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Originality and Usefulness in  
Generating Word-of-Mouth

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## **The Different Roles of Product Originality and Usefulness in Generating Word-of-Mouth**

### **ABSTRACT**

This paper explores how the dimensions of new products, specifically, the originality and usefulness of the products, influence word-of-mouth (WOM). In four studies, using lab and field setups, we find that originality and usefulness have different effects on WOM. We show that consumers spread more WOM about original products, but the valence of what they say depends on the usefulness of the product. Therefore, originality enhances the effect of usefulness such that consumers spread relatively more and more positively valenced WOM about original and useful products compared to less original but equally useful products. Conversely, consumers spread more and more *negatively* valenced WOM about original products that are not useful compared to less original products with the same level of low usefulness. The results indicate that product originality should be managed carefully when developing and positioning new products. Although originality increases buzz, it might lead to negatively valenced WOM when the usefulness of the product is perceived to be low.

## **1. Introduction**

In August 1993, Apple launched the innovative Newton PDA, creating an entirely new product category that is ubiquitous today. Despite its high potential, the Newton failed miserably. According to Apple-history.com (2009), the Newton failed because its inadequate handwriting recognition led the product to be perceived as not being very useful. Interestingly, although this inadequacy was fixed in the next model, launched a mere half-year later, the Newton failed. We suggest that the Newton's high originality contributed to its failure by explosively fueling word-of-mouth (WOM), which was largely negative because of the low usefulness of the initial offering. The rapidly and widely disseminated WOM led to the Newton acquiring a poor reputation among consumers in a very short span of time, which the later efforts of the firm could not overcome. Consequently, the Newton was arguably a victim of its own originality. If the Newton had not been so original, perhaps it would not have created so much (negative) hype and would eventually have succeeded, slowly but surely.

This paper addresses the question of whether and when product originality can lead to the generation of more, and more negative, WOM, which can harm rather than promote a product. We argue and demonstrate that product originality, defined as the level of product newness or uniqueness relative to previous offerings (Goldenberg, Mazursky, & Solomon, 1999), increases the amount of WOM about the product. However, originality can lead to both positively and negatively valenced WOM. It is product usefulness, that is, the product's ability to meet a customer's needs (e.g., Cooper, 1979; Dahl, Chattopadhyay, & Gorn, 1999; Henard & Szymanski, 2001), that determines the valence of that WOM. Therefore, we suggest that originality enhances the effect of usefulness on the valence of WOM: when usefulness is high, WOM tends to be relatively more positive in valence. In this case, originality is likely to magnify

this positively valenced WOM. In other words, WOM is likely to become even more disproportionately positive compared to the situation where the product is equally useful but less original. Conversely, when a product is perceived as being low in usefulness, WOM tends to be relatively more negatively valenced. If the product is also perceived as being more original, this can fuel the negative WOM. That is, WOM is likely to become even more disproportionately negative when a product is perceived as original and not useful, compared to when it is perceived as less original but equally not useful.

This research contributes to the literature in several ways. First, although past research has acknowledged the importance of WOM for product success (Arndt 1967; Chevalier & Mayzlin, 2006; East, Hammond, & Lomax., 2008; Godes & Mayzlin, 2004; Herr Kardes, & Kim, 1991), not much research has explored the mechanism by which WOM is formed, its antecedents, and how it can be controlled (Bayus, 1985). This is a gap we begin to fill by exploring how the product itself, or the way consumers perceive it, leads to WOM. Specifically, we define the separate and collective influence of product originality and usefulness on WOM. Second, previous research has shown that originality sometimes has a positive effect on a new product's success and at other times has a negative effect, suggesting that a moderator determines the relationship between originality and new product success (see meta-analysis by Henard & Szymanski, 2001). We suggest that usefulness can be that moderator. If, as we show in this paper, originality increases both positively and negatively valenced WOM, with valence being determined by product usefulness, it is possible that whether originality leads to success or failure depends on usefulness, as positive WOM contributes directly to product success (East et al., 2008; Herr et al., 1991), or at least implies product satisfaction, which may lead to its success.

In the next section we discuss the literature and develop our conceptual framework by specifying the nature of the influence of originality and usefulness on WOM. We then report four studies that test our conceptualization using multiple methods: a survey (Study 1), two lab experiments (Studies 2 and 3), and field data (Study 4).

## **2. Theoretical Development**

### *2.1. Word-of-Mouth*

When considering the purchase of a new product, consumers often rely on WOM for information and advice, as WOM communications are immediate and participatory and provide credible and sought-after information (Arndt 1967; Chevalier & Mayzlin, 2006; East et al., 2008; Godes & Mayzlin, 2004; Herr et al., 1991). WOM can be measured along two dimensions (Buttle, 1998; Harrison-Walker, 2001): its *amount*, or how much people talk, and its *valence*, or the evaluative implication of what they will say, which can be positive (recommendation) or negative (warning or derogatory).

The amount of WOM can be measured as the contribution of each individual or the total buzz in the market. We suggest that if each individual spreads more WOM on different occasions or to different people, the total amount of WOM spread in the market will be higher. Moreover, if the WOM that is generated is positively valenced, it is likely to benefit the product, as positive WOM creates a positive attitude toward the product among message recipients, which may lead to its adoption (East et al., 2008; Herr et al., 1991). Negatively valenced WOM, on the other

hand, is likely to create a negative attitude toward the product and reduce adoption<sup>1</sup> (Bonfrer, 2010; East et al., 2008; see a review in Goldenberg, Libai, Moldovan, & Muller, 2007).

## 2.2. *Originality and Usefulness as Antecedents of Word-of-Mouth*

As summarized in Table 1, research suggests that a variety of product factors can affect consumers' propensity to spread WOM. In this paper, we focus on two product dimensions, originality and usefulness, as they are the two main product dimensions identified in the literature as leading to new product success (e.g., Cooper, 1979; Dahl et al., 1999; Gatignon & Xuereb, 1997; Henard & Szymanski, 2001; Im & Workman, 2004; Mishra, Kim, & Lee, 1996; Szymanski, Kroff, & Troy, 2007). Interestingly, notwithstanding the importance of these two dimensions in new product success, their role in influencing WOM, which is also recognized as an important driver of new product success, has not been directly investigated and is thus the focus of our research.

