



## **Measuring the Ripple:**

**Creating the G2X Relay Rate and an Industry Standard  
Methodology to Measure the Spread of Word of Mouth  
Conversations and Marketing-Relevant Outcomes**

Published in *Measuring Word of Mouth, Volume 3*, Word of Mouth Marketing Association, 2007.

**Walter J. Carl, Ph.D.**  
**Jennifer Oles**  
Department of  
Communication Studies  
Northeastern University

Chief Research Officer,  
ChatThreads Corporation



**Matt McGlinn**

**BzzAgent, Inc.**

## **Measuring the Ripple: Creating the G2X Relay Rate and an Industry Standard Methodology to Measure the Spread of Word-of-Mouth Conversations and Marketing-Relevant Outcomes**

Word-of-mouth (WOM) communication is widely seen to be a powerful force in the marketplace, a form of influence that derives its strength from trusted peers sharing relevant information and experiences in the context of their everyday conversations and relationships. Recognizing this force, various marketing organizations have built their business models around WOM principles and have been able to demonstrate exciting results for their clients (WOMMA, 2006). But increasingly, brand clients are demanding greater accountability for these results, and are calling for more precise metrics (Carl, 2006).

In her October 2005 article entitled “Psst! How Do You Measure Buzz?” Catherine Taylor of *Adweek* confirms that WOM marketing is experiencing a resurgence of interest from marketers but that the big challenge lies in its measurement. And in numerous interviews with Chief Marketing Officers, TARP Worldwide, a company conducting WOM-related research since the 1970s, discovered that although many CMOs are aware of the benefits of paying attention to how WOM may affect their business, they do not focus on it because they feel WOM cannot be managed or measured. Instead, CMOs are more likely to focus on advertising campaigns using more traditional media because accepted methods and metrics have been established to assess their level of effectiveness. Thus, industry-standard metrics are imperative for sustaining the growth of the emerging WOM industry.

Historically it has been difficult to measure WOM. Social media monitoring and tracking firms, however, have demonstrated impressive abilities to measure word-of-mouth that occurs in publicly accessible online venues where there is a digital trail of conversations<sup>1</sup>. These tools can be used to track the effectiveness of WOM campaigns in pre-test/post-test designs, as well as track conversations for the purposes of generating consumer insight, identifying influencers, and as a pathway to greater dialogue and engagement with consumers. However, both academic and industry research suggests that approximately 90% of word-of-mouth and advocacy behavior still occurs in offline venues, like face-to-face and phone, or private online venues like e-mail, instant messaging, and chat rooms<sup>2</sup>. A comprehensive measurement approach must account for all forms of consumer conversations and user-generated content, regardless of media form.

---

<sup>1</sup> Kim, P. (2006). The Forrester Wave™: Brand Monitoring, Q3 2006. Cambridge, MA: Forrester.

<sup>2</sup> Carl, W. J. (2006). What's All the Buzz About? Everyday Communication and the Relational Basis of Word-of-Mouth and Buzz Marketing Practices. *Management Communication Quarterly*, 19(4), 601-634; Keller, E. and Fay, B. (2006). Single-Source WOM Measurement: Bringing Together Senders and Receivers: Inputs and Outputs. In W. J. Carl (Ed.), *Measuring Word of Mouth, Volume 2* (pp. 31-41). Chicago: Word of Mouth Marketing Association.

The purpose of this white paper is twofold. First, it is to propose an industry-standard methodology, developed as part of an industry-academic collaboration between BzzAgent, Inc. and Northeastern University, for measuring conversational reach and marketing-relevant outcomes of organized programs designed to leverage “talk value” (that is, highly credible marketing-relevant conversations beyond the initial brand touch point or conversation with a participant in an organized WOM marketing program). Second, this paper is designed to demonstrate that by utilizing the proposed methodology, a managed, scaled WOM marketing program can have both the third-party, validated measurement as well as the desired marketplace impact in terms of overall program reach and outcomes, typically reserved for traditional media outlets.

By using this methodology marketing firms and their clients will have a reliable way of calculating the number of people reached through a campaign and the outcomes of those conversations (for example, intentions to inquire further, use, purchase and/or refer the product and actual inquiry, use, purchase, and referral). This information can be used to assess campaign effectiveness and benchmark against norms across industries and product/service categories.

This paper will present:

- an overview of the methodology utilized to track the spread of conversations from WOM program participants and their conversational partners over time;
- a **generational relay rate**<sup>3</sup> that can be used to determine the overall reach of WOM marketing programs;
- an overview of how the conversation tracking methodology was applied to a specific campaign (the Sonicare Essence BzzCampaign) to measure its effectiveness.

