# Calculating the value of customers' referrals

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**Keywords**

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**Abstract**

Word-of-mouth is a rarely quantified phenomenon, in spite of its importance for service firms. Therefore, referrals remain a neglected determinant of customer lifetime valuation, although some authors claim them to be the astronomical part of customer equity. The paper discusses different approaches to the calculation of positive word-of-mouth, leading to a monetary referral value of a company's customers.

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## Introduction

The "power of word-of-mouth" (Arndt, 1967a) is one of the great myths of marketing. It seems to be an unmanageable marketing phenomenon. Word-of-mouth (WOM) has rarely been measured or monitored. Recently though, researchers have deemed the quantification of WOM an interesting research area (Zeithaml, 2000; Harrison-Walker, 2001). The reasons for this interest are manifold. Relying on customer lifetime valuation as a strategic marketing tool (Blattberg *et al.*, 2001) calls for the consideration of all components of a customer's value for a service provider. Moreover, referrals have been detected as the most important sources of gaining new customers (Murray, 1991; Tax and Chandrashekaran, 1992; Mangold *et al.*, 1999; Harrison-Walker, 2001), making them an attractive marketing tool. And finally, a general demand for quantifying and monetizing constructs, which primarily are qualitative, can be observed. For example, MSI's research priorities name customer valuation, metrics for customer loyalty and their link to marketing performance among the most important topics for researchers (MSI, 2002).

The central issue of this paper is to discuss three different approaches to calculate the monetary referral value of customers. It shall be argued that these models offer important insights into the determinants and effects of WOM, though they represent only vague approaches to a valid measurement of referral value. Nevertheless, this should not deter managers from encouraging positive WOM activities of customers, as this will lead to better business results in the sense of a high return on referral management.

Word-of-mouth can be defined as:

> . . . informal communication, both positive and negative, between consumers about characteristics of a business and/or its goods and services (Tax *et al.*, 1993, p. 74).

Focusing on favorable WOM, this may include:

> . . . relating pleasant, vivid, or novel experiences; recommendations to others; and even conspicuous display (Anderson, 1998, p. 6).

A referral or a recommendation represents one form of favorable WOM that is passed on by a customer about a certain product or service (Wheiler, 1987). The pivotal role of

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WOM in the services sector is due to high uncertainty associated with the purchase situation and outcome (Zeithaml and Bitner, 2002; Wheiler, 1987). The decision to choose a certain service provider is strongly influenced by personal communication and the exchange of experiences with other customers (Engel *et al.*, 1995). Some authors deem referrals of satisfied customers to be one of a firm's greatest marketing assets (Engel *et al.*, 1995). They claim the use of customers' referrals to be the most effective marketing tool (e.g. Wilson, 1994). The development of valid measures of the effects of WOM and referrals might therefore prove to be a rewarding endeavor.

WOM has different possible effects that can be investigated and measured. First, an effect on the recipient has to be noted. This may result in a motivation to buy a service, to talk about it to others, etc. (Herr *et al.*, 1991; Bone, 1995). Second, there is a (feedback) effect on the referrer. His WOM influences his own behavior as he knows there will be feedback from the receiver of the referral. Therefore, giving referrals serves as an enforcement to remain loyal to a service provider. This can be explained by self perception theory for instance (Tax and Chandrashekaran, 1992). Last, the referral's effect on the service firm is to be mentioned, e.g. winning new customers (Wheiler, 1987; Wilson, 1994), which Wangenheim and Bayón (2002a) call the "corporate view" of word-of-mouth. In this paper, only the corporate effect of referrals, which is reflected in customer lifetime value, will be dealt with. According to Rust *et al.* (2000), this WOM effect is significantly large, but notoriously hard to measure. In spite of its significance (Heskett *et al.*, 1994; Herrmann and Fuerderer, 1997), the customer's referral value is hardly taken into account in comprehensive models of customer lifetime value (CLV) (Dwyer, 1989).

The paper first discusses the concept of referral value. It then introduces three models measuring the monetary worth of a customer's referral in order to focus on some of their strong and weak points. The integration of referral values in customer lifetime valuation will be outlined. The discussion of the models further leads to a number of implications.