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Insert Table 1 around here

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*Product originality.* Gatignon and Xuereb (1997) describe product originality as the level of newness to the consumer or to the firm. They suggest that an original product is different from existing products in the industry because it uses advanced or radical technology. Consistent with this, but from a consumer-centric perspective, we define originality as a product's newness or uniqueness as perceived by the consumer, relative to previous offerings (Goldenberg et al., 1999).

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<sup>1</sup> Negative emotion can, in some cases, be more effective than no emotion by leading to product awareness (Berger, Sorensen, & Rasmussen, 2010) or to higher product involvement (Moore & Hutchinson, 1983). However, research has consistently found that negative WOM about a product has a negative effect, leading the literature to treat negative WOM as harmful.

An original new product is new, unique, and different from what exists. According to Derbaix and Vanhamme (2003), a more original new product is more likely to be interesting and surprising. Further, research also shows that people like to talk about things that they find surprising and/or interesting (Dichter, 1966; Feick & Price 1987; Heath, Bell, & Sternberg, 2001; Peters, Kashima, & Clark, 2009; Richins & Root-Shaffer, 1988). Therefore, original new products are likely to elicit greater levels of WOM than less original new products (see Table 1, Row 2; Bone, 1992; also suggested by Feick & Price, 1987). Therefore, we hypothesize the following:

**H1.** Originality of new products is positively associated with the amount of word-of-mouth.

Past research, however, is silent with respect to the impact of the originality of a new product on the valence of WOM, but there is indirect evidence to suggest that originality can lead to both positively and negatively valenced WOM. Research has shown that people are more likely to share both their positive and negative opinions regarding an unusual or unexpected event (Rimé, Philippot, Boca, & Mesquita, 1992), and feelings of surprise are correlated with the amounts of both positive and negative WOM (Derbaix & Vanhamme, 2003). Therefore, we suggest that because original products are surprising and interesting, consumers will be more interested in discussing them. However, originality does not determine the valence of that WOM, as it can lead to both positively and negatively valenced WOM.

*Product usefulness.* Product usefulness is usually defined as meeting a customer's needs (e.g., Cooper, 1979; Dahl et al., 1999; Henard & Szymanski, 2001) or providing a competitive advantage with the product's attributes or benefits (Gatignon & Xuereb, 1997). We draw on these

definitions and again from a consumer-centric perspective, define product usefulness as the consumer's perception that a product or service provides a benefit that fulfills his/her needs.<sup>2</sup>

The extant literature provides no direct evidence to suggest how usefulness may influence WOM. However, usefulness has been found to be related to positive attitude toward a product (Voss, Spangenberg, & Grohmann, 2003) and to lead to product success (e.g., Im & Workman, 2004; Szymanski et al., 2007), which suggests that higher levels of usefulness may lead to relatively more positively valenced WOM and, conversely, that lower levels of usefulness may lead to relatively more negatively valenced WOM. Consistent with this reasoning, research has also shown that higher product performance (which is akin to higher usefulness) generates more positively valenced WOM, whereas product malfunction (which is analogous to low usefulness) generates more negatively valenced WOM (see Table 1, Row 3; Buttle, 1998; Sundaram et al., 1998). Drawing on these findings, we suggest that if a new product is useful, in that it provides a new benefit or solves a need, it is likely to lead to a relatively more positively valenced WOM. Conversely, if a product is not useful, in that it has limited or no benefits, it is likely to lead to relatively more negatively valenced WOM.

**H2.** Usefulness of new products is positively associated with the valence of word-of-mouth.

In addition to its key role in influencing the valence of WOM, it is possible that product usefulness could also affect the amount of WOM. Aside from communicating through more WOM when a product is original, consumers also spread WOM when they believe that the

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<sup>2</sup> Usefulness can be easily recognized in functional products (whether utilitarian or hedonic) but becomes less straightforward when considering non-functional products in which the main utility of the product is enjoyment (e.g., games, movies, or art). We focus on functional products here, although we believe that our conceptualization is likely to be valid for non-functional products when one considers the level of enjoyment as representing their usefulness.

information can help others learn about a product that they may need (Dichter, 1966, Feick & Price, 1987; Heath et al., 2001). Because others can benefit from learning about something useful, more useful products can also lead to the generation of higher amounts of WOM. However, usefulness will not lead to more WOM when others will not benefit from learning about the product. For example, if others are already aware of this product, there is no need to inform them of it. Likewise, there is no point of telling others about a useful product that they may need but which is unavailable in the market.

**H3.** The usefulness of new products is positively associated with the amount of word-of-mouth only when others can benefit from learning about the product.

*Interaction between originality and usefulness.* Original products are surprising and interesting, and consumers are expected to spread more WOM about them regardless of their usefulness (see Table 1, Part 2; Bone, 1992). Useful products, on the other hand, lead to a positive attitude (Voss et al., 2003) and may therefore lead to more positively valenced WOM. If a product is both original and useful, it leads to the pleasant surprise of new and superior utilities, which may lead to more positively valenced WOM, compared with a similarly useful product that is not original and, thus, is not as interesting to talk about.

Conversely, products that are not useful lead to a negative attitude and, therefore, may lead to more negatively valenced WOM. If they are also original, consumers may be interested in talking about them, but the valence of what they say is likely to be negative to reflect their attitude. Therefore, when products are original but not useful, they are on the one hand likely to create high expectations of new attributes but on the other hand likely to lead to high disappointment because this novelty has no utility, leading consumers to express their high

interest and high disappointment by spreading relatively more negatively valenced WOM, compared to an equally useless product that is not original. Therefore, we suggest the following:

**H4.** The effect of usefulness on the valence of word-of-mouth is enhanced by product originality, such that the valence of word-of-mouth becomes increasingly more positive when the product is both original and useful, but becomes increasingly more negative when the product is both original and not useful (compared to a less original product).

To summarize, our hypotheses suggest that originality and usefulness have different roles in generating WOM. Originality increases the amount of WOM, and usefulness determines the valence of WOM. Originality might therefore lead to negatively valenced WOM when combined with a product that is not useful. A summary of our hypothesized effects is presented in Table 2. The table shows the effect of originality and usefulness on the amount and valence of WOM. Because the valence of WOM is operationalized in this research as the difference between positive and negative WOM, the table also presents the link between positive and negative WOM (in gray) and the valence of WOM. We next report four studies that test the four hypotheses.