## G2X Conversation Tracking Methodology

It is a common understanding that word of mouth messages spread in generations<sup>4</sup>: a consumer experiences a product and tells a friend who then conveys that message to his/her friend who tells another, etc. While “tell-a-friend” tools for online-based WOM programs are readily available and offer ways to track referrals, quantifying this generational reach across offline venues as well (where upwards of 90% of WOM occur<sup>5</sup>) has remained elusive.

To measure this WOM behavior across online and offline venues, BzzAgent and Northeastern University collaborated to create a methodology that would permit independent, third-party validation of program effectiveness. The research design would address three limitations of BzzAgent’s existing measurement approach:

---

<sup>3</sup> Refer to the Glossary for a definition of key terms used in this white paper. A key term appears in boldface the first time it is used.

<sup>4</sup> Other authors have used the terms steps, degrees, and waves to refer to a similar phenomenon.

<sup>5</sup> Keller, E. & Fay, B. (2006).

1. *Self-reported* – BzzAgent currently relies on reports of WOM episodes from their program participants. Typical problems associated with self-reporting include memory and recall bias (inaccurate or incomplete recall), exaggerated responses, and social desirability bias (answering in ways the respondent thinks the researcher wants them to respond).
2. *Measurement exclusively to Generation 1 conversational partners* – BzzAgent currently measures program reach out to the first generation of conversational partners, without a means to measure, on a campaign-specific basis, the conversations those first generation conversational partners may have with others.
3. *BzzAgent collected and analyzed* – While data are made available to clients for their own analysis, given the new nature of the medium, BzzAgent is often responsible for its own collection AND analysis of the effectiveness of its programs.

The G2X Methodology was designed to provide an avenue to validate the self-reporting of program participants, measure beyond G1 conversational partners, and provide independent, third-party validation of campaign performance. Additionally, it was created to seamlessly integrate with a range of WOM company’s business models, including BzzAgent’s model, to allow for industry-standard benchmarks and norms within and across product and service categories.

#### *Terminology*

Titled G2X, for “Generation 0 to X”, the permission-based, dyadic-validated, self-report methodology starts with a **WOM Program Participant** (in this case, the BzzAgent)<sup>6</sup>, also known as Generation Zero, or G0. When this person speaks with others (**Conversational Partners**) about a product or service, those people become Generation 1, or G1. In subsequent conversations initiated by G1s, their conversational partners become G2s and so on. The number of conversational partners that a G0 talks to is called the “G1 Relay Rate.” The number of people the G1s talk to is called the “G2 Relay Rate” and so on. A **conversation thread** refers to the series of conversations that emerge from Generation 0 out to Generation X. The series of conversations within a thread are associated and tracked by a common **Conversation ID** number.

#### *Process*

BzzAgent measures the WOM activity from G0 to G1 on all its campaigns, using data collected from a combination of reports from program participants for each WOM episode and a post-campaign follow-up survey (explained in more detail below).

---

<sup>6</sup> This methodology can also be used to track the spread of “everyday” word of mouth that is not associated with a particular WOM marketing campaign or that was resulted from another brand touch point, such as personal experience with the product, observation of another’s use, advertising, etc. Future studies will be undertaken to develop norms for non-campaign-related WOM episodes.

To quantify the additional conversations beyond G1, each of the program participants in the study received an invitation and “conversation card” to pass-a-long to their conversational partner after talking about the product or service that was part of the WOM marketing campaign. The card directed the conversational partner to a website where they could take a survey about the **WOM episode** (this will be referred to as the “Conversational Partner survey”). The program participant was instructed to take a survey at [bzzagent.com](http://bzzagent.com) specifically about the WOM episode (this survey will be referred to as the “Program Participant survey”) in addition their normal reporting (called a “BzzReport”).

The conversation card included instructions for the G1 conversational partner to pass the card along to a new conversational partner (G2) *if* they had an additional conversation about the brand. This allowed the people with whom they talked (i.e., G2 conversational partners) to also take the Conversational Partner survey. If there was more than one conversational partner in the WOM episode, or if the WOM episode took place online or over the phone, the Program Participant was instructed to provide the Conversation ID and survey URL for their conversational partner(s).

As an incentive to participate, all survey respondents had the opportunity to win an electronic gift certificate to [amazon.com](http://amazon.com).

