 1

Items, Cronbach indices, and Coefficients of Determination

When Reading Comments from Other Users on Opinion Platforms: What Are Your Reasons for Doing That?

Motive	Item	*n*	*M*	*SD*	α	R^2 *
Risk reduction	Because contributions by other customers help me to make the right buying decisions. (#1)	2,895	2.18	1.04	0.830	0.801
	To benefit from others' experiences before I buy a good or use a service. (#2)	2,893	1.87	0.93		0.706
Reduction of search time	Because one saves a great deal of time during shopping when informing oneself on such sites before shopping. (#3)	2,903	2.28	1.06	0.797	0.633
	Because here I get information on the quality of products faster than elsewhere. (#4)	2,903	2.02	0.97		0.716
To learn how a product is to be consumed	To find advice and solutions for my problems. (#5)	2,898	2.41	1.10	0.740	0.594
	Because I find the right answers when I have difficulties with a product. (#6)	2,891	2.75	1.02		0.705
Dissonance reduction	Because I feel much better when I read that I am not the only one who has a certain problem. (#7)	2,895	2.90	1.27	0.744	0.496
	Because through reading one can get confirmation that one made the right buying decision. (#8)	2,898	2.93	1.23		0.628

(continues)

Motive	Item	*n*	*M*	*SD*	α	R^2 *
Determination of social position	Because I like to compare my own evaluation with that of others. (#9)	2,899	2.48	1.16	0.801	0.647
	Because I can see if I am the only one who thinks of a product in a certain way. (#10)	2,882	2.59	1.20		0.677
Belonging to a virtual community	Because I enjoy in participating in the experiences of other community members. (#11)	2,892	2.61	1.23	0.846	0.731
	Because I really like being part of such a community. (#12)	2,893	3.10	1.34		0.781
Remuneration	Because I get a reward for reading and evaluating contributions. (#13)	2,897	3.11	1.40	0.897	0.867
	Because it allows me to earn a few more Deutschmarks. (#14)	2,889	3.40	1.44		0.881
To learn what products are new in the marketplace	Because I get to know which topics are "in". (#15)	2,890	3.42	1.31	0.749	0.404
	Because I am interested in what is new. (#16)	2,883	2.49	1.20		0.365

* = full model. *t* is significant at $p < 0.01$ for all items.

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Appendix 2

Inter-Item Correlations

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15
#1	1.00														
#2	0.714	1.00													
#3	0.617	0.555	1.00												
#4	0.674	0.622	0.665	1.00											
#5	0.437	0.450	0.408	0.411	1.00										
#6	0.446	0.394	0.471	0.442	0.588	1.00									
#7	0.215	0.184	0.249	0.204	0.337	0.433	1.00								
#8	0.354	0.270	0.327	0.295	0.332	0.403	0.592	1.00							
#9	0.355	0.330	0.321	0.329	0.328	0.357	0.425	0.567	1.00						
#10	0.300	0.264	0.300	0.288	0.303	0.346	0.523	0.557	0.668	1.00					
#11	0.292	0.296	0.315	0.299	0.299	0.360	0.352	0.387	0.421	0.408	1.00				
#12	0.279	0.217	0.310	0.275	0.312	0.400	0.378	0.394	0.378	0.382	0.736	1.00			
#13	0.172	0.109	0.198	0.159	0.166	0.216	0.207	0.246	0.226	0.217	0.317	0.385	1.00		
#14	0.173	0.102	0.194	0.175	0.172	0.234	0.199	0.235	0.196	0.189	0.316	0.373	0.814	1.00	
#15	0.151	0.101	0.219	0.173	0.248	0.335	0.323	0.383	0.303	0.299	0.402	0.471	0.389	0.411	1.00
#16	0.192	0.188	0.270	0.248	0.265	0.340	0.275	0.295	0.301	0.299	0.435	0.412	0.249	0.281	0.600

Note: For full text of items, see Appendix 1 (item numbers are identical in both cases). All correlations are significant at $p \leq 0.01$.

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Appendix 3

Correlations Between Factors and Average Variance Explained (AVE)

	AVE	f_1	f_2	f_3	f_4
Factor 1: Obtaining buying-related information	0.715	–			
Factor 2: Social orientation through information	0.612	0.500	–		
Factor 3: Community motive	0.570	0.432	0.640	–	
Factor 4: Remuneration	0.874	0.230	0.329	0.516	–
Factor 5: To learn how a product is to be consumed	0.650	0.710	0.620	0.573	0.302

Note: As significance measures vary strongly with the number of cases analyzed, the extensive sample size in this study is responsible for the statistical significance of all the correlation coefficients.

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