

# **Effect of word of mouth on consumer attitudes and the intention to adopt innovations: A conceptual framework on the moderating role of innovation attributes**

## **Abstract**

Word of mouth (WOM) is a critical factor that influences launch of new products in the market. There is a vast amount of literature on WOM related to WOM sender, but the receiver's side of WOM needs more analysis. This paper proposes a conceptual model and a number of research propositions that analyzes the influence of a number of WOM dimensions (sender's similarity, sender's expertise, valence, and strength) on consumer attitudes towards new products. Consistent with cognitive theories, the link between consumer attitudes, behavioral intention to adopt an innovation, and the actual purchase are discussed. Following, the relationship between consumer attitudes and behavioral intentions is explained as well as the link between intentions and actual purchase decisions, *i.e.* adoption. A contribution of this paper is to include innovation attributes (relative advantage, compatibility, complexity, trialability, and observability), as moderating variables so the strength between the variables in the working hypotheses can be better understood. Implications for model testing, theory development and managerial issues are discussed. We finally suggest interesting future research avenues.

**Key words:** Word of mouth; Attitudes; Behavioral intention, Adoption; Innovation attributes.

# 1. Introduction

Word of mouth (WOM) is shaping consumer behavior beyond the simple act of acquiring a product or a service. There has been a renewed interest to understand customers' interaction in view of the latest growth of communication channels besides in-person encounters, such as social network sites, blogs, and online reviews. Recent studies show that 91 per cent of car buyers report to have taken a friend or family recommendation before making a purchase decision while 87 per cent consider that friend and family comments influences their personal opinions on car brands (Crowdtap, 2015). The foundation of Word of Mouth Marketing Association (WOMMA) that attempts to spread the knowledge and practices on WOM is one among several examples of the attentions from practitioners to WOM.

Three important research streams can be identified from the vast existing research literature on WOM. On one hand, the WOM sender's perspective focuses on what factors lead customers to share messages about a product or service to other individuals. Aspects as brand love, brand image (Rageh and Spinelli, 2012), interest, accessibility, and time horizons (Berger and Schwartz, 2011) are analyzed. On the other hand the WOM receiver's perspective involves comparatively less literature. This perspective attempts to analyze how consumer behavior is altered when specific messages are received. For example, how referrals lead to customer acquisition (Wangenheim and Bayón, 2007), or how valence intensity affect shopping behavior (Flo et al. 2013) can be included in this stream. Noteworthy, the third stream refers to theoretical models and reviews that attempts to expand the current knowledge on WOM (Libai et al., 2010; Berger, 2014). This paper belongs to this theoretical stream.

Drawing on cognitive models as theory of reasoned action and theory of planned behavior (Fishbein and Ajzen, 1975; Ajzen, 2012), this paper proposes a conceptual framework linking WOM with consumer attitudes and consumer intentions to adopt innovative products.

Innovation attributes moderate the relationships between WOM and consumer attitudes and consumer attitudes to behavioral intentions to adopt an innovation. To complement such views, theory on diffusion of innovation (Rogers, 1983) has been included in the model to assess the moderating role of innovation attributes.

In summary, through the use of diffusion of innovation theory and cognitive theories, we propose a conceptual framework that aims to: 1) to analyze the relationship between WOM and consumer's attitudes towards the innovation, 2) to analyze how innovation attributes, *i.e.* relative advantage, compatibility, complexity, triability, and observability moderate the relationship between WOM and consumer's attitudes towards the innovation, and 3) to analyze how innovation attributes, *i.e.* relative advantage, compatibility, complexity, triability, and observability moderate the relationship between consumer's attitudes towards the innovation and consumer's behavioral intention to adopt the innovation.

This paper is structured as follows: Section 2 reviews the constructs and develops a set of research propositions interlinked in a conceptual framework. Next, Section 3 discusses the implications of the research framework ranging from model testing to implications for researchers and practitioners. Finally, the paper concludes with some research directions in Section 4.

## **2. Literature review and conceptual framework**

This section describes the conceptual definitions and theoretical background for each construct to be included in the conceptual research framework. Additionally, working hypotheses are developed for all constructs. Consistent with existing cognitive theories such as Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB), we take WOM as a critical influence of consumer's attitudes.