Both the Program Participant and Conversational Partner surveys capture detailed information about the WOM episode, such as when and where it took place, the specific organization, brand, product, or service discussed, polarity of the talk (positive, negative, neutral, or mixed), whether or not a recommendation or referral was made, what was said, who initiated the discussion of the brand, demographic information of the participants, and “action outcomes” (for the Conversational Partner version only). The action outcomes included measures of behavioral intentions and actual behaviors: likelihood to inquire further, use, purchase and refer the product or service, as well as actual inquiry, use, purchase, and recommendation behavior.

Each conversational partner is also invited to participate in an extended study where they report on whether or not they had any additional conversations over the next six weeks and what the outcomes of those conversations were (an additional gift certificate was offered as a further incentive for their continued participation). Conversational partners are told that their participation is valued *whether or not* they have additional conversations about the product or service.

A significant advantage of the G2X Methodology is that it provides a means to perform a validation check on the self-reported data. Program participants and their conversational partner(s) are asked to take separate surveys about the same WOM episode. This permits dyadic, or multi-party, inputs, thus enabling a way to validate the information that each person provides. If there are significant discrepancies, these cases can be accounted for in subsequent analysis.

## Tracking G2 Relay Rate: The Importance of Measurement Over Time

Using an earlier version of this methodology<sup>7</sup> Northeastern University calculated the G2 relay rate (the number of people a G1 conversational partner told about the product or service) as 1.65x<sup>8</sup>. For that study, the time between the WOM episode and the time that the conversational partner took the survey (i.e., “lag time”) was 4.3 days, on average (the median was 2.17 days) and 44% of the respondents reported having no additional brand-related conversations during that lag time. That G2 relay rate was based on the reports of 211 conversational partners (see Table 1).

**Table 1 – G2 Relay Rate Comparison Between Two Studies**

“Time Zero” Only	G2 Relay Rate Mean (St. Dev.) <sup>†</sup>	Lag Time Mean (Median)	% That Told No Other People
2006 Study (n=211)	1.65 (2.88)	4.3 days (2.17)	44%
2007 Study (n=402)	1.48 (2.20)	1.68 days (0.72)	42%

<sup>†</sup> Outliers were retained in these analyses if they had face validity and could be validated through follow-up verification with the respondent, internal consistency with other responses, and/or dyadic matching of responses with other conversational partners.

However, the 2006 study only asked the conversational partner at one time, “Time Zero,” and did not ask the conversational partners to respond to additional surveys over a six-week time period. Utilizing the G2X methodology described above, where conversations were tracked across

*Survey Response Rate for Conversational Partners: 24.6%*

*Participation Rate of Conversational Partners in Extended, Six-Week Study: 39.6%*

multiple periods lasting six weeks, the G2 relay rate can be revised to 4.14 (see Table 2). This rate is based on the reports of 402 conversational partners, with 159 of those electing to participate in the extended six-week study<sup>9</sup>.

<sup>7</sup> See Carl, W. J. (2006). “To Tell Or Not To Tell? Assessing the Practical Effects of Disclosure for Word-of-Mouth Marketing Agents and Their Conversational Partners.” Available for download at <http://www.waltercarl.neu.edu/downloads>

<sup>8</sup> Results reported in “To Tell Or Not To Tell?”

<sup>9</sup> For results reported in this paper, there are two relevant response and participation rates. First, the number of G1 conversational partners who responded to an invitation from a program participant to take the survey. The response rate was calculated based on the number of completed surveys by program participants and the number of conversational partners completing a valid and complete survey at Time Zero. Of the 1,633 surveys completed by the program participants, there were 402 conversational partner Time Zero surveys, thus representing a response rate of 24.6%. Second, the number of conversational partners who take the T0 survey (the first survey) and the T123 surveys (the three extended surveys over a six-week time period).

**Table 2 – G2 Relay Rate by Time Period Across Multiple Product/Service Categories**

All Time Periods	G2 Relay Rate Mean (Standard Deviation)	% That Told No Other People
<b>Time 0</b> (First report)	1.4300 (2.17)	44%
<b>Time 1</b> (One week later)	1.3762 (2.57)	47%
<b>Time 2</b> (Three weeks later)	0.7630 (1.59)	60%
<b>Time 3</b> (Six weeks later)	0.5712 (1.69)	59%
<b>Total</b> ( <i>n</i> = 159 of 402)	<b>4.14*</b>	22% <sup>†</sup>

\* Although the data collected from the G1 conversational partners violate the condition of random selection (since they were selected through an invitation from the program participant) we performed margin of error calculations to provide a range of values for the G2 relay rate. We did this by computing the margin or error at each distinct time period and then summing all the low values and all the high values. At the 95% confidence interval, the G2 relay rate falls within the range of 3.02 – 5.26.