## Customers' referral value

From a service provider's point of view, the value of an individual customer represents a specific measure for the future economic worth of the relationship. It needs to comprise all direct and indirect contributions of the customer that enable the service provider to reach his goals (Cornelsen and Diller, 1998; Herrmann and Fuerderer, 1997). These contributions include monetary and non-monetary elements. Referrals are to be classified as a non-monetary, indirect customer contribution. Positive WOM represents an important asset of a service provider, which can be attributed to a single customer. It seems desirable to consider his or her referral value as a part of a customer valuation scheme. Referral value can be defined as the individual customer's contribution to the service provider's goals due to his or her referral behavior. It is reflected in the number and quality of potential customers the user of a certain service can reach and influence with positive, negative, or neutral information within a certain period of time (Herrmann and Fuerderer, 1997). The costs the service provider faces due to the customer's referral behavior, plus customer-specific costs associated with the service provider's referral management, should also be considered.

From the perspective of the service company, WOM referrals do not represent a value themselves. They only become of worth if they lead to other positive effects. In the context of this paper, new customer acquisition seems to be the most important of these effects. The "quality" of the new customers is therefore a crucial element to be considered in the valuation scheme (Herrmann and Fuerderer, 1997). As Wangenheim and Bayón (2002a) note, most of the existing CLV calculation models are restricted to measure a customer's own transactions with a firm. But in order to calculate the referral value of a given customer $A$ as the communicator of a referral, the value of the recipients (i.e. the new customers $N$ that $A$ has won for the service firm) has to be included in the calculation. This shall be indicated as the transfer aspect of referral valuation in the remainder of the paper.

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## Models of monetized referral value

Herrmann and Fuerderer (1997) present a model to calculate the long term referral value for automobile customers (for details, see Herrmann and Fuerderer, 1997). It is based on three dimensions:

(1) the number of recipients of a referral;
(2) the intensity of the referral; and
(3) the "quality" of the recipient.

Based on a dynamic investment calculation, they interpret the referral value to be the sum of cash value of all payments attributable to the referrer. The formula is shown in Figure 1.

The referral value (*RV*) of a given customer *A* is determined by the acquisition costs ($I_o$) for the new customer *n* acquired through *A*'s referral and his discounted customer lifetime values; *n*'s customer lifetime value includes the following factors:

- rebuying behavior;
- reduced price sensitivity;
- cross buying potentials; and
- referral behavior.

The combination of these factors determines the customer's overall contribution margin (Herrmann and Fuerderer, 1997). According to the authors, the data in the model should stem from forecasts of customer behavior, not individual customer questionnaires. Owing to the high uncertainty of such forecasts, the validity of the measures might be open to question.

A number of problems are involved with this approach. The authors themselves point out a traceability problem, as the purchase of a product or service can hardly be attributed to a certain referral alone (see also, Wangenheim and Bayón, 2002b). Also, the variable $R_t$ represents a continuous loop. To be able to quantify the referral value, limit values need to be used (as the continuous time series aims for an equilibrium value), or previously specified time periods reflecting the average lifetime of a customer relationship (such as $t = 4$). The authors do not specify how the variables appearing in the model should be put into concrete terms. Furthermore, they do not test the model empirically, so its practical implications are rather limited.

Based on research in consumer behavior, the referral value model presented by Cornelsen and Diller (1998) and Cornelsen (2000) includes a number of determinants of referral effectiveness. In the model, two main elements of referral value can be distinguished:

(1) an industry-specific average referral volume on the one hand; and
(2) the individual customer's referral potential on the other (see Figure 2).

The average referral volume quantifies the average purchase volume of an industry that is

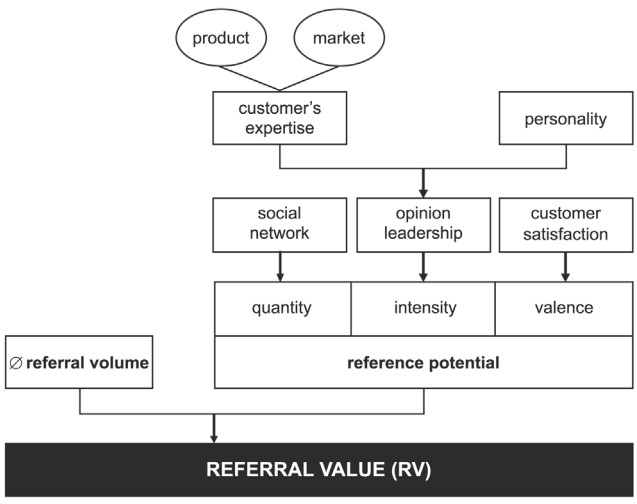
**Figure 1** Discounted long-term referral value