## **2.1 Antecedent construct: Word of mouth (WOM)**

Word of mouth refers to casual communications individuals direct at other individuals regarding the ownership, usage, or characteristics of a particular product or service or their suppliers (Westbrook, 1987). WOM has been traditionally assessed as peer-to-peer in-person conversations and more recently, electronic WOM (eWOM) or virtual WOM (vWOM) has emerged as recommendations and mentions of products and services in social network sites, blogs, and online product reviews have arisen (Li and Zhan, 2011). Currently, WOM and eWOM have evolved into different construct with distinctive features for WOM and eWOM, see for example Floh et al. (2013) and Wu and Wang (2011). For a purpose of clarity, for the remainder of the paper, we will use the term WOM to encompass in-person WOM as well as eWOM.

Literature on diffusion of innovation (Rogers, 2003) has emphasized the importance of messages, communication channels, and flow of leaders' opinions as means to foster the diffusion of a new product. Moreover, theory of reasoned action and theory of planned behavior have also included subjective norms as the social pressures exerted to the consumer (Ajzen, 2012). Such models assume that consumers will alter their current knowledge about a product or service from exchanging messages with other individuals. However, the attention aimed at the WOM receiver's side has been comparatively lower than that of the WOM sender's side. This paper focuses on receiver's WOM dimensions that affect consumer attitudes and adoption intentions of consumers.

## **2.2 Focal construct: Consumer attitudes**

Attitudes are the core attributes of cognitive theories as theory of reasoned action and theory of planned behavior. These theories focus on the role that attitudes play in the formation of specific intentions that leads to performing given observable behaviors. Attitudes are

favorable or unfavorable assessments of the outcomes that performing a particular behavior will produce (Fishbein and Ajzen, 1975), *e.g.* adopting technological innovations. This evaluative outcome is critical to the person's attitude. Individual attitudes are based on the person's expectations or beliefs related to the object, *i.e.* the innovation. TRA does not necessarily need the individual to be rational but to assess attitudes departing from the current knowledge and expectations regarding the object attitude, not by the actual innovation attributes. Hence, the beliefs consumers hold about a product may be biased or inaccurate, affecting in turn, consumer's decision making process (Ajzen, 2012). Besides beliefs, consumers are also influenced by messages received in the forms of subjective norms that receive from their near social network. Therefore, critical WOM dimensions become prominent in formation of consumer attitudes. Consistent with the cognitive theories previously discussed, the following WOM features are related to consumers' attitudes building.

*Sender's similarity (homophily)*: Homophily is the degree to which individuals in a social system tend to link more with the ones who share similar features to them than those individuals who are dissimilar in terms of belonging to some set of geographical or social features (McPherson et al., 2001). A number of frameworks substantiate why similar individuals relate to other similar individuals. For example, social network theory explains that strong personal ties are associated to a low level of informative exchange while weak ties include a high volume of information interchange which makes these ties more valuable in analyzing the influence that information has on group organization and communication patterns (Granovetter, 1973). Similarly, micro level interactions ("who-told-whom") give the same weight strong and more similar ties in reference to WOM exchanging (Brown and Reingen, 1987). Rogers (1983) explain that when a novel medical product was launched, doctors relied on previous experiences of other doctors as interchanged through interpersonal

networks, before prescribing the drug. The source-attractiveness framework (Kelman, 1961) maintains that receivers are more prone to identify themselves to senders more similar to them. Hence, from the previous discussion the next research proposition can be framed:

*RP1: Consumers with higher similarity with WOM senders are more likely to develop more positive attitudes towards an innovation.*

*Sender's expertise:* "Expertise is the knowledge a source possesses" about a product or service (Gilly et al., 1998). It has long been acknowledged that messages on objective knowledge about a product influence receiver's actions (Bansal and Voyer, 2000; Gilliy et al., 1998; Wangenheim and Bayón, 2007). Rogers (1983) argues that opinion leaders are able to influence others' attitudes and behaviors by informally exchange messages about innovations. While expertise may not explicitly look for sharing opinion, opinion leaders are considered are seen as experts in reference to a given product (Wangenheim and Bayón, 2007). Nonetheless, both terms converge in that certain individuals possess expert knowledge that, whether consulted or not, clearly influences other individuals' attitudes when diffusion their cumulative knowledge. Consumer's decisions resemble opinion leaders' opinion since they are considered to be of high quality (Gilly et al., 1998). Therefore, the next research proposal is framed:

*RP2: Consumers who perceive a higher degree of expertise in WOM senders are more likely to develop more favorable attitudes towards an innovation.*