<sup>†</sup> 78% of respondents reported telling at least one person throughout the course of the six-week study. The relay rate for those 78% was 5.3061 ( $.78 * 5.3061 = 4.14$ ). Thus, we can also express the relay rate relative to the number of people who did talk.

The product/service categories represented in this study include household cleaning and storage products, packaged foods, retail, books, alcoholic beverages, and electronic personal care products<sup>10</sup>.

There are two points worth highlighting regarding the number of people told over time. The first point is to note the decay rate over each time period in the number of other people told. The data indicate that the highest number of people are told soon after their initial conversation with the program participant (Time Zero; see Table 2). Within the first week, a slightly lower number of people are told, with the numbers dropping off significantly between one week (Time 1) and three weeks (Time 2). Although the number of people told consistently decreased over the six-week period, conversations still continued to occur.

The second point worth highlighting is the number of people who did *not* tell anyone. This is important for methodological reasons. The G2X Methodology attempts to provide a reliable measurement of conversations, *if* and when they occur, without artificially stimulating conversations. Based on the results there is some optimism that the

---

The participation rate for the extended study was 39.6% (of the 402 G1 conversational partners who completed the T0 survey, 159 also completed at least one survey during the six-week extended study).

<sup>10</sup> No attempt is made to generalize this relay rate to all product/service categories or to relay rates for products/services that are not part of an organized WOM marketing program. Continued use of the methodology across campaigns with multiple categories, as well as for products and services that are not part of a specific WOM marketing campaign, will allow for more comprehensive norms.

methodology can accomplish this goal. For example, 44% of the G1 conversational partners reported they did not have additional conversations at Time Zero. By the end of the six weeks there were still 22% reporting that they did not have any additional conversations. Thus, it seems that conversational partners report even when they do not have additional brand-related conversations, consistent with the research design.

## Calculating Conversational Reach

Conversational reach is calculated based on the number of program participants in the organized WOM marketing program and measured generational relay rates. As described above, the generational relay rate is defined as the number of people told by a person at each generation. The number of people (i.e., “G1 conversational partners”) a program participant talks to throughout the length of a campaign is computed as the G1 rate. The number of people (i.e., “G2 conversational partners”) those G1 conversational partners tell is the G2 rate, etc.

$$\begin{aligned} \text{WOM Program Reach} = & \\ & (\text{Number of G0 Program Participants}) + \\ & (\text{G0 Program Participants} \times \% \text{ who talked} \times \text{G1 Relay Rate}) + \\ & (\text{G1 Conversational Partners} \times \% \text{ who talked} \times \text{G2 Relay Rate}) + \\ & (\text{GX Conversational Partners} \times \% \text{ who talked} \times \text{GX Relay Rate}) \end{aligned}$$

For example, assume there were data available out to two generations of conversational partners and that each conversational partner talked to represented a unique person. Suppose there were 30,000 program participants (G0s) in a campaign, with 90% reporting they had at least one conversation, and those 90% talked with 10 people (G1), on average, during the course of the campaign. Then those 270,000 people each talked with an additional 4.14<sup>11</sup> people (G2), on average, over the course of six weeks. The program reach would be:

$$\begin{aligned} & 30,000 \text{ Program Participants} + \\ & (30,000 \text{ G0s} \times 90\% \times 10 \text{ G1s}) + \\ & (270,000 \text{ G1s} \times 78\% \times 5.3061 \text{ G2s}) = \\ & 30,000 + 270,000 + 1,117,465 = \\ & 1,417,465 \text{ people reached} \end{aligned}$$

---

<sup>11</sup> Program reach should be calculated with relay rates specific to a marketing program rather than using an aggregate relay rate. The 4.14 G2 relay rate is used here for illustration purposes only.

## **G2X Methodology and the Sonicare Essence BzzCampaign**

In this section we will describe a case study where the G2X methodology was used to provide third-party validation of an actual WOM marketing program's effectiveness.

