WORD OF MOUTH OPPORTUNITY: WHY RECOMMENDATION LIKELIHOOD OVERESTIMATES POSITIVE WORD OF MOUTH

Thomas A. Burnham and R. Bret Leary

Researchers and practitioners alike rely extensively on recommendation likelihood measures to understand customer loyalty and, more explicitly, expected positive word-of-mouth (PWOM). Yet previous research shows recommendation likelihood to be a flawed predictor of PWOM. We address this shortcoming by investigating the role that word-of-mouth (WOM) opportunity plays in the relationship between recommendation likelihood and PWOM. Results suggest that recommendation likelihood measures largely reflect overall satisfaction, and that WOM opportunity has a key moderating effect on the relationship between recommendation likelihood and PWOM. Importantly, WOM opportunity is poorly considered by consumers responding to recommendation likelihood questions, yet it has a major effect on PWOM. Implications for practitioners and academics using recommendation likelihood as a loyalty or PWOM measure are discussed.

How likely are you to recommend this research to a friend or colleague? Recommendation likelihood[1] has become a fundamental measure for scholars and practitioners investigating customer loyalty and positive word of mouth (PWOM). As the single metric upon which the Net Promoter Score is constructed (Reichheld 2003), recommendation likelihood is among the most widely used customer feedback measure in the industry (Aksoy 2013; Morgan et al. 2005). In academic research, recommendation likelihood is regularly employed as a measure of expected positive referrals (c.f. Johnson et al. 1998; Mittal et al. 1999; Zeithaml et al. 1990) and as a component of scales used to measure customer loyalty (c.f. Haumann et al. 2014; Homburg et al. 2006; Zeithaml et al. 1996). Indeed, it has become common to equate a customer's stated likelihood to recommend a company with their loyalty to the company or, at a minimum, assume that it predicts the amount of positive word of mouth (PWOM) communications in which the customer will engage. Yet research evidence to date raises significant questions about the power of recommendation likelihood in predicting PWOM. Less

than half of consumers who express high recommendation likelihood actually engage in PWOM (East et al. 2011; Kumar et al. 2007; Romaniuk et al. 2011). Wangenheim and Bayon (2007) call this disconnect between WOM intentions and WOM behavior one of the "neglected areas of research" in the WOM space.

This research seeks to explain a key source of the disparity between WOM intentions and WOM behavior through an empirical examination of WOM opportunity. Critical incident research suggests that WOM behavior is closely associated with the opportunities one experiences to engage in WOM (Bechwati and Nasr 2011; East et al. 2015; Mangold et al. 1999; Mazzarol et al. 2007). Surprisingly, limited empirical research measures how strong of a role opportunity plays in PWOM, and, more important, assesses the extent to which WOM opportunity is taken into account by customers responding to a recommendation likelihood question.

This study contributes to the micro-oriented understanding of recommendation likelihood. While a large body of macro-oriented research has probed the predictive value of recommendation likelihood as a customer loyalty metric (c.f. de Haan et al. 2015; Keiningham et al. 2007a; Keiningham et al. 2007b), limited research has sought to understand what recommendation likelihood measures capture and how they function (Pollack and Alexandrov 2013). Our model (Figure 1) centers on explaining how well recommendation likelihood translates customer satisfaction into PWOM. In addition, it proposes WOM opportunity as a critical antecedent of PWOM, investigates the manner in

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Figure 1
Theoretical Model
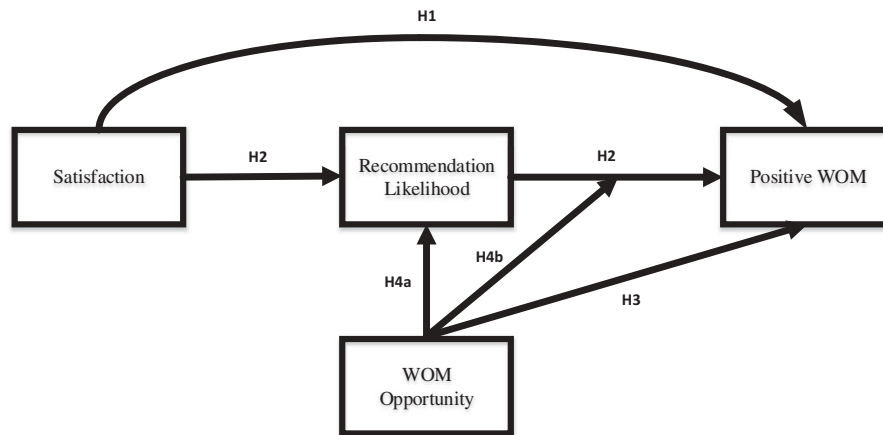
which WOM opportunity impacts PWOM, and explores how it relates to, or is captured by, recommendation likelihood. As the first known empirical examination of how these constructs are related, we propose and test alternative hypotheses regarding the nature of the WOM opportunity relationships.

Our results suggest that recommendation likelihood mediates satisfaction's relationship with PWOM—that is, recommendation likelihood captures the primary effect that satisfaction has on PWOM. We also find that WOM opportunity strongly influences PWOM, but that recommendation likelihood does not mediate this relationship—that is, recommendation likelihood does not capture the effect that WOM opportunity has on PWOM. Instead, recommendation likelihood and WOM opportunity interact positively, suggesting that both are needed for strong PWOM to occur. By empirically testing the relationships among these constructs we provide a solid basis for understanding the nature of the recommendation likelihood metric and we help to explain why it regularly overstates actual PWOM.

THEORETICAL BACKGROUND

Positive Word of Mouth (PWOM)

Arndt (1967, p. 190) defines WOM as "oral, person-to-person communication between a perceived non-commercial communicator and a receiver regarding a brand, a product, an organization or a service." As one of the

primary inputs on which consumers rely when making purchase decisions (Still et al. 1984), favorable WOM has been called "the ultimate product success factor" (Harrison-Walker 2001, p. 60) because WOM communication by friends, family and colleagues is seen as the most trusted and reliable source of product information. Most consumers engage in WOM (Bone 1995), with studies reporting from 50 percent to 80 percent of consumers engaging in WOM (Anderson 1998; Larsen and Hill 1954). The average American consumer engages in 121 WOM conversations in a typical week (Keller 2007), and WOM drives about 13 percent of consumer sales, more than half as much as all paid advertising (Word of Mouth Marketing Association 2014).

Our research addresses person-to-person WOM, as online or electronic WOM (eWOM) has been shown to be influenced by distinct motivations and triggers (Bechwati and Nasr 2011; Hennig-Thurau et al. 2004). While the full domain of WOM includes negative, neutral, and positive WOM behaviors (East et al. 2008; Zeithaml et al. 1996), our research focuses on *positive* word of mouth (PWOM). PWOM is much more prevalent than negative WOM—about six to one according to Keller (2007)—and has a greater overall impact than negative WOM (East et al. 2008). Furthermore, and more relevant to the current research, PWOM is what marketers and scholars seek to predict when measuring recommendation likelihood.

Consumer motivations for engaging in WOM range from impression management to emotion regulation to

social bonding (Berger 2014). However, customer satisfaction has long been held to be a dominant determinant of PWOM (Anderson 1998; de Matos and Rossi 2008). Indeed, the extent to which a product or service experience exceeds a customer's expectations or provides a positive emotional experience ought to be related to their motivation to share positive information about, or recommend, the company to others. However, scholars have suggested a host of other factors that can influence the level of WOM in which consumers engage, including category involvement (Chung and Darke 2006; Richins and Root-Shaffer 1988; Wangenheim and Bayón 2007), customer-company identification (Ahearne et al. 2005; Bhattacharya and Sen 2003; Brown et al. 2005), commitment (Brown et al. 2005; Harrison-Walker 2001; Hennig-Thurau et al. 2004) and WOM opportunity (Bechwati and Nasr 2011; Mazzarol et al. 2007), among other constructs. Our theoretical model focuses on the dominant role of company level satisfaction and the underexplored role of WOM opportunity in driving company PWOM. However, we also address some of the other more commonly noted determinants of WOM.

Recommendation Likelihood

Recommendation likelihood has long been the primary measure of behavioral intentions, or likelihood, for PWOM (c.f. Boulding et al. 1993). The widespread use of recommendation likelihood in academic research presumes that it is a reasonably accurate indicator of customer loyalty and/or PWOM behavior. Indeed, researchers have employed recommendation likelihood measures in loyalty scales when studying the antecedents of loyalty (Boulding et al. 1993; Haumann et al. 2014; Maity and Gupta 2016; Zeithaml et al. 1993), as a loyalty or customer feedback metric used to predict firm performance (de Haan et al. 2015; Keiningham et al. 2007a; Keiningham et al. 2007b), as a mid-model metric when studying the service profit chain (Homburg et al. 2009; Kamakura et al. 2002), and as a substitute for a measure of PWOM or purchasing behavior (Johnson et al. 1998; Lee and Romaniuk 2009; Mittal et al. 1999; Yang and Unnava 2016).