*WOM valence:* Studies addressing WOM effects indicate its valence as whether a message conveys a positive or negative opinion about a product or service (East et al., 2007; East et al., 2008). Researchers assign a more widespread prevalence to negative WOM (Laczniak et al., 2001; Naylor and Kleiser, 2000) but recent studies challenge that finding (East, 2007). Studies suggest that valence needs to be analyzed not as a binary variable which does not reflect how

actual messages are conveyed but as a continuous variable which leads to a range of WOM valence as perceived by consumers (Floh et al., 2013). In some studies, it seems that appearance of both, positive WOM and negative WOM, are related to product categories and incumbent brands (East, 2007), and website type (Lee et al., 2009) but the overall effect of valence is not yet clear. It appears that WOM valence needs clarification in relationship with the attitudes that arise from WOM valence and the related adoption decision, that is, consumer attitudes towards a novel product rather than with incumbent products. Hence, the next research proposition is framed:

*RP3: Consumers who receive negative WOM are more likely to develop unfavorable attitudes towards an innovation.*

*WOM strength:* WOM Strength refers to the intensity to which a message about a product is shared with people (Lai and Zhang, 2011). The way a message is shared among the social networks influences the receiver. Particularly, the choice of powerful words as “fantastic” or “outrageous” affect WOM receivers, making stronger the message, which in turn affect purchase intentions (Sweeney et al., 2008). In online settings, the strength of the conveyed message relates to intensity of words in the written opinion or referral (Floh et al., 2013). It is assumed that the stronger the WOM message, the more impacting on consumers attitudes, but some studies suggest that extremely negative WOM has a more powerful impact on consumers than moderately negative and extremely positive WOM (Lee et al., 2009). Apparently, existing literature lacks enough evidence to provide a more definite relationship between WOM strength and the development of consumer’s attitudes given that extremely strong messages may hinder the real strength of the message because they develop a negative reaction in the receiver. This discussion leads to the following research proposal:

*RP4: Consumers who receive weaker WOM are more likely to develop more negative attitudes towards an innovation.*

### **2.3 Outcome: Consumer behavioral intention**

Behavioral intentions refer to the “immediate antecedent” of performing a behavior which in the context of consumers is associated to purchase decisions, *i.e.* buy a brand or product or shopping at a retail store (Ajzen, 2012). Existing literature has substantiated the link between intentions and actual behaviors mostly when measurement of intentions is more specific, including context, action, target, and time frame (Ajzen, 2012). Favorable attitudes towards a product create strong intentions to purchase it, given a sufficient level of perceived behavioral control (Ajzen, 1991). Intentions sometimes substitute behavioral measures of purchase decision making, for example when considering consumer innovativeness measurements (Goldsmith and Hofacker, 1991; Roehrich, 2004). The following research proposition depicts the relationship between consumer attitudes and behavioral intentions to adopt innovation that has been proposed by cognitive theories and widely tested in empirical papers:

*RP5: Consumers who develop more positive attitudes towards an innovation are more likely to adopt such innovation.*

*Adoption decision:* Besides using behavioral intention as a proxy to understand adoption behavior, the adoption decision, that is, if consumers buy a certain brand or product instead of another is an observable measure of actual consumer behavior. Adoption behavior has been conceptualized through a number of views ranging from how early individuals adopt an innovation (Rogers, 1983), consumer actions (Rajagopal, 2010), and ownership of innovations (Im et al., 2003). Most of literature relies on consumer intentions to explain purchase likelihood but observable behaviors should be analyzed because they ultimately resemble actual consumer decisions and the issues associated to stated preferences are

eliminated. Hence, the following research proposition links consumer's behavioral intention with actual adoption:

*RP6: Consumers who express higher positive intentions to adopt an innovation are more likely to adopt such innovation.*

## **2.4 Moderating variables: Innovation attributes**

In the following discussion on innovation attributes, we refer to the diffusion of innovations theory (Rogers, 1993) over other models since the innovation attributes have been extensively researched with consistent results across industries and new products (Li and Chen, 2012; Huang and Hsieh, 2012; Karayanni, 2003; Wang, 2014).