### *The Network*

BzzAgent manages a word-of-mouth media network of over 300,000 individuals in North America and the United Kingdom that opt-in to WOM marketing programs designed by BzzAgent, its clients, and partner agencies. These individuals (BzzAgents) complete detailed demographic and psychographic profiles at [www.bzzagent.com](http://www.bzzagent.com) (and [www.bzzagent.co.uk](http://www.bzzagent.co.uk) for UK participants) and are then invited to participate in WOM programs (BzzCampaigns) based on their interests and behaviors. BzzCampaigns are designed to give the BzzAgents a method to experience a product or service (typically free of cost), provide additional, relevant product information and encourage them to have natural, honest conversations with their friends, family, co-workers, and other acquaintances.

BzzAgents report the details of the conversations through two interfaces on [bzzagent.com](http://bzzagent.com): a detailed verbatim of the conversation called a BzzReport which BzzAgents complete during the course of the campaign, which also includes quantitative information about the number of individuals reached and their reaction to the conversation; and on-line post-campaign surveys designed to measure conversations not reported through BzzReports, as well as topical trends, reaction, and Net Promoter<sup>®</sup> Score measurements.

### *The BzzCampaign*

The Sonicare Essence 5300 is a premium, rechargeable, sonic toothbrush developed and distributed by Philips Domestic Appliances and Personal Care Company. Retailing for nearly \$90.00, the Sonicare Essence 5300 is positioned midway in the best selling line of sonic toothbrushes worldwide.

On November 7, 2006, BzzAgent invited BzzAgents aged 25+ in North America to join the Sonicare Essence BzzCampaign. In just two days, 30,000 US residents and 3,000 Canadians had joined the program. Each participant was then shipped their own Sonicare Essence toothbrush, five (5) \$10 mail-in rebates for additional toothbrushes to give to others, and product information supplied by Philips.

Three thousand (10% of the US participants) of the U.S.-based BzzAgents could report their conversations through the BzzReport interface on [bzzagent.com](http://bzzagent.com) until December 19, 2006 (six weeks). Forty-seven percent completed at least one BzzReport during the course of the campaign. All 33,000 participants then had the opportunity to answer an online survey between 12/20/2006 and 12/28/2006. Fifty-one percent of the 33,000 participants answered the survey.

As part of the collaboration with Northeastern University, the same sample of 3,000

BzzAgents was also sent an invitation to participate in a research study about their WOM behavior. Per the description of the G2X Methodology above, these program participants were asked to complete a survey about the WOM episode in a special section of the bzzagent.com site that was prepared and independently analyzed by Northeastern University (that is, the Program Participant survey).

*Determining program reach for Sonicare*

Using the process described above, the reach of the Sonicare program was calculated at 1,400,641 individuals. This number was computed as follows:

The G1 relay rate for the Sonicare BzzCampaign is 9.4. This is based on 1,890 BzzReports received during the live portion of the campaign (each detailing the number of individuals in each WOM episode), the number of BzzReports per reporting program participant, and the mean responses to two questions in the online post-campaign surveys ( $n=16,881$ ; response rate 51%):

1. How many times did you Bzz, but not report your Bzz in a BzzReport? (Answered for BzzAgents who had the ability to use the BzzReport interface)
2. How many times did you Bzz? (For all other BzzAgents in the campaign)

Based on BzzReports and the post-campaign survey, just over 95% of BzzAgents participated in at least one WOM episode during the course of the campaign.

Northeastern performed an independent, dyadic validation of the G1 relay rate based on a comparison between the BzzAgent responses to the Northeastern program participant survey and the G1 responses to the Northeastern conversational partner survey. Similarity in reports between the two provides a degree of confidence that we can validate the program participants' self-reports of the number of conversational partners in each WOM episode. To do this, we paired reports for the same WOM episode from the BzzAgent and their conversational partners (we were unable to match all cases because in some instances a program participant did not complete a survey while the conversational partner(s) did, or vice versa). While BzzAgents did report slightly higher values than their conversational partners for the number of other people in the conversation (approximately 18% higher) this was not a statistically significant difference ( $M = 1.83$ ;  $SD = 1.411$  versus  $M = 1.55$ ;  $SD = 1.475$ ;  $t = 1.412$ ,  $df = 1, 52$ ,  $p = .164$ ).

The G2 relay rate for this campaign was 3.64<sup>12</sup>; that is, for each G1 conversational partner that took the survey, they reported talking with an additional 3.64 conversational partners over a six-week time span. This rate is based on 193 G1 conversational partners reporting how many people they told after the conversation with the program participant through the survey hosted on Northeastern University's servers. Response rates for the initial "Time Zero" survey, where the G1 conversational partner reported on their interaction with the BzzAgent, was 32.2% (193 clean and complete G1 surveys divided by 599 agent G2X Study surveys). Of the conversational partners who completed the

---

<sup>12</sup> At the 95% confidence interval, the G2 relay rate for the Sonicare campaign falls within the range of 2.06 – 5.22.

initial Time Zero survey, 78, or approximately 40%, also participated in the extended six-week study (where they reported if they did or did not have additional conversations at three separate data collection points).