Given its widespread use, researchers should be inclined to question how well recommendation likelihood performs as a predictor of PWOM. A meta-analysis of theory of reasoned action research found an average correlation of 0.53 between behavioral intentions and behavior across a wide variety of contexts

and measures (Sheppard et al. 1988). In the context of recommendations, researchers have established across an assortment of industries that a significant relationship exists between recommendation likelihood and either PWOM or customer referrals (Keiningham et al 2007a; Morgan and Rego 2008; Pollack and Alexandrov 2013).

However, there is growing evidence that recommendation likelihood is not as highly accurate a predictor of PWOM by consumers as commonly thought. Indeed, "there is a considerable gap between what people say they will do and what they actually do" with regard to recommendation likelihood (Romaniuk et al. 2011, p. 508). Romaniuk et al. (2011) find that only 30 percent of "intenders" (those with ratings of 7–10 on a recommendation likelihood scale) ended up recommending a TV program during the following week. This finding is corroborated by at least two other studies. East et al. (2011) find that those with the highest ratings (9s or 10s) on a recommendation likelihood scale contribute only between 32 percent and 46 percent of PWOM, while Kumar et al. (2007) find that more than half of those who express a strong intention to give WOM do not do so. These evident limitations suggest a need to better understand what the recommendation likelihood metric actually measures or captures, and what people consider when responding to recommendation likelihood surveys. Toward this end, we investigate the possible role of WOM opportunity in influencing the recommendation likelihood-PWOM relationship.

WOM Opportunity

WOM, as informal, person-to-person communication, is a social exchange that requires opportunity. People seldom initiate new conversations to share their opinions regarding products or services unless they are highly agitated or thrilled by them and those that do need to find willing partners for the exchange. Instead, WOM exchanges are typically triggered by circumstances of the social context. Mangold et al. (1999) conclude that perceiving a need by the receiver— usually a prompted request for information (50% of cases)—is the most common circumstance associated with engaging in WOM behavior. Coincidental communication is the second most common (19% of cases), and the communicator's satisfaction or dissatisfaction is the primary cause in only 9 percent of cases.

Mazzarol et al. (2007) describe a variety of triggers, or situational factors, that prompt a WOM giver into action, including leading questions, associated words (e.g., the brand coming up in conversation or being seen), and advertising. Similarly, Berger and Schwartz (2011) show that a majority of WOM is driven by the "surrounding environment" (p. 871) and the many "day-to-day conversations" (p. 870) that cue a product in the mind of a consumer. In this manner, the seemingly benign interactions in which one engages provide triggers to spread WOM with others. Bechwati and Nasr (2011) investigate the prevalence of such triggers in consumer WOM and find that being approached or asked for advice prompts 32 percent of WOM incidents and hearing a complaint about a currently used product or a problem needing a solution prompts another 28 percent of incidents. Collectively these studies suggest that over half of WOM is driven by circumstance or, as we call it, opportunity.

Supporting the importance of opportunity in behavior, the Motivation-Opportunity-Ability (MOA) theory posits that the extent to which consumers engage in information processing is a function of three factors: motivation, opportunity, and ability (MacInnis and Jaworski 1989; MacInnis et al. 1991). In a communications context, Gruen et al. (2006) apply MOA theory to understand the antecedents of online consumer-to-consumer know-how exchange. In the context of PWOM, consumers' varying levels of motivation to promote or speak positively about a given product should be expressed by their stated recommendation likelihood. And, except in unusual circumstances, all consumers have the ability—that is, the capacity—to express WOM. However, the extent to which consumers encounter situations conducive to expressing WOM is likely to vary substantially among consumers and across product or service categories. MOA theory suggests that this opportunity to express WOM must be considered in order to adequately predict the level of WOM that occurs.

HYPOTHESES

Satisfaction as a Driver of PWOM

Cumulative satisfaction is seen as a customer attitude with emotional components (Westbrook and Oliver 1991). A large body of research suggests that cumulative, or overall, customer satisfaction influences the quantity,

and nature, of customer WOM (Anderson 1998; Brown et al. 2005; Hennig-Thurau et al. 2004; Hong and Yang 2009; Mittal et al. 1999; Wangenheim and Bayón 2007; Westbrook 1987). Anderson (1998, p. 6) claims that "the individual degree of satisfaction or dissatisfaction with consumption experience is generally regarded as the key antecedent of product-related word of mouth."

De Matos and Rossi (2008) argue that "the likelihood of customers spreading WOM will depend on their satisfaction" because "the extent to which the product or service performance exceeds the customer's expectations might motivate him or her to tell others about his or her positive experience" (p. 580). Their meta-analysis finds a sample weighed adjusted average effect (r) of 0.42 between satisfaction and WOM across 89 studies. When looking at only positive WOM they find stronger results, with satisfaction having a weighed adjusted average effect of 0.62. Thus we begin by hypothesizing an already-established positive relationship between satisfaction and PWOM:

> H1: Satisfaction is positively associated with positive word of mouth.

The Mediating Role of Recommendation Likelihood

While satisfaction is seen as a "backward looking" metric, or an evaluation of prior experiences, recommendation likelihood captures an expectation of engaging in a behavior in the future that is based on these experiences (Lariviere et al. 2016). Positive behavioral intentions are commonly conceived of as customer loyalty, which mediates positive attitudes and actual behavior (as well as other downstream effects, such as firm financial performance) (Homburg et al. 2009). We posit that the influence of satisfaction on PWOM will operate through recommendation likelihood. A substantial body of research already links customer satisfaction with recommendation likelihood measures (c.f. Mittal et al. 1999; Swan and Oliver 1989). Anderson (1998, p. 6) notes that recommendation likelihood measures "are widely used in practice to assess the impact of customers' overall level of satisfaction." Further, as a behavioral intention measure, recommendation likelihood is explicitly designed to predict PWOM. Pollack and Alexandrov (2013) find that satisfaction separately leads to both recommendation likelihood and to PWOM, but do not

examine whether recommendation likelihood mediates the relationship between satisfaction and PWOM. Similarly, Brown et al. (2005) find that satisfaction is strongly associated with recommendation likelihood and much less strongly associated with PWOM behaviors, but present no information on the relationship between recommendation likelihood and PWOM.

Both theory and research in related areas suggests a mediating role for recommendation likelihood between satisfaction and PWOM. The long-standing theory of reasoned action (Fishbein and Ajzen 1975) proposes a mediating role for behavioral intentions between attitudes and behaviors. In one application of the theory, De Canniere et al. (2009) compare a satisfaction-profit chain model and a theory of reasoned action model in terms of the relationships between attitudes, purchase intentions, and purchase behavior. In both models they find that the effect of attitudes on purchase behavior is consistently mediated by purchase intentions. A large body of research on the relationship between attitudes, repurchase intentions, and actual purchase behavior also argues that intentions mediate the relationship between attitudes and behavior (see Kalwani and Silk 1982 for an early review). Lariviere and colleagues (2016) find that repurchase intentions increase the understanding of how satisfaction translates into shareholder value and conclude that "for some industries, it is equally or even more important to consider (repurchase) intentions in addition to satisfaction" (p. 92).

Across industries, Keiningham et al. (2007a) consistently find that recommendation likelihood is more highly correlated with referrals than is satisfaction. If satisfaction is more highly correlated with recommendation likelihood than with PWOM, and if recommendation likelihood better predicts PWOM than satisfaction, then recommendation likelihood should mediate the relationship between satisfaction and PWOM. Thus, we posit:

H2: Recommendation likelihood positively mediates the positive relationship between satisfaction and positive word of mouth.

Word-of-Mouth Opportunity as Driver of PWOM

When certain triggers or conditions occur, WOM becomes much more likely (Mazzarol et al. 2007).

WOM triggers can include a leading question by a friend, seeing a situation in which the advice would be perceived as helpful, and hearing an associated word (e.g., brand or product type) come up in conversation. Mangold et al. (1999) find that the satisfaction or dissatisfaction of the communicator or receiver are catalysts for WOM in only 12 percent of cases, and that most PWOM and NWOM arises as a response to the perceived need of another or occurs as part of a conversation. Similarly, in an analysis of over 300 WOM campaigns, Berger and Schwartz (2011) find that products cued by other consumers receive more sustained WOM over time than products that are merely novel. Indeed, the right conditions may prompt PWOM even by those otherwise disinclined to give it. Evidence from East et al. (2011) suggests that a portion of all PWOM that occurs is conveyed by those with low recommendation likelihoods. Such PWOM occurs when the giver is prodded by a request for information or has an interaction with a person whom the giver knows is interested in the information.