*Relative advantage:* Relative advantage is defined as the “degree to which an innovation is perceived as being better than the idea it supersedes” (Rogers, 1993). Products can exhibit such relative advantage in a number of dimensions rather than considering only the economic one. Social dimensions as status reach (Kastanakis and Balabanis, 2012), time and effort savings (Lai and Chang, 2011), and symbolic use of the innovations (Hart et al., 2013) are also aspects that provide relatively higher advantage in spite of other types of value. Relative advantage is dependent on the type of innovation under review. For example, consumers hesitate to adopt cloud services if they perceive the service to have an uncertain level of relative advantage since such relative advantage, whether technical or economic, is not obvious and significant for the user to make a purchase decision (Lin and Chen, 2012). Online shopping through social networks encompasses trust, convenience, and information quality as part of the perceived relative advantage (Ho and Vogel, 2014). Therefore, we frame the following research proposition:

*RP7a: The relationship between WOM and consumer attitudes is stronger for innovations presenting higher relative advantage.*

*RP7b: The relationship between consumer attitudes and consumer intention is stronger for innovations presenting higher relative advantage.*

*Compatibility:* Compatibility is the degree to which the innovation is consistent with the existing socio-economic framework of values, beliefs, previous ideas, and needs (Rogers, 1983). For example, adoption of web platforms to shop online by direct buyers is found to be compatible with an previously existing life style related to web browsing activities, time consciousness, and time saving (Karayanni, 2003). Similarly, the difference of reading paper-based book and electronic books is prone to be explained through the compatibility attribute. Electronic books have new functionalities as low weight, Wi-Fi enabled, and customizable functions that modify the more habitual reading experience. However, users may not adopt new electronic books unless the new way of reading matches the traditional features of reading a printed book (Lai and Chang, 2011; Huang and Hsieh, 2012), a context in which learning new skills is avoided or reduced (Molina-Castillo et al., 2012). A higher level of device interactivity and adaptability are aspects related to compatibility attributes that fosters adoption decision of a range of smart products given their product smartness (Rijsdijk and Hultink, 2009). Therefore, we propose:

*RP8a: The relationship between WOM and consumer attitudes is weaker for less compatible products.*

*RP8b: The relationship between consumer attitudes and consumer intention is weaker for less compatible products.*

*Complexity:* Complexity is the extent to which consumers find perceive a product as difficult to understand and use (Rogers, 1993). Products that involves a high number of components

(whether tangible products or services), degree of interaction between them, levels of variety, and degree of order are perceived as more complex (Nordin et al., 2013). Similarly, complex products that consumers perceive as having human-like (anthropomorphic) attributes in the sense of variety, parts, materials, and functions are more likely to be adopted rather than simple products in which the consumer-product interaction is less prone to deliver value to consumer (Hart et al., 2013). Consumers experience higher degrees of risk when they evaluate and decide the purchase of an innovative product (Rogers, 1993). Complex products are related to a high degree of perceived risk because consumers they are uncertain of the benefits and product quality they would receive through advertising messages; only when consumers received suitable messages regarding the product quality, they develop trust and more likelihood to adopt the product (Molina-Castillo et al., 2012). A product perceived as complex and ambiguous is associated to a level of uncertainty that results in delaying adoption decision and develops negative emotions (Hassan et al., 2013). In contrast, perceived ease of use is the degree to which consumers believe that using a specific system (or product) would be free of efforts (Davis 1989; Davis et al., 1989). Users anchor the perceptions they have on the use of a specific system (or product) to then adjust such perceptions on ease of use through hands-on experience on the new system (Venkatesh, 2000). Therefore, we propose:

*RP9a: The relationship between WOM and consumer attitudes is stronger for less complex products.*

*RP9b: The relationship between consumer attitudes and consumer intention is stronger for less complex products.*

*Trialability.* Trialability is the extent to which consumers can experience an innovation by themselves over a given period of time (Rogers, 1993) before making a purchase decision. Existing literature agrees on that consumers' intention is directly influenced by the triability

levels they can experience beforehand (Jung et al., 2012; Li, 2014; Hayes et al., 2015) but also trialability has also indirect relationship with the consumer's behavioral intention through consumer's perceived control (Wang, 2014) and information gathering cost saving (Chau and Ho, 2008). In addition, in situations of perceived high risk, for trialability to link with behavioral intentions, a decision process involving trying out the product, getting the outcome of the trial, and assessing such outcome has to occur (Banerjee et al., 2012). Hence, we propose:

*RP10a: The relationship between WOM and consumer attitudes is stronger for innovations with high trialability.*

*RP10b: The relationship between consumer attitudes and consumer intention is stronger for innovations with high trialability,*

*Observability.* Observability refers to the degree to which the results from consuming an innovation are visible and easily communicable to others (Rogers, 1993). Rogers argues that the more observable an innovation, the more likely it is adopted, under the assumption that such innovation has social benefits to the user. For example, more autonomous products such as smart phones may be perceived as having more observable attributes and adaptability to consumer's needs which results in a higher likelihood of adoption by other members of the social network (Rijsdijk and Hultink, 2009) across adopters and non-adopters (Strutton et al., 2011). In this line, marketing actions as product demonstrations may serve the purpose of achieving awareness on the innovation's benefits (Greenhalgh et al., 2004). Systematic reviews present mixed findings for observability ranging from strong effects on behavioral intentions (Overstreet, 2013) to non-existent influence (Wisdom, 2014). Therefore, the following proposition is framed:

*RQ11a: The relationship between WOM and consumer attitudes is weaker for products with lower observability.*

*RQ11b: The relationship between consumer attitudes and consumer intentions is weaker for products with lower observability.*

Figure 1 presents a research framework that summarizes the hypotheses between WOM, consumer attitudes, consumer intention, and actual adoption as moderated by innovation attributes.