Using the formula outlined above, the total conversational reach (to the second generation of conversational participants<sup>13</sup>) of the Sonicare BzzCampaign is as follows:

$$\begin{aligned} \text{Sonicare BzzCampaign Reach} &= 1,400,641 \\ &33,000 \text{ BzzAgents} + \\ &(33,000 \times 95\% \text{ who talked} \times 9.4) + \\ &(294,690 \times 3.640947^*) \\ \\ 33,000 + 294,690 + 1,072,951 &= 1,400,641 \end{aligned}$$

\* For this calculation we broke out the G2 relay rate by time periods. Time Zero is the first time the conversational partners took the survey, and then Time 123 represents the three additional surveys over a period of six weeks. Thus, the 3.64 G2 relay rate was computed as follows:

$$\begin{aligned} &(\% \text{ who talked at Time 0} \times \text{G2 T0 relay rate of those who talked}) + \\ &(\% \text{ who talked at Time 123} \times \text{G2 T123 relay rate of those who talked}) \\ \\ &(57.5\% \times 2.25) + (59\% \times 3.9783) \\ &1.29375 + 2.347197 \\ &= 3.640947 \end{aligned}$$

## Conversation Impact

Similar to the collection of G0 to G1 conversation measurements, BzzAgent also collects information from the BzzAgents regarding their opinions, likelihood to recommend, consideration and purchase behaviors. These data, typically gathered via the post-campaign survey to the agents, is then used to model pre/post changes, lifetime value or other value-based ROI models.

In addition to the relay rates, three key metrics for determining campaign success outlined at the onset of the Sonicare BzzCampaign included the participant Net Promoter<sup>®</sup> Score, BzzAgent and conversational partner purchase and purchase intent behavior, and bottom-line sales figures. Data collected from the BzzAgents, conversational partners (via the G2X survey), and year-over-year sales results from Philips, demonstrate the campaign met or exceeded expectations.

---

<sup>13</sup> We did not receive sufficient cases of G2 conversational partners completing surveys in this campaign to compute a reliable G3 Relay Rate.

*Net Promoter<sup>®</sup> Score:*

The pre-campaign Net Promoter<sup>®</sup> Score (NPS) for the BzzAgents, scored when they registered for the campaign, was a -40. The NPS after participating in the program was 80, 64 points higher than the national median<sup>14</sup>, 120 points higher than pre-measurement. The sample of BzzAgents participating in the Northeastern University survey reported a nearly identical NPS score – 78.6 – thus validating the calculation by BzzAgent. Further, Northeastern calculated the NPS score for the G1 conversational partners at 30 (pre/post figures are not available). We suspect that the significantly higher NPS score for the program participants (80 versus 30) is a function of the agents participating directly in the WOM marketing program and having their own first-hand experience using the product.

*Purchase and Purchase Intent*

BzzAgents on average reported that nearly half (49%) of those they spoke with about Sonicare expressed some level of intent to purchase the product (4.6 of 9.4 individuals). Additionally BzzAgents reported that 16% (1.5 of 9.4 individuals) had already purchased a Sonicare toothbrush at the conclusion of the campaign. These impressive self-reported purchase numbers were corroborated with G1 data which showed that 77.2% of G1 conversational partners were likely or very likely to purchase the product (41% very likely) and 21% had reported already purchasing the product. These numbers are especially interesting because program participants, in this case, actually *under*-reported their conversational partners' purchase intent and behavior.

*Bottom-line Value*

To understand the bottom-line value the BzzCampaign was able to deliver, Philips and BzzAgent considered both data provided via the program and year over year business results. While we are unable to report hard-dollar figures, sales for the entire Sonicare line increased 21% for the month (December 2005 versus December 2006).

As expected, the BzzCampaign was not the only media and marketing supporting the line during this time. In addition to the WOM program, television, direct to consumer couponing, and public relations efforts were in market simultaneously. From a share-of-voice perspective, television and couponing were comparable to the previous year. All of the creative in 2006, however, had returned its focus to the Sonicare brand, rather than a specific product set.