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Insert Table 2 around here

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### **3. Study 1: Antecedents of Word-of-Mouth**

The purpose of Study 1 is to test Hypotheses 1, 2, and 4 by examining the relationship between the dimensions of new products, originality and usefulness, and WOM, using a range of products that vary along these dimensions.

### 3.1. Method

*Subjects.* A total of 226 MBA students were recruited to participate in the study. As incentive for participation, they were eligible to participate in two drawings for prizes of \$100 in cash, as described later.

*Stimuli.* Twenty new products were selected from websites covering new products, such as consumer news, innovation reports, and online stores. The products were chosen at the time of their actual introduction to the market to ensure that participants were exposed to the products for the first time during the study. The products were selected from diverse categories and provide a broad range in terms of originality and usefulness. We chose products that are purchased primarily for their functionality, as this made it simpler and clearer to evaluate their usefulness. Product categories included electronics and computer equipment (e.g., memory stick or cell phone), hedonic instruments (e.g., massager), and furniture (e.g., a shelf). The products were presented using a picture and a brief description (Thompson, Hamilton, & Rust, 2005).

*Independent variables.* The two independent variables, originality and usefulness, were measured along four, 7-point Likert-type scales anchored by “Not At All (1)” and “Very Much So (7).” The items, as presented in Table 3, were drawn from previous research (Dahl et al., 1999; Henard & Szymanski, 2001; Im & Workman, 2004). These scales measure originality and usefulness from low to high, as perceived by the study's participants.

*Dependent variables.* Two dependent variables were measured: the *amount* of WOM and the *valence* of WOM. Both of them were measured as self-reported intentions to spread WOM. Although a self-reported measure may be biased, it was found to be valid by Heath et al. (2001). In addition, in Study 4 of this paper, we validate the self-reported intentions measured in Studies 1-3 using actual online WOM in the form of Amazon product reviews.

The amount of WOM was measured using four items (adapted from Harrison-Walker 2001). The valence of WOM can be measured using either one bipolar scale (from positive to negative) or two independent unipolar scales (positive and negative). Westbrook (1987, p. 260) suggested that positive and negative aspects of a measurement can be two independent unipolar dimensions and that it is more suitable to measure them separately to allow for the joint occurrence of positive and negative attitudes or indifference between them. Likewise, the occurrence of positive and negative WOM together by the same people was found by East, Hammond, and Wright (2007). In fact, an attempt to measure positive and negative WOM as a single construct led to low reliability and to the removal of the negative items from the study (Harrison-Walker, 2001). These results suggest that it is conceptually better to measure positive and negative WOM independently and then to create the valence measure as the difference between them (Oliver & Burke, 1999). We therefore measured the constructs of positive and negative WOM using two, two-item scales adapted from Harrison-Walker (2001), and constructed an operational measure of the valence of WOM by subtracting the mean rating of the two negative WOM items from the mean rating of the two positive WOM items. All items were measured along a 7-point Likert-type scale anchored by "Completely Disagree (1)" and "Completely Agree (7)," creating a valence measure that could take on values between -6 and +6. The items and reliabilities for all the scales used are reported in Table 3.

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Insert Table 3 around here

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*Procedure.* Every week, participants received a link to a questionnaire presenting a picture and description of one of the 20 new products and were asked to rate the product on the independent and dependent variables. At the end of the first ten weeks, there was a drawing of a

\$100 cash prize from among those participants who had filled out all ten questionnaires during this ten-week period. A second drawing was held at the end of the study (20 weeks) for the participants who had filled out all ten questionnaires during the second ten-week period. Of the 226 participants initially recruited, 140 participants completed at least one questionnaire, and 77 participants completed ten or more questionnaires.

### 3.2. *Results and Discussion*

To test Hypotheses 1, 2 and 4, two regression analyses were performed, with the amount of WOM and the valence of WOM as the dependent variables and originality, usefulness, and the interaction between them as the independent variables. For the interaction analysis, we used mean-centered scores of the independent variables to simplify the understanding of the coefficients in the presence of multicollinearity (Aiken, West, & Reno, 1991). The regression results are presented in Table 4.

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Insert Table 4 around here

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*Amount of WOM.* As can be seen in Table 4, originality increases the amount of WOM, confirming H1. Usefulness was also found to increase the amount of WOM. This result is consistent with H3, as we used new products that were about to be launched into the market. Our participants would likely want to spread WOM about the more useful products they learned about, to let others know about these products that they might need and find beneficial. However, it is important to note that our result is consistent with H3 but does not provide an unequivocal test of H3, as in this study, we did not manipulate the relevance of spreading WOM.

We also found a significant interaction effect between originality and usefulness, a result that we had not expected. An inspection of the interaction reveals that the combination of

originality and usefulness leads to even greater levels of WOM compared with original-but-not-useful and useful-but-not-original products. It seems that the combination of originality and usefulness led to even greater intentions to talk about these new and surprising products that also provide great utility.

*Valence of WOM.* The effect of originality, usefulness, and the interaction between them on the valence of WOM is also presented in Table 4 and illustrated in Figure 1. As we hypothesized in H2, usefulness had a significant effect on the valence of WOM, and, as anticipated, originality showed no significant main effect on the valence of WOM.

As expected, we found an interaction between originality and usefulness on the valence of WOM, such that originality intensified the effect of usefulness, providing support for H4. As illustrated in Figure 1, for high usefulness, originality leads to a relatively higher propensity to generate a positively valenced WOM, whereas for low usefulness, originality leads to a relatively higher propensity to generate *negatively* valenced WOM. Therefore, unlike the more common assumption that because originality is interesting and pleasurable (Berlyne, 1970) it should lead to positive WOM, we show that originality can also lead to high levels of negatively valenced WOM when that interest to spread WOM due to high originality is accompanied with a negative reaction, which in this case is created by low usefulness. When the product is not original, the effect of usefulness on the valence of WOM is weaker, as the product is not as interesting to talk about.