Much as MAO theory suggests the need for opportunity to support a given behavior, the theory of planned behavior (Ajzen 1991) recognizes that behavioral intentions may not predict behavior when factors that influence the behavior are outside of the control of the actor. While it is difficult to imagine that people have no control over whether or not they engage in PWOM, it is not difficult to imagine that different people have more, or less, readily available partners with whom to engage in PWOM and that the availability of partners differs by product category. We call the relative availability of opportunities to actually talk about a given product category the individual's "WOM opportunity" for the product category, and we expect it to influence the level of PWOM. Thus, we propose:

H3: Word-of-mouth opportunity is positively associated with positive word of mouth.

Recommendation Likelihood, Word-of-Mouth Opportunity, and PWOM

If, as predicted, both recommendation likelihood and WOM opportunity are positively related to the level of PWOM, there are three possibilities regarding their mutual relationships: (1) both have independent direct effects, (2) recommendation likelihood captures (mediates) the

effects of WOM opportunity on PWOM, or (3) recommendation likelihood and WOM opportunity interact in determining the level of PWOM (e.g., WOM opportunity moderates the effect of recommendation likelihood on PWOM). Both theory and empirical evidence can be used as a basis for substantiating these hypotheses. We have already proposed direct independent effects for recommendation likelihood (H2) and WOM opportunity (H3) on PWOM. In evaluating options (2) and (3), theory and empirical evidence support conflicting conclusions. Given this, we propose and test alternative hypotheses positing both a mediating and a moderating relationship for recommendation likelihood and WOM opportunity.

Theory suggests that recommendation likelihood should capture the effects of WOM opportunity on PWOM, thus providing a mediating influence. Such a relationship is supported by the theory of reasoned action, which holds that survey respondents will "consider all the factors of which they are aware that could influence their performance of the activity" when trying to estimate whether they will actually perform some behavior (Sheppard et al. 1988, p. 328). As part of this process, respondents should form assessments of the subjective probability that situational factors will inhibit or facilitate an action. If consumers perceive that a situational factor like WOM opportunity influences their ability to express PWOM, then this perception should be accounted for in their responses to recommendation likelihood questions, and recommendation likelihood should mediate the effect of WOM opportunity on PWOM. Thus, we predict:

H4a: Recommendation likelihood mediates the relationship between WOM Opportunity and PWOM.

Alternatively, research evidence also suggests a moderating relationship between WOM opportunity and recommendation likelihood, whereby these two variables interact with one another to influence PWOM. The primary reason that Romaniuk et al. (2011) find for the discrepancy between giving high recommendation likelihood ratings and not actually making a recommendation is a "lack of perceived opportunity" to express one's opinions—about a third of those with high recommendation likelihood ratings who did not express PWOM said that they had not seen anyone to talk to about it, or no one was interested in talking about it. Yet respondents did not take this possibility into account when giving their recommendation

likelihood ratings. Romaniuk et al. conclude that people may be "'primed and ready' to give WOM … but this readiness converts into action only if the right circumstances arise" (p. 517). If recommendation likelihood measures only the readiness to positively communicate, and the opportunity to do so is also a requirement for PWOM, then high levels of PWOM should occur only when both factors are strong. Thus, we propose the following:

H4b: WOM opportunity positively moderates the relationship between recommendation likelihood and PWOM.

METHODOLOGY

We test the proposed relationships and establish the generalizability of the results using two separate surveys with distinct groups of consumers and five separate contexts.

Samples

The first survey was conducted using students at a large public university in the western United States. Two hundred and seventeen respondents (N = 217) filled out an online survey in exchange for extra course credit. These respondents were split into two groups, based upon context (see next section). The first group contained 106 students (N = 106), with 62 (58.5%) males and 44 (41.5%) females. The second group contained 111 students (N = 111) with 69 (62.2%) males and 42 (37.8%) females.

The second survey was conducted using a professionally monitored nationwide Qualtrics consumer panel. We removed respondents with incomplete data, missed attention checks, or no current experience with the selected contexts, resulting in a final sample of 223 responses (N = 223). There were 144 females (64.6%) and 79 males (35.4%) in the final sample. Given the gender disparities in our two samples, we control for this variable in all of our analyses.

Contexts

Our surveys focused on services contexts, as research shows that customers are more likely to rely on interpersonal communications, or WOM, in service

contexts due to the intangible and experiential nature of services (Zeithaml et al. 1993). In the first survey, quick service food was chosen as the focal context because of its low customer commitment, ubiquitous usage among consumers, and the exposure to multiple vendors, making it a popular context to generate WOM. Indeed, Keller (2007) found that about half of the American population discuss food and dining each day.

The first survey employed two approaches to identifying a focal quick service food company. The first approach, which we refer to as the "open" or "quick food" context, employed the technique most commonly used by academic researchers in which respondents identify a focal company with which they have recently done business. The focal (identified) company name is then piped in to subsequent questions. This approach is commonly used as it assures that respondents are able to respond to the survey questions using a self-relevant focal company relationship, and that the responses are focused on the identified company.

The second approach in the first survey provided the name of one quick service food company, Panda Express, and asked respondents to consider it in responding to the questions. We refer to this approach as the "Panda Express" context. This approach more closely paralleled the technique for recommendation likelihood surveying employed by companies seeking recommendation likelihood feedback. Responses for students who did not have any experience with Panda Express, and therefore could not appropriately answer the questions, were removed from the data set. Our goal was to test whether the relationships found using the common academic research approach held true when using the more common industry survey approach. Respondents were randomly assigned to one of the two contexts.

In the second survey we collected data on three separate contexts: retail stores, cable or satellite television providers, and banks. These contexts were selected to reflect a range of transactional to relational services that are regularly studied in the academic literature (Keiningham et al. 2007a; Pollack and Alexandrov 2013). In each context, participants identified a company with which they had recently done business. The survey employed a longitudinal design with a three week time span between t_1 and t_2 to temporally separate measurement of the independent variable and dependent variables.

Measures

Satisfaction was measured using two items adapted from Alexander, Kim and Roberts (2003) which capture overall satisfaction with the service experience and how well the service met expectations. Both items were measured on seven-point scales. Overall service satisfaction was anchored with the endpoints of *Very Dissatisfied* and *Very Satisfied*, while how well performance met expectations was anchored with *Extremely Poorly* and *Extremely Well*. Reliability values for all contexts were assessed using the Spearman-Brown (SB) coefficient, which is more appropriate for two item measures (Leary et al. 2014). The SB coefficient for all contexts were between .86 and .96. See Appendix 1 for item and construct statistics.

In order to maintain the form utilized heavily in academic and practitioner research (c.f. Keiningham et al. 2007a; Reichheld 2003), recommendation likelihood was measured using a single item asking participants "How likely are you to recommend [company] to a friend or colleague?" The item was assessed on an 11-point scale with anchors of *Not at All Likely to Recommend* and *Extremely Likely to Recommend*.

Positive Word-of-Mouth (PWOM) was measured using three items adapted from the WOM Activity Scale (Harrison-Walker 2001). Scaled responses were used to ascertain a relative measure of actual PWOM behavior due to the difficulty of obtaining explicit measures (Brown et al. 2005) and the unreliability of self-reported numbers of recalled PWOM events given the relatively long time period needed to obtain a reasonable probability of a PWOM event occurring in the desired context. Items asked how often the respondent actually recommends, suggests, or says good things about the focal company. Scale anchors included *Never* and *All the Time* as well as *Strongly Agree* and *Strongly Disagree*. All items used seven-point scales. Reliability values for all contexts were between .85 and .90.

A new, three-item scale for Word-of-Mouth (WOM) opportunity was developed using questions regarding how often the respondent's life presented opportunities to talk about the service category being studied. The only known study measuring WOM opportunity, by Gruen et al. (2006), measured the opportunity of internet forum users to engage other consumers in an online forum. Their opportunity scale focused on having the time and technical functionality needed to engage in eWOM. Our person-to-person WOM opportunity scale builds on the

Bechwati and Nasr (2011) finding that being asked for advice or recommendations was the single most common "trigger" facilitating consumer recommendation behavior, the findings from Mazzarol and colleagues (2007) showing that being in the presence of others discussing a product category is likely to encourage WOM in the category, and the Berger and Schwartz (2011) finding that the cues arising from day-to-day conversations spark WOM. Items were asked on seven-point scales bounded by *Strongly Disagree–Strongly Agree*. Reliability values for the five contexts were between .84 and .95.