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In summary, WOM dimensions alter consumer's attitudes towards new products which, in turn, influence behavioral intentions to adopt such product. Intentions are modeled as predictor of actual purchases. Innovation attributes moderate the relationships between WOM and consumer attitudes, and consumer attitudes and intentions.

### **3. Discussion**

The objective of this paper is to provide a framework to analyze the relationships between word of mouth received by consumers and its influence on consumer's attitudes, behavioral intentions, and purchase behavior with considering innovation attributes as moderating variables. Now we turn to issues on empirical testing and implications.

#### **3.1 Prospects for empirical testing**

Measurement items related to the constructs detailed in the previous sections can be seen as discrete or continuous variables. Consistent with this notion, data analysis techniques as linear regression to test individual influences in the research frameworks and structural equations to assess the complete set of direct and moderating effect of variables on others can be useful.

Data can be collected using online and paper-and-pen questionnaires with a standard 5-7-points Likert scale. Questionnaire items can be derived from existing literature in which previously scales have been validated in terms of constructs reliability and validity.

An important methodological aspect for theory testing is to consider innovation attributes as higher-order construct with compatibility, complexity etc. as lower-order components. This approach has the advantage to motivate why attitudes in general have a significant effect on attitudes toward innovation adoption rather than explaining every component of these attitudes. Including innovation attributes as a higher-order construct would also reduce the sample size requirement.

### **3.2 Implications for theory development**

This study has implications for theory development. Existing literature is focused on WOM's sender features as summarized in reviews, see for example Berger (2014). In contrast, this paper contributes to the existing literature on WOM receiver's side by including relevant WOM aspects that shape consumer's attitudes. The research framework also proposes that the strength of links between WOM and consumer's attitudes as well as the link between consumer's attitudes and consumer's intentions are moderated by innovation attributes, thus, building on previous calls for research (Libai et al., 2010). Extending the perspective of cognitive theories that assume that consumer's intentions are the best predictor of actual behavior, this framework includes a link between consumer's behavioral intentions and actual adoption, in order to avoid this assumption. The previous argument was developed given that early adopters (Rogers, 1983) represent only a small percentage of consumers who are risk adept and thus, willing to experiment with innovative products.

### **3.3 Managerial implications**

This conceptual paper also has implications for practitioners. As consumers spread WOM through in-person (physical encounters) and on-line interactions (social networks sites, blogs, virtual product reviews), managers need to understand how different dimensions of WOM drive a range of consumer's attitudes towards their products. This is important since our framework suggests that consumer's attitudes influences intentions to buy innovative products and eventually, to perform the actual adoption. Besides, on one hand, as innovation attributes moderate the strength to which WOM has on consumer's attitudes, managers may want to engage targeting consumers with specific WOM so consumers develop positive attitudes towards a product. On the other hand, innovation attributes also moderates the link between consumer's attitudes towards an innovative product transform into intentions to adopt it, therefore, managers may want to develop a bundle of products with features consistent with consumers' needs. For example, more compatible and less complex innovations may increase consumer's intentions to adopt which have a positive outcome on actual adoption.

#### **4. Conclusion**

This study has proposed a number of research propositions within the boundaries set by the research objectives. However, for parsimony purposes, the framework presented is intended to test only limited number of propositions instead of including all possible constructs available in literature (antecedents, moderators, and consequences) for WOM, consumer attitudes, and behavioral intentions to adopt an innovation.

Future studies may attempt to analyze WOM influence on consumer's attitudes and behavioral intentions from other perspectives as the moderating influences of channels through the WOM flows from senders to receivers, the current firm's marketing mix, or the market structure. Besides, the personality traits also become paramount in explaining the impact of WOM on attitudes and behaviors. We hope this paper starts a fruitful discussion.

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## Append

Figure 1.

Research framework to analyze the impact of WOM in consumer's attitudes and consumer's intentions with innovation attributes as moderators.