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Insert Figure 1 around here

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## **4. Study 2: Manipulating Originality and Usefulness to Influence Word-of-Mouth**

Whereas Study 1 finds support for Hypotheses 1 through 4, using a range of different products, and thus provides an externally valid test of the four hypotheses, it has several limitations: first, given that it is a within-subject study, it is sensitive to carry-over and demand effects. It is possible that participants' responses to the earlier products influenced their ratings for later products. Second, because participants rated the products' originality and usefulness and their WOM intentions, it is possible that participants' responses to the measures of perceived originality and usefulness affected their responses to the subsequent WOM questions. Third, different products were confounded with originality and usefulness, leading to a possibility that a factor other than originality or usefulness was responsible for the results. Study 2 is designed to address the limitations noted above and thus provide a more internally valid test of our hypotheses.

In Study 2, we used a 2×2 between-subjects experimental design manipulating originality (high/low) and usefulness (high/low), using a single product and manipulated its originality and usefulness by changing the values of one attribute across experimental conditions.

### *4.1. Method*

*Subjects.* 81 (undergraduate and graduate) students were recruited for this study through email lists. As incentive for their participation, participants received a chance to win \$50 in cash.

*Stimuli.* We chose a netbook as this study's stimulus. All participants received a general description of the netbook, followed by one line that manipulated its originality and usefulness, based on a pretest. The manipulation of originality was done using the type of battery the netbook had. The low-originality condition had a regular battery, whereas the high-originality

condition had a battery that was charged by extracting the energy from the keystrokes while typing. Usefulness was manipulated using the battery's life; the low-usefulness battery lasted for half an hour without a power connection, and the high-usefulness battery lasted for six hours without one.

*Dependent variables.* The amount and valence of WOM intentions were measured as in Study 1. The valence of WOM was again operationalized as the difference between positive and negative WOM (See Table 3; the reliabilities of the measures in this study were .90, .75, and .72, respectively).

*Procedure.* Participants received a web link that assigned them randomly to one of the four experimental conditions. The first web page contained a short description of the product based on the experimental condition, followed by the eight WOM questions (as presented in Table 3). On the second page, we measured originality and usefulness using one item each as a manipulation check and collected some demographic information.

#### 4.2. Results and Discussion

We used a two-way analysis of variance for all of the tests in this study. The two factors were the manipulated originality (high/low) and usefulness (high/low). All of the reported significance tests are two-tailed.

*Manipulation check.* Analyses of the two manipulation check items revealed that for the measure of perceived originality, manipulated product originality had a significant effect, with the more original product being rated higher on originality ( $M(SE)_{\text{low originality}} = 3.69(.24)$ ,  $M(SE)_{\text{high originality}} = 5.00(.20)$ ;  $F(1, 69) = 17.78$ ;  $p < .01$ ). Manipulated usefulness had no effect on perceived originality, nor was perceived originality influenced by the interaction of the two experimental factors ( $p$ 's  $> .10$ ). The product usefulness manipulation had a significant effect on the measure of perceived usefulness; the perceived usefulness was higher in the condition in

which the product was intended to be more useful ( $M(SE)_{\text{low usefulness}} = 4.30(.22)$ ,  $M(SE)_{\text{high usefulness}} = 4.93(.18)$ ;  $F(1, 69) = 6.75$ ;  $p = .02$ ). The main effect of originality and the interaction term were again not significant ( $p$ 's  $> .10$ ). These results suggest that the manipulations worked as intended.

*Hypotheses testing.* Similar models were used to test our hypotheses with the amount of WOM and the valence of WOM as the dependent variables. For amount of WOM, we again found that originality increased the intentions to spread WOM about the product ( $M(SE)_{\text{low originality}} = 2.67(.23)$ ,  $M(SE)_{\text{high originality}} = 3.66(.21)$ ;  $F(1,77) = 10.31$ ;  $p < .01$ ;  $\eta^2 = .12$ ), supporting H1. Unlike Study 1, usefulness was not found to increase the amount of WOM ( $M(SE)_{\text{low usefulness}} = 2.97(.23)$ ,  $M(SE)_{\text{high usefulness}} = 3.36(.21)$ ;  $F(1,77) = 1.62$ ;  $p > .10$ ). In line with H3, this was to be expected: in this study, the target of the usefulness manipulation – the battery life of the netbook – is commonplace and known, thus making the spreading of WOM to be not beneficial to others. The interaction between originality and usefulness on the amount of WOM was not significant ( $p > .10$ ), as we anticipated.

For the valence of WOM, as hypothesized in H2, greater usefulness led to a more positive valence of WOM ( $M(SE)_{\text{low usefulness}} = .47(.24)$ ,  $M(SE)_{\text{high usefulness}} = 1.62(.23)$ ;  $F(1,77) = 11.84$ ;  $p < .01$ ;  $\eta^2 = .13$ ). Also, as anticipated, greater originality did not affect the valence of WOM ( $M(SE)_{\text{low originality}} = 1.00(.25)$ ,  $M(SE)_{\text{high originality}} = 1.09(.22)$ ;  $p > .10$ ).

As predicted in H4, there was an interaction between originality and usefulness on the valence of WOM ( $F(1,77) = 13$ ;  $p < .01$ ;  $\eta^2 = .15$ ). As can be seen in Figure 2, originality intensifies the effect of usefulness: when usefulness is high, higher originality leads to relatively more positively valenced WOM (for high usefulness:  $M(SE)_{\text{low originality}} = .97(.34)$ ,  $M(SE)_{\text{high originality}} = 2.26(.27)$ ;  $t(42) = 3.52$ ;  $p < .01$ ), but when usefulness is low, higher originality leads to

relatively more negatively valenced WOM (for low usefulness:  $M(SE)_{\text{low originality}} = 1.03(.29)$ ,  $M(SE)_{\text{high originality}} = -.08(.41)$ ;  $t(35) = 2.18$ ;  $p < .05$ ).

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Insert Figure 2 around here

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Study 2 replicated the results of Study 1, but unlike Study 1, which was correlational, Study 2 manipulated originality and usefulness for a single product, eliminating any possibility that our findings resulted from different types of products and enabling us to establish a causal link between originality and usefulness and WOM. Overall, the results of Studies 1 and 2 support our hypotheses and indicate that WOM can be influenced by managing the two key aspects of a new product: its originality and its usefulness.