Given extant research establishing company identification (Ahearne et al. 2005; Brown et al. 2005; Hong and Yang 2009; Libai et al. 2010) and category involvement (Richins and Root-Shaffer 1988; Wangenheim and Bayón 2007) as important determinants of PWOM, we control for these variables in our studies. Company identification was measured using three items that built on the work of Bagozzi et al. (2012) by asking respondents about the degree of overlap between the company image and their self-image. Items were assessed on seven-point scales with anchors of *Strongly Disagree* and *Strongly Agree* and of *No Overlap at All* and *Very Strong Overlap*, and scale reliability values were between .83 and .95. Category involvement was measured using four items with seven-point scales anchored by *Strongly Disagree* and *Strongly Agree* asking participants the about the importance of the product category in their daily lives and their interest in the product category (Laurent and Kapferer 1985; Steenkamp et al. 2010). Scale reliability values were

between .80 and .90. See Table 1 for construct correlations by context. See Appendix 1 for scale items and scale information.

Common Methods Bias Prevention

Following the recommendations of Podsakoff and colleagues (2003), a number of efforts were undertaken to limit potential common methods bias. First, item characteristic effects were minimized by ordering the survey items so as to separate the measurement of satisfaction and recommendation likelihood, WOM opportunity and PWOM with other, nonbrand-related personality items, and distractor questions posed between the scales. All surveys employed a split design, with half of the subjects receiving the satisfaction items before recommendation likelihood, and the other half receiving the items in the opposite order. In addition, we varied scale format by including scales with a variety of anchors. In order to reduce item context effects the Qualtrics consumer panel survey temporarily separated measurement of the independent and dependent variables by measuring PWOM in a follow-up survey given three weeks after the initial survey. In our analyses, we tested for the effect of including a common latent factor in confirmatory factor analysis models to ensure that the associations between our measures were a function of the underlying constructs themselves and not the result of common method bias (Podsakoff et al. 2003). Including a common latent factor did not change any of the focal construct standardized factor

Table 1
Construct Correlations by Context

Context Relationship	Quick Food (A)	Panda Express (B)	Retail (C)	Cable (D)	Banking (E)	Composite Correlation[a]
Sample size (N)	106	111	223	223	223	
Satisfaction – RL [b]	.79***	.75***	.73***	.87***	.72***	.78
Satisfaction – WOM Opportunity	−.06	−.03	.17*	.14*	.11	.07
Satisfaction – PWOM	.52***	.58***	.50***	.11	.39***	.43
RL – WOM Opportunity	−.04	−.06	.25*	.22*	.31***	.14
RL – PWOM	.65***	.70***	.56***	.62***	.55***	.62
WOM Opportunity – PWOM	.20*	.14	.38***	.46***	.70***	.40

Notes: [a] Calculated using Fisher *r*-to-*z* transformation
[b] RL = Recommendation Likelihood
* Significant at the $p < .05$ level
*** Significant at the $p < .001$ level,

loadings by 0.2 or more. Thus the common latent factor was not included in subsequent analyses.

RESULTS

To test the discriminant validity of the scales, confirmatory factor analysis (CFA) models were run containing the items for satisfaction, WOM opportunity, and PWOM. The recommendation likelihood measure was not included in the CFA analysis as it is a single-item scale and it was expected to be highly correlated with satisfaction. In all five models, we established convergent validity by assuring that construct reliability (alpha) was above 0.70, and that the average variance extracted (AVE) was above 0.50. We established discriminant validity by confirming that the square root of the average variance extracted (AVE) was greater than all inter-construct correlations. All CFA models reflected good fit. See Appendix 2 for CFA fit statistics for all contexts.

In order to test the proposed relationships, we ran a series of regression and mediation models. All models control for age, gender, race, company identification, and category involvement unless otherwise noted.

Satisfaction as a Driver of Positive Word-of-Mouth (H1)

Hypothesis 1 proposes the already-established relationship that satisfaction is positively associated with PWOM. In the student sample open quick service food context, we find a positive (β = .24 [t = 2.85], $p < .01$) direct relationship between satisfaction and PWOM (R^2 = .47, $F_{(3,102)}$ = 30.47, $p < .001$). We find similar results in the Panda quick service food context (β = .59 [t = 7.45], $p < .001$; R^2 = .34, $F_{(3,107)}$ = 18.59, $p < .001$). In the consumer sample retail context, satisfaction demonstrates a significant and positive (β = .15 [t = 2.14], $p < .05$) direct relationship with PWOM (R^2 = .46, $F_{(3,219)}$ = 61.16, $p < .001$), as it does in the consumer sample cable context (β = .26 [t = 3.52], $p < .001$; R^2 = .46, $F_{(3,219)}$ = 58.19, $p < .001$). We find similar results for the banking context after controlling for demographics (β = .43 [t = 6.84], $p < .001$; R^2 = .19, $F_{(1,217)}$ = 46.80, $p < .001$). Thus, we find support across all five contexts for H1's claim that satisfaction is positively associated with PWOM while controlling for the most commonly noted covariates.

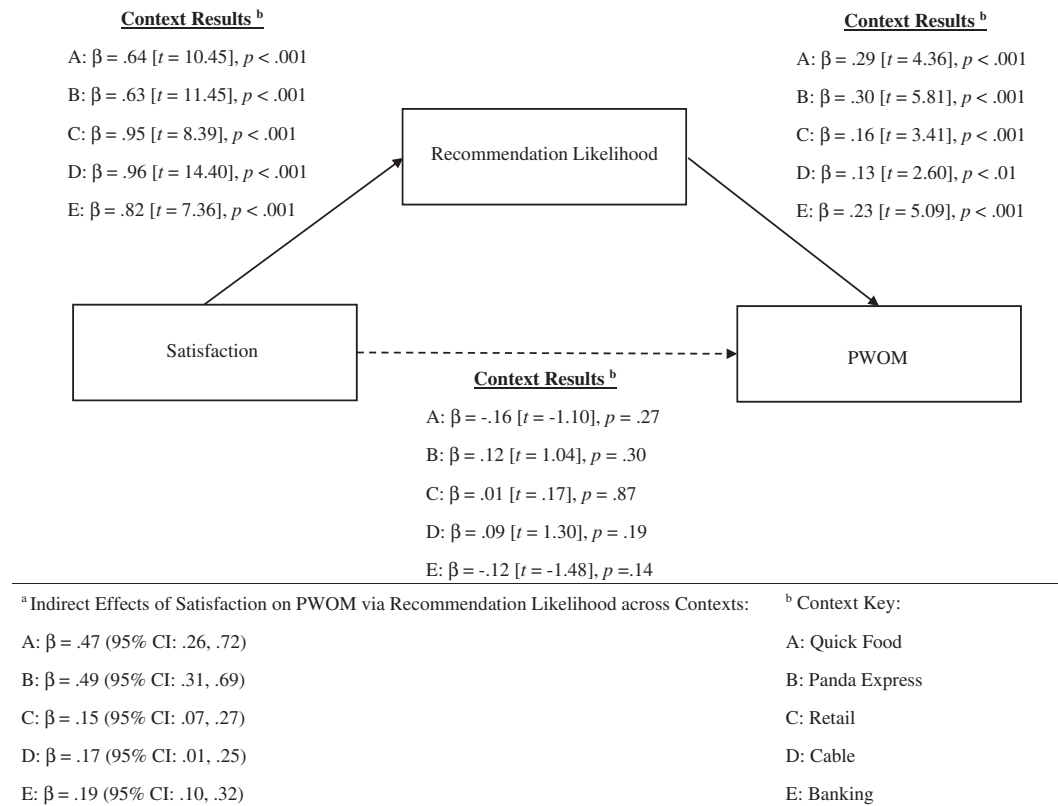## Recommendation Likelihood Mediating the Satisfaction-PWOM Relationship (H2)

Hypothesis 2 proposes that recommendation likelihood will mediate the relationship between satisfaction and PWOM. Using the Process macro from Preacher and Hayes (2008) we find support for this relationship across all five contexts while including demographics, category involvement, and company identification as controls. As previously discussed, satisfaction influences PWOM across all contexts, establishing the first step in substantiating mediation. We also find that recommendation likelihood is significantly associated with PWOM in all contexts. Finally, when both satisfaction and recommendation likelihood are included in the model, satisfaction becomes nonsignificant. In the interest of space, we present the results of this final model inclusive of all three variables. Please see Figure 2 for full mediation model results across contexts, including the direct effect of recommendation likelihood on PWOM and the indirect effect of satisfaction on PWOM via recommendation likelihood.

In the student-based open quick-service context, the inclusion of recommendation likelihood into the mediation model reduced the relationship between satisfaction and PWOM to nonsignificance, with zero included in a 95 percent confidence interval (β = –16 [t = –1.10], p = .27; 95% CI: –46, .13). We find the same strong mediation support in the Panda context (β = .12 [t = 1.04], p = .30; 95% CI: –11, .34), as well as in all three consumer study contexts: retail (β = .01 [t = .09], p = .88; 95% CI: –16, .18); cable (β = .09 [t = 1.30], p = .19; 95% CI: –05,.23); banking (β = –12 [t = –1.48], p = .14; 95% CI: –29, .04). In addition, the indirect effects of satisfaction on PWOM through the mediator of recommendation likelihood are positive and significant for all contexts.