$$RV_A = \sum_{n=1}^{N} [ - I_0 + \sum_{t=1}^{T} ( E_t + C_t + R_t - M_t ) \bullet q^{-t} ]$$

| | |
|---|---|
| RV = | Long-term referral value (cash value of all payments which currently and in the future can be attributed to the referrer as a result of his recommendation to others). |
| n = | New customer n. |
| N = | Predicted number of new customers whom a referrer will acquire because of his recommendations. |
| t = | Year business of new customer was secured. |
| T = | Predicted number of years for which the newly acquired customer will remain loyal to the service firm. |
| $I_0$ = | Acquisition costs of new customer n at point t in time, e.g. referral stimulation costs for a service firm's referral campaign. |
| $E_t$ = | $x_t$ (p - c) as the contribution margin of customer n in year t on the basis of forecasted sales, increasing willingness to pay higher prices and a possible fall in unit costs. |
| $C_t$ = | Contribution margin of customer n in year t as a result of cross-selling sales. |
| $R_t$ = | Referral value which can be attributed to customer n in year t. |
| $M_t$ = | Customer-specific marketing expenditures in year t which may become less from year to year because of various effects securing customer loyalty (e.g. less coverage waste occurs in advertising, synergy effects reduce costs). |
| $q^{-t}$ = | $(1 - i/100)^{-t}$ = discount factor where i = interest rate. |

**Source:** Herrmann and Fuerderer (1997) p. 360

**Figure 2** The determinant model of referral value




**Source:** Cornelsen and Diller (1998) p. 211

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due to WOM. In order to specify the average referral volume, first the annual purchase volume of an industry has to be measured per customer. In his study in the automobile sector, Cornelsen (2000) claims this purchase volume to amount to 13,200 Deutschmarks (DM) (cost price: 66,000 DM, useful life: five years) for German cars in the upper price segment. In a second step, the average share of referrals as a determinant in the purchase decision (referral rate) (Cornelsen and Diller, 1998) has to be calculated. This will require a separate customer survey that focuses on the different information sources and their impact on the buying decision of an individual customer. This way, an average percentage of the purchase decision outcome can be attributed to referrals (among all other determinants) (Cornelsen and Diller, 1998). For German automobile customers, Cornelsen found out an average referral rate of 18 percent. This means that referrals explain 18 percent of a purchase decision. All other information sources account for the residual 82 percent. Furthermore, the number of people a customer talks to about the product is important when calculating the referral rate. This average number of contacts concerning automobiles is 14. If each customer talks to 14 other people on average, a net referral rate of 1.29 per cent results (0.18 : 14 = 0.0129) (Cornelsen and Diller, 1998). Following this reasoning, a single referral influences 1.29 per cent of the decision to buy a new car.

The referral rate is a market-specific variable, the referral potential is customer-specific. It includes all potential customers of a firm that a given customer *A* could contact with positive, negative, or neutral WOM within his or her social network. It is mainly determined by three factors. First, the number of people within the social network ("quantity"). This possible spread of a referral depends on the number of product-related conversations a customer has with colleagues, family, friends, etc. (Cornelsen and Diller, 1998). This again depends on the number of persons in the individual's network and the frequency of product-related conversations. Second, customer *A*'s satisfaction with the service company's offerings determines whether he spreads favorable or negative WOM ("valence") (Cermak *et al.*, 1991; Anderson, 1998). Also, the degree of customer satisfaction often acts as the initial trigger of WOM. Moreover, Cornelsen (2000) suggests that the impact of an individual customer's referral on another person's purchasing behavior will be closely related to his or her degree of opinion leadership. This leads to a certain "intensity" of the referral. Important factors influencing opinion leadership are a person's expertise concerning a certain market and product or service, and his/her specific personality (extroversion, dominance, social centrality, etc.). The different elements described above are integrated into the formula shown in Figure 3.

Cornelsen has conducted an empirical study in order to test his model. The study measured individual referral values of automobile customers via a written questionnaire (for details, see Cornelsen, 2000). The short term referral value results from multiplying referral potential and average referral volume as stated in Figure 4.