Study 2 also indicates that it is possible to control and manipulate WOM by changing one attribute. When the product has a very innovative attribute (self-charging mechanism), it creates excitement; when this attribute is also useful (works for 6 hours), it leads to more and relatively more positively valenced WOM. The same exciting attribute, however, can lead to high disappointment and to more and relatively more negatively valenced WOM when it is not very useful (works for half an hour).

## **5. Study 3: Exploring When Usefulness Influences the Amount of Word-of-Mouth**

As noted in our conceptualization, one of the reasons consumers spread WOM is to provide others with information that may be beneficial to them (Dichter, 1966; Feick & Price, 1987; Heath et al., 2001). When a product is perceived as having high usefulness, people may spread WOM if they believe that knowing about this useful product will help others (H3). Whereas the

results of Studies 1 and 2 are consistent with this hypothesis, these studies do not provide a proper test of H3. A proper test of H3 requires showing, within a single study, that usefulness leads to increased amounts of WOM only when spreading information about the product through WOM is seen as beneficial to others. As has been noted earlier, spreading WOM is beneficial when people are not familiar with the product or feature offered and when the product is available in the market.

Study 3 uses a 2×2×2 between-subject design, manipulating originality (high/low), usefulness (high/low), and product availability (available/unavailable). We manipulate whether participants believe that the new product they learn about is or is not available in the local market, and we examine whether and how this moderates the impact of usefulness on the intention to spread WOM. In addition, we examine the underlying mechanism that we suggest leads to intentions to spread WOM: that people spread WOM about original products because they are interesting and about useful products because they may benefit others.

### 5.1. *Method*

*Subjects.* A total of 195 participants were recruited for this study from a subject pool. As an incentive for their participation, participants received a token payment.

*Stimuli.* We chose four products that were high/low on originality/usefulness based on a pretest. The high-originality-high-usefulness product was a solar charging case for cell phones, the high-originality-low-usefulness product was a rain coat with a music player inside, the high-usefulness-low-originality product was a set of nose tissues with healing herbs, and the low-originality-low-usefulness product was underwear in different colors. Each product was presented with a picture and a brief description. To manipulate product availability, each product was described either as a product that can be found in local stores (available) or as a product that

is available in the US market (to avoid confounding with originality) but is not imported to the local market (unavailable).

*Dependent variables.* The amount and valence of WOM intentions were measured as in Studies 1 and 2. The valence of WOM was again operationalized as the difference between positive and negative WOM, as in the previous studies (see Table 3; the reliabilities of the measures in this study were .94, .88, and .90, respectively).

In addition, to explore the underlying mechanism of WOM intentions, we measured two mediators. The first mediator is whether participants believe that knowing about the product is important to others using two items: "Others would benefit from learning about this product" and "Others would like to hear about this product since this product may be useful to them" ( $\alpha = .92$ ). The second mediator is whether participants think that hearing about this product is interesting using two items: "Others would enjoy hearing about this product because it is interesting" and "This product is an amusing topic of conversation" ( $\alpha = .65$ ). The four items were measured along a 7-point Likert-type scale anchored by "Completely Disagree (1)" and "Completely Agree (7)."

*Procedure.* Participants received a link that randomly assigned them one of the eight experimental conditions. The link took participants to a web page that contained a short description of the product based on the experimental condition followed by the eight WOM questions (as presented in Table 3). On the next page, we measured the underlying mechanism questions and then originality, usefulness, and availability using one item each for a manipulation check. To control for a possible confound of knowledge about products prior to the study, we removed participants who were already aware of the new product. Of the 195

participants in the study, ten were familiar with the product before the study and were thus removed from the analysis, leaving 185 participants.<sup>3</sup>

## 5.2. Results and Discussion

We analyzed the results using three-way analyses of variance. The fixed factors were the manipulated originality (high/low), usefulness (high/low), and availability (available/unavailable). All reported significance tests are two-tailed.

*Manipulation check.* Analyses of the manipulation check items revealed that for the measure of perceived originality, the manipulated product originality had a significant effect, with the more original product being rated higher on originality ( $M(SE)_{\text{low originality}} = 3.62(.18)$ ,  $M(SE)_{\text{high originality}} = 5.00(.19)$ ;  $F(1, 177) = 29.23$ ;  $p < .01$ ). Manipulated usefulness and manipulated availability also had a significant effect on the perceived originality ( $F(1, 177) = 18.57$ ;  $p < .01$  and  $F(1, 177) = 4.19$ ;  $p < .05$ , respectively), the high-usefulness and available products were rated as more original than the low-usefulness and unavailable products; however, they were rated as being less original than the original products. The interaction effects had no effect on the perceived originality ( $p$ 's  $> .10$ ).

The manipulation of product usefulness had a significant effect on the measure of perceived usefulness; perceived usefulness was higher in the condition in which the product was intended to be more useful ( $M(SE)_{\text{low usefulness}} = 2.32(.15)$ ,  $M(SE)_{\text{high usefulness}} = 4.51(.17)$ ;  $F(1, 177) = 94.85$ ;  $p < .01$ ). The interaction between originality and usefulness also had a significant effect on perceived usefulness ( $F(1, 177) = 15.67$ ;  $p < .01$ ). However, an inspection of the interaction showed that the interaction resulted from the high-originality-low-usefulness product, which was rated as having lower usefulness ( $M(SE) = 1.80(.21)$ ) compared with the low-originality-low-

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<sup>3</sup> The results were very similar when all 195 participants were analyzed.

usefulness product ( $M(SE) = 2.84(.21)$ ). Both are still lower in terms of usefulness than the high-usefulness products ( $M(SE)_{\text{low originality}} = 4.14(.23)$ ,  $M(SE)_{\text{high originality}} = 4.87(.25)$ ), confirming that the manipulation worked. The main effects of originality and availability and the other interaction terms were not significant ( $p$ 's > .10).

Regarding product availability, the available products were rated as being more available than the unavailable products ( $M(SE)_{\text{unavailable}} = 1.67(.18)$ ,  $M(SE)_{\text{available}} = 3.61(.17)$ ;  $F(1, 177) = 64.61$ ;  $p < .01$ ). All of the other main effects and interactions were not significant ( $p$ 's > .10). These results suggest that the manipulations worked as intended.