Word-of Mouth-Opportunity Effect on PWOM (H3)

Hypothesis 3 proposes that WOM opportunity has positive direct relationship with PWOM. To test this, we ran a series of hierarchical linear regression (HLR) models and assessed the additional explanatory power that WOM opportunity adds to that of recommendation likelihood and satisfaction on PWOM. Our HLR models included age, gender, race, category involvement, and company identification as controls in the first step

Figure 2
Satisfaction-Recommendation Likelihood-PWOM Mediation Results (H2) [a]

Context Results [b]

A: β = .64 [*t* = 10.45], *p* < .001

B: β = .63 [*t* = 11.45], *p* < .001

C: β = .95 [*t* = 8.39], *p* < .001

D: β = .96 [*t* = 14.40], *p* < .001

E: β = .82 [*t* = 7.36], *p* < .001

Recommendation Likelihood

Context Results [b]

A: β = .29 [*t* = 4.36], *p* < .001

B: β = .30 [*t* = 5.81], *p* < .001

C: β = .16 [*t* = 3.41], *p* < .001

D: β = .13 [*t* = 2.60], *p* < .01

E: β = .23 [*t* = 5.09], *p* < .001

Satisfaction

PWOM

Context Results [b]

A: β = -.16 [*t* = -1.10], *p* = .27

B: β = .12 [*t* = 1.04], *p* = .30

C: β = .01 [*t* = .17], *p* = .87

D: β = .09 [*t* = 1.30], *p* = .19

E: β = -.12 [*t* = -1.48], *p* = .14

[a] Indirect Effects of Satisfaction on PWOM via Recommendation Likelihood across Contexts:

A: β = .47 (95% CI: .26, .72)

B: β = .49 (95% CI: .31, .69)

C: β = .15 (95% CI: .07, .27)

D: β = .17 (95% CI: .01, .25)

E: β = .19 (95% CI: .10, .32)

[b] Context Key:

A: Quick Food

B: Panda Express

C: Retail

D: Cable

E: Banking

before adding satisfaction and recommendation likelihood in the second step. Finally, we added WOM opportunity to the model in the third step. In the interest of space, we only present the results of the third step of the HLR model for each context. See Table 2 for full results for each model.

In the student open quick service food context, WOM opportunity positively influences PWOM (β = .16 [*t* = 2.25], *p* < .05), while significantly adding to the PWOM variance explained beyond involvement and company identification (ΔR^2 = .02 [$F_{(1,97)}$ = 5.06], *p* < .05). Importantly, WOM opportunity showed a semipartial correlation of .14, which is consistent with the recommendations from Hunsley and Meyer (2003) when determining significance within hierarchical linear regression. Similar results were found for the student-based Panda quick service context, with WOM opportunity significantly increasing the variance explained (ΔR^2 = .04 [$F_{(1,102)}$ = 8.42], *p* < .01), and demonstrating a positive relationship with PWOM (β = .21 [*t* = 2.90], *p* < .01; semipartial *r* = .19). WOM opportunity significantly

added to the PWOM variance explained and showed a positive effect on PWOM in all three consumer study contexts as well: retail context (ΔR^2 = .07 [$F_{(1,213)}$ = 32.81], *p* < .001; β = .34 [*t* = 5.73], *p* < .001; semipartial *r* = .20); cable context (ΔR^2 = .05 [$F_{(1,213)}$ = 24.68], *p* < .001; β = .25 [*t* = 4.97], *p* < .001; semipartial *r* = .22); banking context (ΔR^2 = .25 [$F_{(1,213)}$ = 150.94], *p* < .001; β = .56 [*t* = 12.29], *p* < .001; semipartial *r* = .50).

Recommendation Likelihood Mediating the WOM Opportunity-PWOM Relationship (H4a)

Hypothesis 4 offered two alternative hypotheses regarding the relationship between WOM opportunity, recommendation likelihood, and PWOM. Hypothesis 4a proposed that recommendation likelihood would capture the effect of WOM opportunity on PWOM, thus mediating the relationship between the two variables. We do not find support for this relationship in any of our five contexts, as WOM opportunity does not significantly predict recommendation likelihood, and

Table 2
Hierarchical Model Regression Results by Context–Standardized Coefficients [1]

| | Model and Context [d] | | | | | | | | | | | | | | |
| | Model 1[a] | | | | | Model 2[b] | | | | | Model 3[c] | | | | |
Variable	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Satisfaction	.23**	.58***	.14*	.31***	.43***	−.10	.10	.07	.21*	.08	−.10	.09	.04	.22*	.03
Recommendation Likelihood	–	–	–	–	–	.50***	.63***	.22**	.22*	.23***	.25	.09	.03	−.11	.09
WOM Opportunity	–	–	–	–	–	.16*	.21**	.34***	.25***	.56***	−.19	−.26	−.05	−.08	.10
Recommendation Likelihood*WOM Opportunity	–	–	–	–	–	–	–	–	–	–	.44*	.73**	.50*	.56**	.55**
R^2	.50	.35	.49	.50	.19	.60	.55	.58	.57	.65	.61	.58	.59	.59	.66
Final Step ΔR^2	.04**	.31***	.01*	.04***	.17***	.02*	.04**	.07***	.05***	.25***	.01*	.03**	.01*	.02**	.01*

Notes: [1] Dependent Variable: PWOM
[a] Step 1: Control Variables
Step 2: Satisfaction
[b] Step 1: Control Variables
Step 2: Satisfaction, Recommendation Likelihood
Step 3: WOM Opportunity
[c] Step 1: Control Variables
Step 2: Satisfaction, Recommendation Likelihood, WOM Opportunity
Step 3: Recommendation Likelihood * WOM Opportunity
[d] Context Key
A: Quick Food
B: Panda Express
C: Retail
D: Cable
E: Banking
* Significant at the $p < .05$ level
** Significant at the p < .01 level
*** Significant at the $p < .001$ level.

the inclusion of recommendation likelihood actually *strengthened* the relationship between WOM opportunity and PWOM. We present the results of the final mediation model inclusive of all three variables next.

In the open quick service context, both recommendation likelihood (β = .25 [*t* = 5.59], *p* < .001) and WOM Opportunity (β = .18 [*t* = 2.37], *p* < .05) influence PWOM. The same holds true in the Panda context: recommendation likelihood (β = .34 [*t* = 10.29], *p* < .001), WOM opportunity (β = .23 [*t* = 2.94], *p* < .01). The three consumer panel sample contexts show similar results: retail recommendation likelihood (β = .16 [*t* = 4.17], *p* < .001), retail WOM opportunity (β = .29 [*t* = 5.65], *p* < .05); cable recommendation likelihood (β = .18 [*t* = 5.26], *p* < .001), cable WOM opportunity (β = .23 [*t* = 4.62], *p* < .001); and banking recommendation likelihood (β = .14 [*t* = 4.57], *p* < .001), banking WOM opportunity (β = .46 [*t* = 12.37], *p* < .001). Thus, recommendation likelihood does not mediate the effect of WOM opportunity on PWOM in any of

our five contexts, indicating WOM opportunity is not captured by recommendation likelihood.

WOM Opportunity Moderating the Recommendation Likelihood-PWOM Relationship (H4b)

Hypothesis 4b proposed that WOM opportunity positively moderates the relationship between recommendation likelihood and PWOM. We ran a series of hierarchical linear regression (HLR) models and found support for this hypothesis across all contexts. In the HLR models, the first step included the controls of age, gender, race, category involvement, and company identification, the second step added satisfaction, recommendation likelihood, and WOM opportunity, and the third and final step added the WOM opportunity by recommendation likelihood interaction term. Across all contexts, WOM opportunity

and recommendation likelihood each independently predicted PWOM prior to the addition of the interaction term but became insignificant after its inclusion. Similar to the previous HLR models we only present the results of the third step with the inclusion of the WOM opportunity and recommendation likelihood interaction term. See Table 2 for full results.

In the student-based open quick service context, the addition of the interaction term significantly adds to the variance explained ($\Delta R^2 = .01$ [$F_{(1,96)} = 1.31$], $p < .05$) and positively predicts PWOM ($\beta = .44$ [$t = 1.14$], $p < .05$; semipartial $r = .12$). Interestingly, the addition of the interaction term drops the direct effects of both recommendation likelihood ($\beta = .25$ [$t = 1.00$], $p = .32$) and WOM opportunity ($\beta = -10$ [$t = -91$], $p = .36$) to nonsignificance. The student-based Panda context revealed a similar pattern of results. The interaction term adds to the variance explained ($\Delta R^2 = .03$ [$F_{(1,104)} = 7.06$], $p < .01$) and significantly predicts PWOM ($\beta = .73$ [$t = 2.66$], $p < .01$; semipartial $r = .17$), while reducing the direct effect of recommendation likelihood ($\beta = .09$ [$t = .39$], $p = .70$) and WOM opportunity ($\beta = -26$ [$t = -1.38$], $p = .17$) to nonsignificance.