While other marketing support carried a similar message, the BzzCampaign was the only addition into the 2006 marketing mix specifically designed to increase friend and family recommendation. When evaluating the product registration cards between Q4 2005 and Q4 2006, Philips found that friend and family recommendation drove 18% more sales in 2006. When the entire cost of the program for Philips is considered (including both the

---

<sup>14</sup> Reichheld, Frederick F. (2003), "The One Number You Need to Grow," *Harvard Business Review*, vol. 81, no. 12 (December), 46-54.

BzzAgent fees and the cost of the product for the BzzAgents) this additional 18% in sales resulted in an approximately 100% return on their investment.<sup>15 16</sup>

## Lessons Learned

We took away five valuable lessons from this research. First, we were able to document that conversations among subsequent generations of conversational partners continued to occur after the initial interaction with the WOM program participant. By only surveying conversational partners at one time period, as done in prior research, we were under-reporting their subsequent WOM episodes, and thus under-reporting program reach.

Second, we confirmed the value of dyadic validation as a way to overcome one limitation of self-reported data. In this study we were able to provide evidence that program participants and their conversational partners displayed relative agreement on key metrics like the number of other people in the conversation. This is an important step in validating the G0 to G1 relay rate, as well as other key performance indicators like Net Promoter<sup>®</sup> Score and self-reported purchase behaviors.

Third, we were able to pilot test a measurement system that can be used reliably across multiple campaigns and product/service categories, especially household cleaning and storage products, packaged foods, retail, books, alcoholic beverages, and electronic personal care products. The value of this methodology will be increased as it is used with additional categories and with different WOM marketing companies and business models, which will promote industry standard norms.

Fourth, we were able to provide concrete evidence that the effectiveness of WOM marketing programs can be independently measured and validated by a third-party. This opens the door for industry-wide third-party measurement that is seen in more mature media industries like radio, TV, and print.

Fifth, we learned that a more informative way of calculating the generational relay rate is to incorporate the percentage of people who talked at each generation<sup>17</sup>. For example, rather than just reporting that the G2 relay rate for a campaign is 4.14, it is more useful from a management perspective to immediately know what percentage of the people talked, and how many people they told (for example, 78% of the G1 conversational partners who talked told 5.3061 others, on average  $(.78 * 5.3061 = 4.14)$ ). We would

---

<sup>15</sup> Since not all sales will result in a completed product registration card, this ROI is estimated using 18% of the net additional dollar volume, year over year, for the months of November and December (when the campaign was in market)

<sup>16</sup> While we have relay rates and other key metrics from campaigns in other product and service categories, we do not yet have sufficient campaigns for the product category within which Sonicare would fall. Thus, comparisons of Sonicare results to benchmark figures are less meaningful and will not be reported in this white paper.

<sup>17</sup> We would like to acknowledge the helpful feedback of an anonymous reviewer from the WOMMA Editorial Board for this suggestion.

argue that the percentage of people who talked is a quantitative indicator of the level of WOM intensity or engagement with the campaign brand.

While results from this case study have demonstrated the value in using the G2X Methodology to measure and validate WOM marketing practices, the true impact of such a measurement methodology can come only in its widespread adoption and cross-industry data aggregation that will enable goal setting and benchmarking of marketing program performance.

## About the Authors

*Walter J. Carl, Ph.D.*

Assistant Professor, Department of Communication Studies, Northeastern University  
Founder and Chief Research Officer, ChatThreads Corporation

Dr. Carl is the Founder and Chief Research Officer at ChatThreads Corporation (<http://www.chatthreads.com>), an independent word of mouth research company that derives actionable insight from how word of mouth communication spreads among individuals and social networks. As a faculty member at Northeastern University, Dr. Walter Carl conducts research and teaches in the areas of interpersonal, organizational, and marketing communication. His research explores how organizations effectively and ethically manage their stakeholders' word-of-mouth (WOM) communication through an understanding of the similarities and differences between everyday and institutional WOM practices. Dr. Carl is an active member on the Word of Mouth Marketing Association's (WOMMA) Advisory Board, co-chair of their Research and Metrics Council where he led the workgroup editing the research book *Measuring Word-of-Mouth, Volume 2*, and was on the drafting committee for the WOMMA Terminology Framework, the first set of industry standards for researching and measuring WOM marketing. He received his Ph.D. from the University of Iowa and his master's degree from the University of North Carolina at Chapel Hill.