*Hypotheses testing.* Regarding the amount of WOM, we found that originality increased the intention to spread WOM about the product ( $M(SE)_{\text{low originality}} = 2.54(.15)$ ,  $M(SE)_{\text{high originality}} = 3.42(.16)$ ;  $F(1,177) = 14.95$ ;  $p < .01$ ;  $\eta^2 = .08$ ), supporting H1. Usefulness also influenced WOM ( $M(SE)_{\text{low usefulness}} = 2.50(.15)$ ,  $M(SE)_{\text{high usefulness}} = 3.45(.17)$ ;  $F(1,177) = 17.35$ ;  $p < .01$ ;  $\eta^2 = .09$ ), but, most importantly, as we had hypothesized in H3, this effect was moderated by product availability ( $F(1,177) = 4.77$ ;  $p = .03$ ;  $\eta^2 = .03$ ). As can be seen in Figure 3, when the product was available, usefulness led to higher amounts of WOM ( $M(SE)_{\text{low usefulness}} = 2.46(.22)$ ,  $M(SE)_{\text{high usefulness}} = 3.94(.24)$ ;  $t(96) = 4.56$ ;  $p < .01$ ). However, as we suggest in H3, when the product was unavailable, usefulness did not lead to higher amounts of WOM ( $M(SE)_{\text{low usefulness}} = 2.56(.22)$ ,  $M(SE)_{\text{high usefulness}} = 2.93(.27)$ ;  $p > .10$ ). Neither the main effect of product availability, nor any of the interactions, other than the interaction between usefulness and availability, were significant for the amount of WOM ( $p$ 's > .10).

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Insert Figure 3 around here

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As for the valence of WOM, we did not have any prediction for the availability manipulation, and none of the effects involving this factor reached significance ( $p$ 's > .10). We will therefore not discuss this factor or its effects further.

Consistent with H2, greater usefulness led to relatively more positively valenced WOM ( $M(SE)_{\text{low usefulness}} = -.60(.22)$ ,  $M(SE)_{\text{high usefulness}} = 2.41(.25)$ ;  $F(1,177) = 80.02$ ;  $p < .01$ ;  $\eta^2 = .31$ ). Greater originality did not affect the valence of WOM ( $M(SE)_{\text{low originality}} = 1.20(.23)$ ,  $M(SE)_{\text{high originality}} = .62(.24)$ ;  $F(1,177) = 2.93$ ;  $p = .09$ ;  $\eta^2 = .01$ ), as we would have expected. As hypothesized in H4, there was an interaction between originality and usefulness on the valence of WOM ( $F(1,177) = 23.22$ ;  $p < .01$ ;  $\eta^2 = .12$ ). As can be seen in Figure 4, when usefulness is high, higher originality leads to relatively more positively valenced WOM (for high usefulness:  $M(SE)_{\text{low originality}} = 1.89(.25)$ ,  $M(SE)_{\text{high originality}} = 3.06(.26)$ ;  $t(82) = 3.26$ ;  $p < .01$ ), but when usefulness is low, higher originality leads to relatively more negatively valenced WOM (for low usefulness:  $M(SE)_{\text{low originality}} = .50(.27)$ ,  $M(SE)_{\text{high originality}} = -1.70(.44)$ ;  $t(99) = 4.19$ ;  $p < .01$ ).

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Insert Figure 4 around here

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*Mediation analysis.* If, as we claim, consumers spread WOM about original products because they are more interesting and about useful products because the information may help others, we expect to find that the effects of originality and usefulness on WOM will be mediated by how interesting or important the information is, respectively. To show mediation, we need to show that our manipulation of originality and usefulness has an effect on the measures of "interestingness" and "importance" and that the effect of originality/usefulness on WOM decreases when the measures of "interestingness" or "importance" are added to the model (Baron & Kenny, 1986).

The model of the effect of originality, usefulness, and availability on "how interesting the product is" indicates that higher originality is more interesting to talk about ( $F(1,177) = 18.80$ ;  $p < .01$ ;  $\eta^2 = .10$ ), but higher usefulness is not more interesting ( $p > .10$ ). Available products are also more interesting to talk about compared with unavailable products ( $F(1,177) = 7.10$ ;  $p < .01$ ;  $\eta^2 = .04$ ). The interactions were all non-significant ( $p$ 's  $> .10$ ).

A similar model but with "how important the information is" as the dependent variable revealed that useful products are more important to talk about ( $F(1,177) = 79.74$ ;  $p < .01$ ;  $\eta^2 = .31$ ), as are available product ( $F(1,177) = 12.64$ ;  $p < .01$ ;  $\eta^2 = .07$ ) and that the interaction between usefulness and availability was also significant ( $F(1,177) = 4.08$ ;  $p < .05$ ;  $\eta^2 = .02$ ), indicating that the most important information is about highly useful and available products, as implied in our hypotheses. In addition, the interaction between originality and usefulness was significant ( $F(1,177) = 5.41$ ;  $p = .02$ ;  $\eta^2 = .03$ ), indicating that high usefulness was rated as being more important when the product was also original. This is consistent with our suggestion that information is more important when it is new or unknown (see Studies 1-2). The effect of originality and the other interactions were non-significant ( $p$ 's  $> .10$ ).

When a measure of "how interesting the product is" is added as a covariate in the analysis of the effect of originality and usefulness on the amount of WOM, the effect of "interestingness" is significant ( $F(1,176) = 95.70$ ;  $p < .01$ ;  $\eta^2 = .35$ ), and the effect of originality on WOM becomes non-significant ( $p > .10$ ; Sobel  $z = 3.92$ ,  $p < .01$ ). The effect of usefulness on WOM and the interaction between usefulness and availability remain significant, suggesting that "interestingness" does not mediate these effects (Sobel  $z = .12$  and  $.32$ , respectively,  $p$ 's  $> .10$ ).