The same results hold for the consumer panel contexts as well. The addition of the interaction term for all three contexts (retail: $\beta = .50$ [$t = 2.19$], $p < .05$; semipartial $r = .15$; cable: $\beta = .56$ [$t = 3.21$], $p < .01$; semipartial $r = .14$; banking: $\beta = .55$ [$t = 2.56$], $p < .01$; semipartial $r = .10$) significantly increases the PWOM variance explained (retail: $\Delta R^2 = .01$ [$F_{(1,216)} = 4.56$], $p < .05$; cable: $\Delta R^2 = .02$ [$F_{(1,212)} = 10.30$], $p < .01$; banking: $\Delta R^2 = .01$ [$F_{(1,213)} = 6.57$], $p < .01$). The addition of the interaction term in the retail context also reduced the effect of both recommendation likelihood ($\beta = .03$ [$t = .23$], $p = .82$) and WOM opportunity ($\beta = -05$ [$t = -.28$], $p = .78$) to nonsignificance. The results were the same for the consumer cable context, with the inclusion of the interaction term dropped the effects of the individual constructs to nonsignificance (RL: $\beta = -11$ [$t = -76$], $p = .45$; WOM opportunity: $\beta = -08$ [$t = -.69$], $p = .49$). Finally, the consumer banking context results were the same, as the inclusion of interaction term reduced the effects of RL ($\beta = .09$ [$t = 1.08$], $p = .28$) and WOM opportunity ($\beta = .10$ [$t = .55$], $p = .58$) to nonsignificance. Thus, across two data sets and five contexts, we find that the addition of the WOM opportunity by recommendation likelihood interaction term significantly adds to the PWOM variance explained while dropping the individual effect of these constructs to nonsignificance, supporting hypothesis H4b–WOM opportunity positively moderates the recommendation likelihood-PWOM relationship. See Table 2 for full hierarchical linear regression results across contexts.

DISCUSSION

Key Findings

We find that customer satisfaction is positively associated with PWOM, and that recommendation likelihood measures capture, or mediate, the effect that satisfaction has on PWOM. In addition, we find that WOM opportunity is positively associated with PWOM and adds significantly to recommendation likelihood's explanatory power for PWOM. However we find no evidence of an indirect effect of WOM opportunity acting on PWOM via recommendation likelihood. Despite the clear wording of the question "How likely are you to recommend X to a friend or colleague?," consumers

Figure 3
Results Diagram
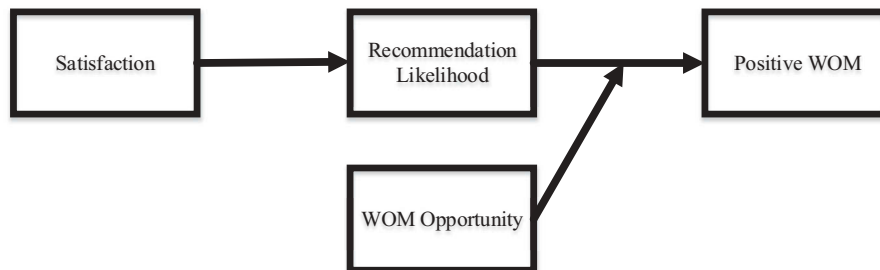
responding do a poor job of incorporating category WOM opportunity estimates into their responses, leading recommendation likelihood measures to overstate actual PWOM. On the other hand, we find strong evidence of a positive interaction between WOM opportunity and recommendation likelihood in driving PWOM, suggesting that both are needed to reliably predict PWOM. Figure 3 presents a visual model of our results. The findings are discussed further in the next sections.

Because measuring behavior is challenging, researchers commonly measure behavioral intentions to predict, or indicate, respondent likelihood of performing the behavior of interest. Our research corroborates others (c.f. Gupta and Zeithaml 2006) suggesting that a positive attitude (such as overall customer satisfaction) is strongly related with positive firm-oriented behavioral intentions, but that behavioral intentions have a systematic bias in overpredicting actual behavior (Kalwani and Silk 1982). More specifically, in the case of recommendation likelihood and PWOM, we find that the recommendation likelihood question measures something closer to a satisfaction-like attitude than an accurate estimate of behavioral likelihood, and we start to identify what the widely used measure fails to capture: WOM opportunity.

Romaniuk et al. (2011) acknowledge that "predicting the likelihood of the appropriate situation arising may be a difficult task for respondents and may not be factored into (recommendation likelihood) estimates accurately" (p. 511). Nonetheless, they conclude that recommendation likelihood ratings account for WOM opportunity by incorporating respondents' past WOM experiences: "When giving estimates of their future recommendations, respondents are factoring in their own past giving of WOM and whether someone else has recommended or spoken positively about the brand to them. This focus on the past inflates respondent's estimates, as past experience may not reflect the probability of such circumstances reoccurring" (p. 517). Our results suggest a different conclusion: that survey respondents fail to incorporate WOM opportunity considerations when responding to recommendation likelihood questions, which leads recommendation likelihood measures to largely reflect satisfaction.

Summary of Contributions

This research makes a number of important contributions to the micro-level understanding of

recommendation likelihood. First, we find consistent results in multiple industries regarding the strength and form of the relationships between satisfaction, recommendation likelihood and PWOM, providing a strong basis for generalizing about the relationships. Perhaps most important, we begin to explain why recommendation likelihood is not as good a predictor of PWOM as might be expected by showing that it does not incorporate WOM opportunity considerations. This result raises interesting broader questions about when behavioral likelihood measures are more or less predictive of behavior, and it has important theoretical and managerial implications. It also highlights the need to better understand what it is that recommendation likelihood actually measures; that is, what the measure incorporates and what people consider when responding to it.

In order to assess the focal relationships, we develop and validate a scale for WOM opportunity. This scale builds on qualitative research and offers future WOM researchers a useful tool for empirically exploring the impact of the availability of WOM exchanges on other theoretical relationships. While prior scholars identified the likely role of such a construct using critical incident technique prevalence data (Bechwati and Nasr 2011; East et al. 2015; Mangold et al. 1999; Mazzarol et al. 2007) and evidence of recommendation likelihood overestimating future PWOM suggested it (Romaniuk et al. 2011), this is the first research to provide a tool to explicitly measure the portion of PWOM variance that can be explained by WOM opportunity. Our results validate the theoretical importance of the construct and make clear that it should be included in future PWOM studies.

In addition to developing a measure for WOM opportunity, we substantiate the interaction between recommendation likelihood and WOM opportunity. Specifically, we find that both recommendation likelihood and WOM opportunity are needed for high levels of PWOM to occur. These results display the power of WOM opportunity and confirm that recommendation likelihood must be accompanied by the appropriate situational factors in order to be acted upon.

Theoretical and Research Implications

Our results imply that survey respondents do not "consider all the factors of which they are aware that could

influence their performance of the activity" (Sheppard et al. 1988, p. 328) when trying to estimate whether their likelihood of performing PWOM. Consumers are able to estimate their opportunity for WOM in a product category, and this WOM opportunity has a major impact on their actual PWOM. However consumers do not incorporate these estimates into their recommendation likelihood responses. This is true despite the fact that the recommendation likelihood measure is a behavioral likelihood measure, and when responding to behavioral likelihood measures "individuals are likely to take into account many more factors when forming their estimates of whether they will perform such actions (as compared to when expressing their intentions)" (Sheppard et al. 1988, p. 340).

There are many reasons why a behavioral likelihood measure may not accurately predict behavior, including question wording and measurement context (Morwitz 1997). We consider three possible reasons why consumers do not incorporate WOM opportunity into their recommendation likelihood estimates. First, they might not be willing to go through the effort to assess WOM opportunity when responding to a recommendation likelihood measure. In order to accurately assess the likelihood of conducting a future behavior one has to expend the effort required to consider the impact of factors beyond the central question of whether one *wants to* do it. Indeed, in order to make an informed assessment one may need to envision the behavior in question in various scenarios. When responding rapidly to a common recommendation likelihood survey question, consumers may not be inclined to apply the mental resources needed to consider and integrate factors that are relevant to the likelihood of engaging in future PWOM. Instead, they may "satisfice" and limit their efforts or they may answer in a "mindless" state and rely on scripts and habits when responding (Vannette and Krosnick 2014). As a result, they overweight the impact of their attitude (e.g., satisfaction) and underweight other factors that influence behavior, thus weakening the link between recommendation likelihood and PWOM. A tendency to overlook WOM opportunity, that is, to respond to recommendation likelihood questions without considering it, could thus be explained by the ubiquity of recommendation likelihood survey questions these days.