The three main determinants of the referral potential have to be operationalized. To measure opinion leadership (OL), an index has been used that was built upon the participants' answers to six statements in the written questionnaire, relying on the items used by Rogers and Cartano (1962), and King and Summers (1970). The score achieved was classified for strong, medium and weak opinion leadership with a maximum of 23 points. For instance, a score of 14 points results in an OL-index value of 0.61 (= medium opinion leadership; 14 : 23 = 0.61). The variable "social network" includes the number of referral communications of a customer plus the intensity of communications. Customers do

**Figure 3** Referral value formula by Cornelsen

$$RV_A = [\sum_{i=1}^{n}(P_j \cdot W_j)]_A \cdot OL_A \cdot CS_A \cdot RR_b$$

| | |
|---|---|
| $RV_A$ | = referral value of customer A |
| $P_j$ | = number of persons in social sphere j |
| $W_j$ | = weighting index of communication intensities within social sphere j |
| $OL_A$ | = opinion leader index of customer A |
| $CS_A$ | = customer satisfaction index of customer A |
| $RR_b$ | = ∅ industry specific referral volume (average purchase volume • average referral rate) in industry b |

**Source:** Translated from Cornelsen (1998) p. 29

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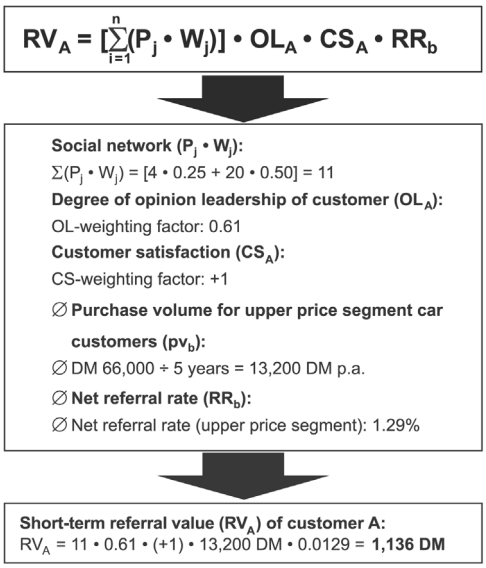
**Figure 4** Exemplary calculation of the short term referral value of customer *A*




**Source:** Translated from Cornelsen (1998) p. 33

not talk to everyone about products and services they buy; they match the topics they talk about with the kind of communication partner they face. Cornelsen (2000) argues that the members of a social network have to be classified. For instance, a customer might talk to his friends rather often about the strong points of his new car but might not communicate about that at all with his colleagues. In the model, three classes of social spheres are taken into account:
(1) family members and relatives;
(2) friends; and
(3) work colleagues/fellow club members.

The frequency of communications with members of each social sphere is then classified on a five-point scale and leads to weighting factors ("very often" = weighting factor 1; "never" = weighting factor 0). For instance, if a customer talks to four family members or relatives about cars and does so "rarely" (weighting factor 0.25), and if he talks to 20 colleagues from work "sometimes" (weighting factor 0.50), the variable "social network" will be 11 index points $(\sum(Pj \times Wj) = [4 \times 0.25 + 20 \times 0.50] = 11$; for details see Cornelsen, 2000). The degree of customer satisfaction is measured on a four-point scale (1 = "very satisfied" with weighting factor + 2; 4 = "very dissatisfied" with weighting factor – 2). In the exemplary calculation shown in Figure 4, the degree "satisfied" will be weighted with the index facor + 1.

If all values are integrated into the formula, individual customers' referral values can be calculated. A certain customer *A*, who bought a Mercedes E-Type, stands, for instance, for a referral value of 1,136 DM (≈ 508 US$), as shown in Figure 4. The overall value of that customer as calculated by Cornelsen (2000) is 14,343 DM (≈ 6,900 US$) per year. The referral value represents about 8 percent of this customer's total annual value.

In order to explain the construct, it is important to analyze diverse psychological and sociological components and their impact on referral value. This is a major strong point of the model. Its main problem concerns its aim: to assign a monetary value to the referrals of an individual customer. The precise value derived from the application of the model is fictitious, as it is based on weighting factors that are chosen arbitrarily. If one used an altered weighting scale for the "social network" (e.g. "very often" = weighting factor 2; "never" = weighting factor 0), the example shown above would lead to 22 "index points"" in the model $(\sum(Pj \times Wj) = [4 \times 0.25 + 20 \times 1] = 22)$. *Ceteris paribus*, this more than doubles the referral value of the same customer *A* as it now amounts to 2,285 DM. As satisfaction is the most heavily weighted variable in the formula, it should be considered very carefully. A four-point scale for the measurement of satisfaction might not be appropriate. Maybe dissatisfaction should be weighted more intense than satisfaction, leading to asymmetric weighting factors. By changing weighting factors and/or scales, referral value outcomes can easily be manipulated.