When adding the measure of "how important the product is" to the analysis, the effect of "importance" is significant ( $F(1,176) = 80.72$ ;  $p < .01$ ;  $\eta^2 = .31$ ), and the effects of usefulness on

WOM as well as the interaction between usefulness and availability become non-significant ( $p$ 's  $> .10$ ; Sobel  $z = 4.10$  and  $2.10$ , respectively,  $p$ 's  $< .03$ ). The effect of originality remains significant, suggesting that "importance" does not mediate this effect (Sobel  $z = 1.52$ ,  $p > .10$ ).

These results suggest that original products are more interesting and therefore lead to more WOM, whereas useful products are more important and therefore lead to more WOM but only when they are available. If they are unavailable, their importance decreases, and so do intentions to spread WOM about them.

In summary, Study 3 finds support for Hypotheses 1, 2, and 4, as did Studies 1 and 2, but it also provides unequivocal support for H3 and accounts for the differences in the results between Study 1 and 2: consumers may spread increasing amounts of WOM about more useful products when the information they provide can help others learn about products that they can benefit from. Additionally, this study shows the underlying mechanism behind the intentions to spread WOM. WOM is spread about original products because they are interesting, and about useful products because they are important.

Given that in Studies 1-3, we used self-reported intention to spread WOM rather than measure actual WOM, and given that our results show that originality and usefulness affect WOM intentions prior to purchase, it would be interesting to see whether the observed results of originality and usefulness can be found to affect actual WOM; this is the focus of the next study.

## **6. Study 4: Effects of Originality and Usefulness on Actual Online Word-of-Mouth**

Study 4 explores the effect of originality and usefulness on actual online WOM, using products that were recently launched into the market. The data were collected from

Amazon.com's website (see Chevalier & Mayzlin, 2006, for a similar method). We first identified all the products that were launched in the "electronics" category over three months by looking at the category's "new arrivals" during this period. For each of the 37 products that we identified, we collected a short description and a picture and saved the link so we could collect the dependent variables later.

Ten judges were asked to rate each product on originality and usefulness<sup>4</sup> (between judges reliability was .92). To avoid an effect of familiarity with actual product performance, all judges were non-US residents, so these products were unavailable in the judges' market at the time of measurement. The judges did not know that the products were taken from Amazon.com's website.

Three months later, we revisited the website and collected all of the reviews that were posted on each product during the 3-month period. Whereas reviews do not represent WOM directly, this can serve as a good proxy because of a correlation between the two types of referral activity (Chevalier & Mayzlin, 2006): the more consumers feel the need to write a review about a product, the more likely they are to discuss this product with friends, as they may have opinions and feelings about the products that they need to share. Online and offline WOM may both serve as channels to share that information with others.

We therefore used the number of reviews as a proxy for the amount of WOM, presuming that if more people write a review, more people will also spread offline WOM about that product. In addition, we analyzed the text of the reviews to explore their valence, assuming that more positive reviews indicate that consumers are happy with the product, which will lead to more positive offline WOM as well, and more negative reviews indicate disappointment and

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<sup>4</sup> We used a relatively large number of judges, as the judgment of originality and usefulness is subjective. Using two judges, however, yielded similar results.

more negative offline WOM. We therefore asked two judges to divide each review into sentences and determine whether each sentence is positive or negative<sup>5</sup> (between-judge reliability was .92). Negative sentences were defined as those that include any negative comment or dissatisfaction with the product or service, list of bad or limited attributes, product malfunction, and so forth. Positive sentences were defined in the opposite way (satisfaction with the product, list of good attributes, and so forth). We then calculated the valence of the reviews (which is a proxy for the valence of WOM) as the sum of positive sentences minus the sum of negative sentences of each review.

In addition, we collected for each product its sales rank to control for the demand for each product. All products came from the same category and had a similar launch time, which makes their sales ranks comparable. Because sales rank is an ordinal measure, we converted it into a measure of demand using the algorithm developed by Chevalier and Goolsbee (2003) and parameters estimated by Brynjolfsson, Hu, and Smith (2003).

Based on our hypotheses, we expect to find that higher originality will lead to more online reviews (H1) but that usefulness will determine the valence of reviews (H2). In addition, we expect to find the interaction between originality and usefulness on the valence of the reviews (H4).

From the 37 products we initially identified, we had to remove three outliers that had an extremely large number of reviews (more than 3 standard deviations from the mean number of reviews) that pulled the regression line and reduced the significance of the model. Note that the outliers were rated as being more original, as anticipated by H1. Five additional products did not have a sales rank, and were marked as missing for the analysis controlling for demand.

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<sup>5</sup> Two judges were enough in this case, as this task is relatively objective.

### 6.1. Results and Discussion

We ran three regression analyses as presented in Table 5. Two regressions explored the effect of originality, usefulness, and the interaction between them on the number of reviews. The first model (model A), did not control for product demand, whereas the second model (model B) did control for it. The third regression explored the effect of originality, usefulness, and the interaction between them on the valence of the reviews.

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Insert Table 5 around here

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As we predicted in H1, product originality generated more online WOM (led to a greater number of reviews). Usefulness did not have an effect on the number of the reviews, and the interaction was not significant either ( $p$ 's > .10). The lack of an effect of usefulness on the amount of WOM is consistent with H3, as people who visit a page for a specific product on the Amazon website are already aware of the product. Therefore, there is no need to spread WOM to inform them of this product.

Because it is possible that originality leads to more reviews because original products generate more sales (and therefore more reviews), we controlled for sales by adding the demand calculated from sales rank to the regression (model B). The effect of demand was not significant, and the regression results did not change substantively. Moreover, the correlation between originality and demand is negative and not significant ( $r = -.12, p > .10$ ), leading us to rule out this alternative explanation.<sup>6</sup>

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<sup>6</sup> Note that demand did not have a significant effect on the number of reviews although it would be expected that if a product is purchased by more people, it will receive more reviews. An exploration of the whole data, including the three outliers that had a very high number of reviews, showed that there is a significant correlation between reviews

Regarding the valence of WOM, consumers' reviews confirmed our hypotheses that usefulness determines the valence of WOM (H2) and originality intensifies this effect by leading to relatively more positively valenced WOM when usefulness is high and to relatively more negatively valenced WOM when usefulness is low (H4, see Figure 5).