Alternatively, consumers might consider WOM opportunity, but not think of it as having a limiting impact when assessing their recommendation likelihood. That is, the failure to perceive an impact of WOM opportunity may be a function of biases in probability estimation. In assessing probabilities, people tend to use heuristics (Tversky and Kahneman 1975). One commonly employed heuristic—called the "imaginability bias"—involves attempting to construct images of circumstances or instances where an event could occur. The ease with which this can be done is used as an indication of the prevalence of the event's occurrence. Since engaging in PWOM is common and easy to imagine, consumers may overestimate the likelihood of engaging in it. That is, since it is easy to imagine, in the right context, saying something positive about a brand or company that one likes, the perceived probability of actually talking about a specific brand or company gets inflated. Yet the probability of the right context occurring, and actually expressing PWOM about any given product within a reasonably short period of time, is relatively low. Thus, respondents may greatly overestimate the likelihood of it. If the likelihood of a PWOM-inducing "trigger" event occurring for a specific brand or company is not considered a limiting factor, respondents may answer recommendation likelihood questions primarily in terms of an attitudinal judgment such as their overall satisfaction with the brand, product, or service.

Finally, respondents may assume or infer things about the recommendation likelihood question that make WOM opportunity seem irrelevant. Because most consumers have seen the recommendation likelihood question many times, they may quickly infer what it is asking and not slow down enough to really think the question through. In particular, they may assume that the question is asking whether they would recommend the focal company *if asked about it* by a friend or colleague. Such assumptions about the intent of the question could change the nature of responses by making other considerations unnecessary.

Our results highlight the need to better understand what consumers consider, and what assumptions they make, when reading and responding to the ever-present recommendation likelihood question. Unless the recommendation likelihood measure can better predict what it most directly presumes to—that is, PWOM—then academics using it as an indicator of PWOM should do so with caution. While recommendation likelihood remains a valuable measure of conative loyalty, researchers should be wary of using it as a proxy for actual PWOM behavior in their studies, especially when better, succinct PWOM scales exist.

Managerial Implications

Firms should take into account the baseline prevalence of WOM in their industry when imputing a meaning to recommendation likelihood (or Net Promoter Score) numbers from their surveys. East et al. (2007) present evidence of category effects on the aggregate level of PWOM and NWOM and conclude that WOM volume is more a function of "the salience of the category in everyday life, as well as the interest and knowledge that people have about the category" (p. 181) than a function of satisfaction or dissatisfaction. Romaniuk et al. (2011) build on evidence of recommendation likelihood overestimation to suggest that the number of high PWOM intention respondents should be multiplied by 0.3 to obtain more accurate estimates of WOM penetration. When taken in conjunction with our results, these findings imply that in contexts with very high baseline WOM, recommendation likelihood will more accurately predict customer PWOM, while in contexts with much lower baseline WOM, recommendation likelihood will be a much worse predictor of actual PWOM.

Given the dominant role of satisfaction in recommendation likelihood ratings, it also seems likely that survey form and context will affect the predictive power of recommendation likelihood measures. Recommendation likelihood surveys are often conducted immediately after a company or brand experience, when immediate affect is likely to dominate estimates of recommendation likelihood much as recent experiences dominate evaluations of overall satisfaction before it settles toward a cumulative anchor over time (Haumann et al. 2014). In addition, recommendation likelihood survey questions are sometimes framed in terms of "based on your most recent experience" which makes them more likely to reflect a rating of the affect associated with the experience than an accurate measure of PWOM likelihood. Firms hoping to use recommendation likelihood measures as an indicator of PWOM should separate recommendation likelihood survey measurement from individual experiences both in wording and in time.

Firms should also be aware that the difference between satisfaction measures and recommendation likelihood measures is not as large as common belief would suggest. Perhaps drawing on the implied meaning of the two questions, academics and practitioners alike commonly suggest that satisfaction is "backward looking" and recommendation likelihood is "forward looking"(c.f. Lariviere et al. 2016; Reichheld 2003), and that recommendation likelihood is thus a decisively better predictor of future behavior. While we find consistent support for recommendation likelihood mediating of satisfaction's effect on PWOM—and thus acknowledge that recommendation likelihood is a better predictor of future PWOM than satisfaction—the correlations between the measures do not suggest a large theoretical difference.

Further the correlations between satisfaction and recommendation likelihood are higher than the correlations between recommendation likelihood and PWOM in all of our study contexts, suggesting that satisfaction and recommendation likelihood are more similar to each other than either is to PWOM. These results are in line with the findings from studies comparing the two as customer feedback metrics to predict customer behaviors (Keiningham et al. 2007a) and firm performance (de Haan et al. 2015). In both contexts scholars find quite small differences in predictive value between satisfaction and recommendation likelihood. In sum, if firms measure recommendation likelihood because they believe it to be a much more accurate indicator of future behavioral than satisfaction, they should carefully assess the evidence behind their assumptions.

Future Research and Limitations

This research raises many questions that warrant additional research. In general, one is left wondering what explains the lack of consideration of WOM opportunity when providing recommendation likelihood ratings and what might make for more predictive recommendation likelihood responses. One potentially fruitful avenue of research would be to explore responses to different versions of the recommendation likelihood question. Respondents may be interpreting the question differently than it is truly asked. East et al. (2007) argue that one can make recommendation likelihood more accurate by using a "conditional intention" measure—e.g., "If asked about X, would you recommend it?" Behavioral intention questions are believed to better correlate with actual behavior when the expression of intent corresponds to the behavioral criterion with respect to action, target, context, time frame, and/or specificity (Fishbein and Ajzen 1975).

Our results suggest that people may already be presuming that the question implies "if asked" (about X) because an "if asked" framing on the question removes the need for WOM opportunity consideration. A study investigating the relationships among different versions of the question might help identify what, if anything, is being inferred by respondents.

To date, the opportunity to develop an improved method for PWOM prediction has been undermined by a lack of understanding of the nature of the weaknesses of the recommendation likelihood measure. This research paves the way for potential improvements in recommendation likelihood measurement. The relationship between an expressed behavioral likelihood and its associated behavior should increase with increased knowledge of, and consideration of, the factors that influence the decision to engage in the behavior (Morwitz 1997). Research on construal level theory (Trope et al. 2007) suggests that contexts or manipulations that induce lower-level construal thinking can elicit more detailed, and thus more accurate estimates of future behaviors. This suggests that asking the recommendation likelihood question using a more concrete time frame, such as "How likely are you to recommend X to a friend or colleague *in the next week*?" may induce more explicit consideration of behavior limiting factors. Similarly, prompting respondents to *think about* the contexts in which they engage in PWOM before asking the recommendation likelihood question may improve its predictive ability. Future research should investigate such possible question form and survey context improvements to the recommendation likelihood measure.

While this research has focused on the role of WOM opportunity in PWOM, the marketing literature suggests a wide variety of factors that may influence a customer's level of WOM, including individual-level factors such as need for uniqueness (Cheema and Kaikati 2010), brand level factors such as specific brand characteristics (Lovett et al. 2013), category-level factors such as category involvement (Chung and Darke 2006; Richins and Root-Shaffer 1988; Wangenheim and Bayón 2007) and firm or brand-level relationship factors such as customer-company identification (Bhattacharya and Sen 2003; Brown et al. 2005). Similarly, the literature suggests that different types of factors may motivate WOM, including consumer-level altruism, a desire to help the company, anxiety reduction, advice seeking, and a need for

dissonance reduction (Hennig-Thurau et al. 2004). Future research is needed to assess the extent to which recommendation likelihood measures adequately capture the influence that these factors have on PWOM and whether recommendation likelihood measures are influenced by customer motivations for engaging in WOM.

Similarly, research is needed to further flesh out the form and potential moderators of the key relationships. Mittal and Kamakura (2001) probe the demographic moderators of the nonlinear relationships between satisfaction, repurchase intentions and actual repurchases, and find that for some types of respondents— such as single, rural women—there is no discernable relationship between repurchase intentions and actual purchases. Different groups of respondents exhibit different response functions between behavioral intentions and behavior. Similar research to identify the factors that influence the strength and form of the recommendation likelihood-PWOM relationship would enhance the ability to reliably apply recommendation likelihood measures in research and practice.