Further challenges include the question of the validity of the measures applied for the single determinants such as opinion leadership, etc. The same can be said for the impact of single information sources on a purchase decision (referral rate). Restricting the number of behavioral determinants included in the model also leads to the question of why others (such as involvement or perceived risk) have been ignored. Also, the combination of average referral volume and referral potential by simple multiplication is open to criticism. Besides, data gathering for this model calls for very comprehensive

and complicated surveys to be conducted beforehand.

A third model presented here has been developed by Wangenheim and Bayón (2002a, b). The model is more complex than the other ones described here concerning its mathematical foundation; it can only be outlined. The model's aim is to estimate the referral value $V_{WOM}$ of a given customer $A$ in period $t$ by finding out the number of new customers he/she acquired within this period. As depicted in formula (1) below, first $y_{A,t}$ (the number of referrals $A$ is going to make during period $t$) needs to be known. Furthermore, the so-called conversion rate Prob (Purchase) has to be estimated, which means the percentage of $A$'s referrals that will lead to the acquisition of new customers for the service provider during that period (Wangenheim and Bayón, 2002a, b). Customers won by the referral articulated in period $t$, who join the customer base at a later point in time, are not integrated in the value calculation:

$$V_{WOM(A,t)} = y_{A,t} \cdot \text{Prob}\ (Purchase). \qquad (1)$$

For the prediction of the number of WOM referrals, which is a discrete count variable, Wangenheim and Bayón (2000a) suggest a zero-inflated Poisson-model. The model consists of the Poisson-distribution as the basic model type for count data, and a binary model that is Logit- or Probit-distributed. The latter determines whether a referral is made or not. The standard Poisson-model then predicts the number of referrals made. The variables introduced for predicting WOM include:

- customer satisfaction;
- situational involvement, and product involvement/purchase importance;
- marketplace involvement; and
- a customer's innovativeness.

In order to predict the conversion rate of referrals, a model that predicts the marginal contribution of a referral to the acquisition of a new customer $n$ is to be considered (Wangenheim and Bayón, 2002a). Therefore, Wangenheim and Bayón (2002a) deem choice models to be suitable. They have formulated a binominal model, in which a number of independent variables are used to predict whether a referral is effective (i.e. leads to new customer acquisition) or not. They claim that either Logit- or Probit-formulas are applicable. After empirically testing the model, they opted for the Logit-model. Among the variables influencing the effectiveness of a referral, they integrated two characteristics of the referrer:

(1) sender expertise; and
(2) similarity as perceived by the recipient.

For measuring the latent variables that determine the number of referrals and the conversion rate, Wangenheim and Bayón (2000b) have used multi-item scales that were developed and tested in previous studies. They were also pre-tested by the authors in a small sample study. Most determinants have been measured on six-point rating scales.

The model has been tested in the German utilities market. Based on a survey design, the referral values of consumers and business-to-business customers have been evaluated. For the consumer sample, a customer scoring averagely on the variables depicted above (satisfaction, involvement, etc.) can be expected to give 1.33 referrals per year. The conversion rate comes up to 4.7 percent, leading to an expected number of 0.063 new customers acquired by the referring customer. A highly satisfied and involved consumer might even be expected to articulate three referrals, which leads to an expected number of 0.14 new customers. For the industrial sample, substantially higher acquisition rates could be estimated. Therefore, Wangenheim and Bayón (2002b) suggest that due to the typically higher transaction value of a customer in business-to-business markets, referral values of customers can be enormously high. Also, it might be added that using the model in other (service) settings – such as financial and medical services – might lead to more referrals and a higher conversion rate than could be observed in the recently privatized German utilities sector.