Interestingly, this study showed a main effect for product originality on the valence of WOM, indicating that in general the reviews were more positively valenced for original products, although they were still negatively valenced for original but not useful products, as we predicted. It is possible that people feel more comfortable to comment online about what they like (and complain about what they dislike to their friends) or that those who comment online are gadget lovers and are less critical about innovations. It is interesting to explore further the differences between online and offline WOM, although, in general, Study 4's results of online WOM are very similar to the results of Studies 1-3 that measured self-reported WOM.

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Insert Figure 5 around here

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Study 4 used a field setting to confirm that usefulness and originality have different effects on WOM, as measured by online product reviews. Original products generate WOM, whereas useful products determine the valence of that WOM, leading to the interaction between originality and usefulness. The study also indicates that the intention to spread WOM, as reported by consumers, is reflected in actual online WOM behavior.

## **7. General Discussion**

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and demand ( $r = .56, p < .01$ ). The products that had extremely large number of reviews indeed had a much higher demand as well.

This paper examined two product dimensions, originality and usefulness, and their different roles in generating WOM communications about the product. The literature in marketing claims that in many cases WOM is crucial to product success, as are originality and usefulness. It is therefore interesting to understand whether and how these product dimensions affect WOM, enabling marketers to manage WOM to their advantage.

We used a set of four studies that examined the same hypotheses using different methods. Although each of these studies may naturally have limitations, together they provide a coherent picture of the effects of originality and usefulness and point to the same conclusions. A summary of the results of the different studies is presented in Table 6.

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Insert Table 6 around here

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We showed that originality and usefulness affect WOM differently: although product originality increases consumers' willingness to exchange information and WOM (positively and negatively valenced) about the product, product usefulness, by determining the attitude towards the products, is responsible for the valence of WOM (positive or negative), but usefulness may also lead to WOM if consumers believe that it may benefit others.

Importantly, the results consistently confirmed an interaction between originality and usefulness on the valence of WOM such that originality strengthens the effect of usefulness (see Table 6 and Figures 1, 2, 4, and 5). The combination of high originality and high usefulness leads to relatively higher levels of positively valenced WOM, whereas the combination of high originality and low usefulness leads to relatively higher levels of negatively valenced WOM. In addition, Study 4 confirmed that the results observed with self-reported intentions to spread WOM in Studies 1–3 are reliably observed when examining actual online WOM behavior.

The results of studies 1 to 4 qualify the findings of previous studies and common practice that stressed the importance of originality in product success (Carpenter, Glazer, & Nakamoto, 1994; Henard & Szymanski, 2001; Mishra et al., 1996). Positive WOM about the product is likely to be related to product success, whereas negative WOM to product failure (East et al., 2008): positive WOM can directly lead to success by influencing others into adoption, but it also implies that consumers are satisfied with the product. Negative WOM has the opposite effect. Originality can lead to either positively or negatively valenced WOM and therefore may not lead to product success on its own. Originality increases the buzz about a product, which can accelerate the diffusion of product knowledge in the market. This may explain why originality, “the buzz generator,” is perceived to be so important, and leads to higher firm value in the eyes of shareholders (Srinivasan, Pauwels, Silva-Risso, & Hanssens, 2009). However, it is usefulness and not originality that determines the valence of WOM and may therefore lead to product success. If the product is also useful, originality will lead to positively valenced WOM and can lead to product success. However, if the product is not useful, its originality can lead to negatively valenced WOM and might lead to failure.

This research is limited to the two product dimensions, originality and usefulness, which have been found to be the major product dimensions driving new product success. However, other product dimensions, such as complexity (Mishra et al., 1996) and cost (e.g., Cooper, 1979; Gatignon & Xuereb, 1997), have also been shown to be related to new product success. Moreover, Rogers (1995) has suggested dimensions of new products such as compatibility, trialability, observability, and perceived risk as also being important determinants of new product success. Originality and usefulness capture some of the other dimensions (for example, a complex product is likely to be less useful, as it is hard to use, and an original product may be

associated with a higher risk). However, it would be interesting for future research to explore other product dimensions that can affect WOM about the product. In addition, future research can extend our finding to non-functional products (e.g., games, art, or haute couture) and examine what motivates consumers to spread WOM about them. Future research should also explore other antecedents of WOM, such as the characteristics of the provider and the receiver of WOM and the differences between consumer types (e.g., experts, opinion leaders, and early adopters) and WOM behavior.

*Implications for Theory and Practice.* Our research contributes to both theory and practice. Both the academic and practitioner literature acknowledge the importance of WOM but suggest that although it is desired, it is uncontrollable (e.g., Bayus, 1985). This research contributes to the literature by showing that WOM can be managed and controlled using the key dimensions of new product design, originality and usefulness.

From the point of view of contributions to theory, we show that originality and usefulness have different roles in generating WOM. Whereas previous studies have extensively examined these two dimensions separately, for the first time, we explored a detailed model of the two dimensions together, the interaction between them, and their effect on the amount and valence of WOM. We looked at the model from different perspectives, starting from the intention to spread WOM, as reported by consumers, how they can be manipulated in the lab, and how they are reflected in actual WOM online. The set of hypotheses and studies have drawn a coherent representation of the effects of these two dimensions, and they integrate into previous studies and practices to resolve some inconsistencies regarding the positive or negative effects of originality: whereas some studies show a positive effect of originality, others have found that originality can lead to failure (see Szymanski et al., 2007). We claim that originality may lead to positively or

negatively valenced WOM, as it increases interest in spreading WOM but does not determine the valence of this WOM. This may explain why, on some occasions, specifically, when usefulness is low, originality might lead to failure. Further research should explore the effect of originality, usefulness, and the interaction between them on product success because in many cases, these dimensions were grouped into one construct, which led to the misleading conclusion that both equally lead to success (e.g., Cooper, 1979).

Application of our findings can assist in managing WOM about a product by controlling the levels of usefulness and originality during product design and by influencing their perceptions at product launch. Marketers should stress both the originality and the usefulness of the product to generate high amounts of positively valenced WOM. Focusing on the novelty of the product alone might backfire if consumers cannot see its utility.

In addition, the findings suggest that launching a highly original product that has limited, premature, or defective functions might create high levels of negatively valenced WOM, which can lead to product failure and might block the market for future product generations or improved models, as in the case of the Newton PDA.

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