A post-hoc analysis conducted between two of our study contexts identified an interesting difference between the way surveys are conducted by academics and the way they are conducted in industry that warrants addition investigation. We find a much larger effect size for the control variable company identification on PWOM as compared to satisfaction in the "open" ($\beta = .50$ [$t = 5.81$], $p < .001$) versus the Panda quick service food condition ($\beta = –06$ [$t = –74$], $p = .46$). In the open condition, company identification has a strong relationship with recommendation likelihood compared to satisfaction. Conversely, in the focal quick service condition, satisfaction retains greater prediction power than company identification. This suggests that including company identification in academic surveys that allow respondents to select their own focal service provider will create a more stringent test of the role of satisfaction and recommendation likelihood on PWOM, as consumers will feel a stronger degree of identification with a self-selected company than one chosen by the surveyor. However, in firm-directed surveys where the focal firm is predetermined there appears to be less need to include a company identification measure to accurately assess the impact of satisfaction. Future research validating and extending the effect of self-chosen versus

researcher-chosen focal firms on the relationships studied could help researchers better understand the applicability of their findings when applied in the format most commonly employed by firms.

Our recommendations and conclusions are generated on the strength of two studies addressing five service-related categories. While these correlational findings allow us to speak with confidence to the nature of the relationships between satisfaction, recommendation likelihood, WOM opportunity, and PWOM, we believe that future research should examine these relationships in experimental fashion to confirm the findings of the current work. Doing so will allow researchers and practitioners to speak with greater confidence as to the specific direction of these relationships. We also note the limitation of employing a two-item measure for satisfaction, and future research should take care to ensure three or more items are utilized in the measurement of a latent construct like satisfaction.

Finally, given our evidence of the importance of WOM opportunity in driving PWOM, additional research is warranted on the WOM opportunity construct. WOM opportunity may be a function of category involvement and knowledge, as well as a function of individual traits like extroversion and even age, which might affect the size of one's social network. In addition, the WOM opportunity scale may function as an indicator of WOM decorum (i.e., the appropriateness of talking about a given product category) and may provide a good measure of the relative baseline level of WOM in an industry. It has been noted that WOM may not result from satisfaction—and thus recommendation likelihood may be a poor measure of expected PWOM—in contexts where WOM is not prevalent. WOM opportunity itself may be a function of the privacy associated with the topic (such as gynecologists or even deodorants) or the perceived impropriety of talking about topics (such as discussing the nonprofits that one supports). Similarly, cultural differences in WOM motivations suggest that culture will influence perceived WOM opportunity, potentially in general and by specific product category (Cheung et al. 2007). Additional research is needed to better understand the determinants and correlates of this important construct.

In exploring what recommendation likelihood captures and predicts, we study only positive WOM as recommending is the behavior asked about in the recommendation likelihood question and ample evidence suggests that the recommendation likelihood question is a poor predictor of *negative* WOM (East et al. 2011). Further, we only address recommendation likelihood's prediction of PWOM, not its prediction of the "tripod of behaviors" used to define customer loyalty, a question that has been probed by Keiningham et al. (2007a). That said, more could be done to understand how what the recommendation likelihood measure captures allows it to be a good indicator of customer loyalty (c.f. de Haan et al. 2015). While approximately half of our data is student data, de Matos and Rossi (2008) found no evidence of a difference between student and nonstudent samples in their meta-analysis of antecedents and moderators of WOM activity. We replicate this finding by showing very similar construct relationships in both student and broad-based consumer samples. Finally, this research only addresses verbal PWOM, not ePWOM. Since eWOM is driven by different motivations (Bechwati and Nasr 2011) and there are different types of "triggers" and hurdles in eWOM expression (Gruen et al. 2006), it is unlikely that our results can be extrapolated to the eWOM context.

In conclusion, the widespread use of recommendation likelihood measures by both marketing practitioners and academics warrants a better understanding of what is being measured and how it integrates with other constructs in predicting behaviors such as PWOM. This research explores the recommendation likelihood concept in depth by considering WOM opportunity as a requisite, along with recommendation likelihood, for PWOM to occur and assessing how the two are related. Our results open the door for continued evaluation of the nature of recommendation likelihood and of how to improve its efficacy in predicting PWOM.

NOTE

1. The more common term for the widely used measure is recommendation intentions. However, theory of reasoned action research (Sheppard, Hartwick and Warshaw 1988) makes a clear distinction between measures of behavioral intentions and measures of behavioral likelihood. Since the scale is actually a measure of behavioral likelihood we employ the more accurate term "recommendation likelihood" in this work.

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APPENDIX 1

Scale Items, Reliability and Means by Context [a]

Items	Anchors	A (*M*/SD)	B (*M*/SD)	C (*M*/SD)	D (*M*/SD)	E (*M*/SD)
Satisfaction		(SB = .86)	(SB = .91)	(SB = .87)	(SB = .96)	(SB = .89)
Overall, how satisfied are with you with (company)?	VD/VS*	6.01 (1.02)	5.16 (1.25)	8.39 (1.56)	7.03 (2.76)	8.40 (1.72)
How well does (company) meet your expectations when you interact with them?	EP/EW**	6.00 (.99)	5.27 (1.20)	5.98 (.88)	5.19 (1.62)	5.91 (1.14)
Recommendation Likelihood						
How likely are you to recommend (company) to a friend or colleague?	Not at all Likely/ Extremely Likely	9.05 (2.12)	6.75 (2.53)	8.17 (2.12)	6.60 (3.07)	8.37 (2.48)
WOM Opportunity		(α = .91)	(α = .85)	(α = .90)	(α = .89)	(α = .95)
My life includes many opportunities to talk about (category).	SD/SA***	2.58 (.86)	2.62 (.87)	3.93 (1.61)	3.65 (1.70)	3.39 (1.68)
Friends or colleagues are often looking for (category) recommendations.	SD/SA	3.72 (1.43)	3.87 (1.48)	3.65 (1.62)	3.39 (1.69)	3.15 (1.64)
(Category's) often come up in converstation with friends or colleagues.	SD/SA	3.76 (1.63)	3.89 (1.54)	3.83 (1.69)	3.45 (1.71)	3.14 (1.69)
PWOM Quantity		(α = .85)	(α = .83)	(α = .89)	(α = .90)	(α = .85)
How often do you actually recommend (company) to someone else?	Never/All the Time	3.83 (1.66)	3.17 (1.48)	4.48 (1.53)	3.16 (1.72)	3.35 (1.68)
I suggest (company) to others approximately . . .	Never/Daily	3.43 (1.78)	2.59 (1.32)	3.27 (1.33)	2.29 (1.37)	2.42 (1.31)
I say good things about (company) to others regularly.	SD/SA	5.07 (1.37)	3.67 (1.49)	4.79 (1.49)	3.70 (1.82)	4.29 (1.69)
Customer-Company Identification		(α = .83)	(α = .83)	(α = .87)	(α = .92)	(α = .88)
The things that (company) stands for make me feel good to be connected with it.	SD/SA	4.45 (1.32)	4.49 (1.38)	5.12 (1.32)	4.40 (1.55)	5.31 (1.26)
The brand (company) and I have much in common.	SD/SA	3.71 (1.32)	3.68 (1.28)	5.08 (1.31)	4.09 (1.63)	4.94 (1.35)
I am glad to have people associate me with (company).	SD/SA	3.67 (1.69)	3.72 (1.70)	4.98 (1.43)	4.22 (1.69)	5.09 (1.29)
Please indicate to what degree your self-image overlaps with (company)'s image.	No overlap/Very strong overlap	2.75 (1.50)	2.72 (1.59)	4.28 (1.60)	3.38 (1.82)	4.12 (1.69)
Category Involvement		(α = .91)	(α = .87)	(α = .90)	(α = .90)	#
Category(ies) are very important to me.	SD/SA	4.22 (1.46)	4.30 (1.48)	5.24 (1.25)	5.57 (1.37)	–
Category (ies) interest me a lot.	SD/SA	3.84 (1.45)	4.00 (1.40)	5.06 (1.40)	5.20 (1.48)	–
Category (ies) are an important part of my life.	SD/SA	3.54 (1.54)	3.56 (1.49)	5.10 (1.39)	5.45 (1.43)	–

Notes: [a] Context Key
A: Quick Food
B: Panda Express
C: Retail
D: Cable
E: Banking
* VD/VS: Very Dissatisfied/Very Satisfied
** EP/EW: Extremely Poorly/Extremely Well
*** SD/SA = Strongly Disagree/Strongly Agree
# Category involvement was not measured in the banking context survey.

APPENDIX 2

Confirmatory Factor Analysis Results by Context

Context Statistic	Quick Food (A)	Panda Express (B)	Retail (C)	Cable (D)	Banking (E)
Chi-Square	28.85	17.50	27.51	35.77	49.93
df	17	17	17	17	17
p	.036	.421	.051	.005	.000
CMIN/df	1.70	1.03	1.62	2.10	2.93
TLI	.962	.998	.985	.978	.963
CFI	.977	.999	.991	.987	.978
RMSEA	.080	.016	.053	.071	.093
SRMR	.051	.041	.036	.044	.048
AIC	66.85	55.50	65.51	73.77	87.93