A monetary referral value for a customer $A$ is computed for period $t$ as the direct cash contribution of a new customer $n$ over his/her lifetime value (periods of retention). The referral value $RV_{(A,t)}$ of customer $A$ then can be calculated by multiplying the number of customers acquired by the referral $V_{WOM(A,t)}$, and the estimated direct cash contribution $C$ of those newly acquired customers $N$ (see formula (2) below). The variable $C$ therefore accounts for the transfer aspect of referral valuation:

$$RV_{(A,t)} = V_{WOM(A,t)} C_{(N)}. \qquad (2)$$

Besides the mathematical complexity of the model, the data gathering might pose

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considerable problems. In spite of being theoretically sound, the determinants explaining referral probability and conversion rate are arbitrary. As has also been discussed concerning the model proposed by Cornelsen (2000), other variables might influence referral behavior and subsequent receiver behavior, such as perceived risk, prior attitudes toward the service provider, etc. This means that the independent variables in the zero-inflated Poisson-model only vaguely represent the actual set of referral decision determinants in a real communication setting. A monetary referral value derived from this model is, at best, approximate. Also, data gathering for measuring these latent variables is neither easier nor more valid, than directly measuring the number of referrals and the conversion rate. Furthermore, the authors point out that the amount of referrals and the conversion rate for the same individual could not be predicted due to the empirical design of the study, which was restricted to a survey of customers in the role of referrer. As a consequence, the estimated referral values are no solid foundation for selecting or prioritizing individual customers. As these tasks might well be considered major aims of customer valuation, this is a promising direction for further improving the model.

An important observation by Wangenheim and Bayón (2002b) should be mentioned. They find that newly acquired customers are especially valuable for a service provider when looking at their referral activity. They are more inclined to talk about the service than customers in long established relationships. This contradicts prior research concluding that profits from referrals are expected to increase over the duration of the relationship. It also challenges the common assumption that it is more expensive (i.e. less advantageous) to gain a new customer than to retain an old one.

## Discussion and implications

From a scientific point of view, it seems meritorious to develop a quantitative model to capture a marketing phenomenon that most researchers and managers shrink back from addressing at all. It seems most intriguing to put a monetary value to customers' referrals, as this would finally bring out into the open one of marketing's hidden treasures. Marketing managers could invest in referral management strategies, such as referral campaigns, with more peace of mind (and less criticism by their accounting colleagues), if the return on investment could be measured. But virtue and sin can lie close at times, so a closer look at the models and their validity is certainly appropriate. Some critical aspects concerning the individual approaches have already been mentioned. Here, a more general stance is taken to discuss the implications of calculating referral values.

The three models differ vastly in their mathematical foundation and empirical testing. Whereas the model by Herrmann and Fuerderer (1997) has not been empirically tested at all, the two other ones have been used in practice at least once, the model introduced by Wangenheim and Bayón (2002b) even in a consumer and a business-to-business service setting. As especially illustrated in the case of Cornelsen (2000), who comes up with an (allegedly) precise sum for the referral value of individual customers, the possibly dangerous facet of these approaches cannot be withheld. As has been shown, the modeling of referral values suffers from some serious methodological and practical shortcomings. It represents a most interesting, but nevertheless vague approach to assess the economic value of WOM referrals. Basing (costly) marketing strategies on such models calls for more insight and adaptations than the ready cash value calculated for a specific customer suggests at first sight. Obviously, pros and cons of calculating referral values are based on the same fact. The models do enable a more or less simple calculation of a monetary value for referrals. However, any value could be attributed to the referral by altering the variables in the calculation. Therefore, applying the models for a firm's customer base will deliver insights on the relative structure of the customers concerning their (referral) value, and may be used as a ratio. It cannot lead to an absolute figure, although this seems implied by the use of currency units to depict that value in the models described above. Consequently, it can be argued that common scoring models serve the same aims.

If a "true" referral value were to be measured, models would need to be even more complicated. A long term view of the referral value would have to consider the

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snowball effect of referrals, or "spin-off referrals" (referrals addressed to persons, who do not consider buying a product themselves, but refer it to others) (Wilson, 1994; Misner, 1994; Cornelsen, 2000). The effectiveness of referrals depends on a multitude of determinants (Arndt, 1967b; Sundaram *et al.*, 1998). On the one hand, to integrate all determinants would, of course, be unfeasible. But on the other hand, the arbitrary and subjective selection of some determinants by a researcher might not reflect the necessities of a service provider. A serious validity problem arises in as far as the methods used for measuring referral value and its determinants are not a true and comprehensive reflection of the underlying phenomenon (Churchill, 2000). From a methodological perspective, it should be considered that a valid measure of referral value cannot rely on interviewing an existing customer $A$ as a single informant. Wangenheim and Bayón (2002b) explain that the effectiveness of a referral can only be discerned by a dyadic approach that considers both referrer and recipient. Also, one should reconsider the methods used for directly measuring WOM. Usually, WOM is reported by respondents in terms of the number of persons spoken to about recent experiences. A more elaborate multi-item scale to measure WOM has been proposed by Harrsion-Walker (2001). Using measures of observed WOM, rather than the self-reported approach, might be another alternative (Anderson, 1998).