Home Page: <http://www.waltercarl.neu.edu>

Word-of-Mouth Communication Study Blog: <http://www.wom-study.blogspot.com>

*Jennifer Oles – Research Assistant, Northeastern University*

Jennifer Oles is a researcher in the Department of Communication Studies at Northeastern University and focuses on word-of-mouth marketing research. A 2006 graduate of the College of Business Administration at Northeastern University, she holds a B.S. in international business with a concentration in marketing.

*Matt McGlinn – Sr. Director, Analytics, BzzAgent, Inc.*

Matt McGlinn is the senior director of analytics at BzzAgent, the industry's fastest growing word-of-mouth marketing and media firm. Since 2003, Matt has overseen all research design, measurement and analysis for BzzAgent campaigns. He and his team track the impact of word of mouth on sales activity, brand engagement, and conversational norms for their client's programs. In addition to his active participation on the WOMMA Research and Metrics Council, Matt also serves as the point person in BzzAgent's relationship with other marketing industry and academic partners alike.

Matt received his BA from Hobart College in Geneva, NY, and his MBA from City University of New York's Baruch College with a concentration in Entrepreneurial Strategy and Marketing.

*A very special thanks to Ben Evarts at BzzAgent for managing the entire research study on behalf of BzzAgent, and to Timothy Matthews, the campaign analyst for the Sonicare BzzCampaign. The authors would also like to express their appreciation for all the helpful comments from the WOMMA Editorial Board reviewers. Finally the authors would like to thank all the program participants and conversational partners who participated in this research.*

## Glossary

To promote industry-standard norms, this white paper uses terminology consistent with the Word of Mouth Marketing Association’s Terminology Framework prepared by WOMMA’s Research and Metrics Council (available at <http://www.womma.org/groups/research/framework/>)

In the context of this methodology, a participant in a WOM marketing program will be described as (“Generation 0” or  $G_0$ ). The first set of conversational partners with whom this program participant speaks will be described as a  $G_1$  conversational partner. The people with whom they speak will be described as  $G_2$  and so on, all the way out to  $G_X$ . Thus, the provisional name for this methodology is the “Generational Relay To X” methodology, or “G2X.”

[[Put the following in a text box]]. A “conversation thread” will be described as the series of interactions that occur between a  $G_0$  program participant and subsequent generations of conversational partners ( $G_1$  to  $G_2$ ,  $G_2$  to  $G_3$ , etc.). A “WOM episode” is a single conversation that contains talk about an organization, brand, product, or service.

**Conversational Partner** – a CP is any non-program participant who participates in a WOM episode regarding an organization, brand, product, or service

**Conversation ID** – the conversation ID is an alphanumeric code that is associated with a series of conversations that begin with a WOM Program Participant. All conversations within a particular “thread” have a common Conversation ID.

**Conversation Thread** (or, WOM Thread) – is a series of WOM episodes that take place at different times and among different participants about an OBPS. A WOM thread starts with a Generation 0 Participant and can travel out to Generation X.

**Generation** – A generation refers to a conversational partner, or collection of CPs, that constitute a step in the relay/pass-along of a WOMUnit. Generation 0 refers to the originator of the message and the person that  $G_0$  CP tells is  $G_1$ .  $G_1$  tells  $G_2$  who tells  $G_3$ , etc. For campaign-related WOM episodes a Generation Zero participant is always a BzzAgent or other WOM Program Participant and a  $G_1$  will be a Conversational Partner. For non-campaign-related WOM episodes, a Generation Zero refers to a Participant/Sender in a WOM episode.

**Generational Relay Rate** – A relay rate is a calculation of the number of people told at a specific generation. Thus, a “G2” relay rate shows how many people a Generation 1 conversational partner told about the organization, brand, product, or service.

**OBPS** – Organization, brand, product, or service. It’s the “object” or WOM Unit in a WOM episode.

**Program Participant** – a participant in an organized WOMM program.

**WOM Episode** is evaluative talk (positive, negative, neutral, or mixed) about an organization, brand, product, or service, which may or may not include a recommendation for action, and which could occur online or offline. There are two types of WOM episodes: Institutional WOM (I-WOM) are campaign-related while Everyday WOM episodes (E-WOM) are non-campaign-related.

**Time Zero (T0)** – is the first time a conversational partner completes a survey.

**Time 1 (T1)** – is one week after T0

**Time 2 (T2)** – is three weeks after T0

**Time 3 (T3)** – is six weeks after T0

## **Funding For This Study**

Funding for this study was provided as part of a Sponsored Research Agreement (SRA-0667) between Northeastern University and BzzAgent, Inc.