Furthermore, information is needed about the value of $A$'s recipients as measured by the service company in order to cover the transfer aspect of referrals. This fact has not been addressed in Cornelsen's (2000) model, but in both of the others. It means a probabilistic approach, because only estimates of that future worth can be defined in the phase of new customer acquisition. The integration of the (monetary) referral value into the more comprehensive structure of a customer lifetime value calculation has been shown for all three models. General restrictions of dynamic cash value calculation should be observed (Brealey and Myers, 2001). The lifetime value derives from the revenue from customers who stay in a business relationship, minus fulfillment costs and direct costs associated with maintaining this relationship (Dwyer, 1989). Herrmann and Fuerderer (1997), Cornelsen (2000), as well as Wangenheim and Bayón (2002a, b) add up the different components of customer lifetime value (namely customer profitability or sales, referral value, cross selling potential, and information potential). Following the exemplary suggestion of Wangenheim and Bayón (2002b), the referral value can be combined with other value components $C$ to represent the entire monetary customer lifetime value ($CLV$) for customer $A$ by applying the following formula 3:

$$CLV_{(A)} = C_{(A)} + \sum_{t=1}^{r} RV_{(A)} \qquad (3)$$

Here, $C_{(A)}$ stands for the net present value of the direct cash contributions of customer $A$, generated over the $r$ retention periods. Usually, the sum of the individual subtotals of a customer's lifetime value is then multiplied with a discount factor (Brealey and Myers, 2001). None of the three approaches hints at the interest rate to be applied. Moreover, it can be noted that the authors hardly mention the costs associated with referral behavior and management. Except for Herrmann and Fuerderer (1997), cost data are not explicitly integrated in the models.

Herrmann and Fuerderer (1997) point out that alternate weighting factors could be assigned to the different customer contributions or value factors. These correspond to the probability that the contributions occur in a customer relationship. The models are compensatory, so a high score in referral value can, for instance, compensate for a low score in sales to the customer. Wangenheim and Bayón (2002b) also argue that a customer's relative referral value might not coincide with his other value components. A single look at direct cash contributions such as sales might lead to a resource allocation on behalf of the service provider that does not take into account the "real" worth of the customer. Therefore, it is not only the quantity, but also the structure of a customer's value contributions that is of importance to the service provider.

On an aggregate level, customer valuation leads to a service provider's customer equity as the total of the discounted lifetime values of all of the firm's customers (Blattberg *et al.*, 2001; Rust *et al.*, 2000). Here, another problem of referral valuation becomes evident. Considering the "transfer aspect", measuring a referral value for the old

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customer *A* needs to integrate the newly won customer *n*'s sales, cross selling potential, etc. But these variables are also included in the customer lifetime valuation for *n* himself. This accounts for a misleading double impact of referrals on customer equity.

Summarizing, two main conclusions can be drawn from the discussion of referral valuation. Since many services are referral-driven, WOM needs to be focused on more closely. An effective referral management offers considerable chances to boost a service company's success, but has until now lacked measures to identify the effects of referrals. A determinant model of WOM as discussed by Wangenheim and Bayón (2002a, b), as well as Cornelsen (2000), offers insights into the levers of referral management. This is important for researchers and managers alike. The former will for instance find starting points to develop models that also consider other determinants than the ones discussed in the models. The latter are offered insights into how WOM can be used as a marketing tool. As "only what gets measured gets done", models of referral value could lead to an efficient referral management.

Measuring a phenomenon does not necessarily mean that it has to be monetized, though. The cost of monetizing referral value will probably outweigh the positive potential of such measures in a lot of cases, misleading ever-scarce resources. It is a common feature of marketing that a multitude of its phenomena remain outside the domain of pure metrics. Some contributions of a customer – such as sales and some cost figures – can be put into a formula of customer lifetime value. Others, like referral behavior or information potential of a customer, need an "educated guess" provided by methods such as scoring models. Combining both will lead to a clearer picture of the value of a customer.

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