

# The Effect of Received Word-of-Mouth on Consumer Emotions and Choice

Findings from a Service Industry

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Document Version Final published version

Published in: Creating a Sustainable Future through Quality

Publication date: 2015

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Citation for published version (APA): Martensen, A., & Grønholdt, L. (2015). The Effect of Received Word-of-Mouth on Consumer Emotions and Choice: Findings from a Service Industry. In S. M. Dahlgaard-Park, & J. J. Dahlgaard (Eds.), *Creating a Sustainable Future through Quality: October 12-14, 2015, Yonsei University, Seoul, Korea* Lund University.

Link to publication in CBS Research Portal

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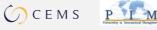
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Download date: 04. Jul. 2025









Paper presented at the 18<sup>th</sup> QMOD-ICQSS International Conference on Quality and Service Sciences, 12-14 October 2015, Yonsei University, Seoul, Korea

Winner of the Best Paper Award

# The effect of received word-of-mouth on consumer emotions and choice: Findings from a service industry

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## Abstract

**Purpose** – The purpose of this paper is to examine how received word-of-mouth (WOM) influence consumer emotions and, in turn, behavioral attitude and intention.

**Methodology/approach** – A conceptual model is developed by extending the theory of reasoned action framework to include WOM and emotions. The conceptual model is operationalized by a structural equation model, and the model is estimated and tested by using the partial least squares method. A survey among 509 consumers in Denmark forms the empirical basis for the study.

**Findings** – The study finds that positive and negative WOM has an asymmetric influence on emotions, behavioral attitude and intention, i.e., consumers respond differently to positive and negative WOM. The study also finds that positive WOM has a larger impact on behavioral attitude and intention than the social norm and that negative WOM has an impact equal to social norm. Furthermore, the study finds that emotions are an important mediator for both WOM and social norm. The findings provide strong empirical evidence for the developed model.

Research limitations – The study is limited to a large travel agency in Denmark.

**Practical implications** – This study has clear implications in terms of measuring the importance of WOM and emotions in consumer decision making. It can be a useful basis for a practical WOM marketing strategy, which is a critical and rising element in customer-focused companies' marketing strategy. The marketers should stimulate and provide content for PWOM, while attempting to manage and reduce NWOM.

**Originality/value** – This paper provides new insights into how WOM works and the interplay between WOM, emotions and social norm in consumer decision making.

**Key words** Word-of-mouth, Emotions, Social norm, Behavioral attitude, Behavioral intention, Structural equation modeling

Paper type Research paper

# Introduction

Word-of-mouth (WOM), i.e., consumer-to-consumer communication, has received great attention from researchers and practitioners for many years. A growing influence of WOM has been demonstrated through much research (Allsop et al., 2007; Bruyen and Lilien, 2008; Prendergast et al., 2010). Recent empirical findings indicate that WOM referrals have longer carryover effects than traditional marketing actions and produce higher response elasticities (Trusov et al., 2009). Also practitioners have shown interest in measuring WOM conversations and the power of WOM (Bughin et al., 2010; Keller, 2007; Keller and Fay, 2012).

WOM is generally regarded as the informal exchange of purchase-related, consumptionrelated and experience-related information between consumers (Chu and Kim, 2011; Hennig-Thurau et al., 2004; Söderlund and Rosengren, 2007). WOM can be positive (PWOM) or negative (NWOM). PWOM encourages brand choice and is expected to impact consumer responses positively, while NWOM discourages brand choice and is expected to have a negative impact (Anderson, 1998; Bruyn and Lilien, 2008; Gildin, 2002).

The purpose of this study is to provide an extension of the classic and widely used theory of reasoned action (TRA) model by adding WOM (both PWOM and NWOM) and emotions (both positive and negative emotions). The relevance and importance of this approach is that it will reveal the influence of WOM compared to the influence of social norm. It will also demonstrate consumers' responsiveness to PWOM as well as NWOM on emotions, behavioral attitude and intention. Finally, the study will investigate the role of including emotions as mediator for WOM and social norm.

The study attempts to fill several research gaps argued for in the literature. First, WOM has long been recognized as a powerful influence on the consumer buying decision process (Bansal and Voyer, 2000; Bone, 1995; Day, 1971; Mangold et al., 1999; Price and Feick, 1984; Wagenheim, 2005). But only a limited number of studies have focused on "what happens when WOM is received or on the conditions in which WOM will be most effective in enhancing a receiver's perceptions or actions" (Sweeney et al., 2008, p. 344). Also Bone (1995) and Brown and Reingen (1987) call for more research on the influence of WOM on the receiver. Thus this study will focus on the receiver of WOM.

Second, several studies have examined how the well-recognized TRA (Ajzen, 1991; Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975) can be extended to improve the explanatory power of behavioral intention (e.g., Conner and Armitage, 1998; Hansen, 2008; Langdridge et al., 2007). We will contribute to this consumer research stream.

The TRA proposes that a consumer's behavioral intention depends on the consumer's behavioral attitude and social norm. The attitude towards the behavior is "the general feeling of favorableness or unfavorableness for that behavior" (Kotler et al., 2012, p. 280). Social norm refers to the consumer's "perceived opinion of other people in relation to the behavior in question" (Kotler et al., 2012, p. 280), i.e., perception of social pressure from significant others to perform, or not to perform, a certain behavior (Ajzen, 1991, p. 199; Langdridge et al., 2007, p. 1441). Social norm is created in a social context, and WOM is interpersonal communication in a social context. So the social influence operates through both social norm and WOM. The question is: How work these two social phenomena simultaneously? What are

the relative influences of social norm and WOM? These questions will be answered by extending TRA with WOM.

Third, Hansen (2005), Shiv and Fedorikhin (1999), and Weber et al. (1998) state that consumers may use multiple approaches to their decision processes, i.e., both a cognitive and an affective approach, which has to be reflected in the models that attempt to describe such a process. TRA is limited by looking only at the consumer's more rational and cognitive driven evaluation of buying intention and behavior, leaving out the emotional influence on behavior. Eagly and Chaiken (1993) point out, that affect and attitude are two distinct concepts. This has resulted in Perugini and Bagozzi (2001) suggesting an extension of the theory of planned behavior, where positive and negative emotions are included. Based on this discussion we include emotions in the extended TRA model. However, no previous study has focused on how WOM and social norm influence the receiver's emotions. The question is: Is it relevant to include emotions as a mediator for WOM and social norm when studying a receiver's behavioral attitude and intention?

Last, the central issue of how to put all the pieces of important knowledge together remains in dispute. Previous research has studied the elements separately but the question of how to draw up a holistic framework is still unsolved. We will focus on such a simultaneous estimation and test of the proposed conceptual model. As Langdridge et al. (2007, p. 1889) state: "A simultaneous test is important (a) to ensure that all of these additional variables are conceptually distinct from each other, and (b) to determine which additional variables, if any, qualify as additional predictors in the TRA".

The paper is structured as follows. First, we develop appropriate hypotheses and a conceptual framework. Second, the research methodology is presented, including measures development, data collection and statistical analyzing approach. Third, the results of data analysis are presented. Fourth, the findings are discussed and practical implications are addressed. Finally, we conclude with contributions, limitations and suggestions for further research.

# Conceptual model and hypotheses development

To study the influence of WOM and social norm on emotions, behavioral attitude and intention we develop and empirically test the conceptual model shown in Figure 1. Some of the hypotheses proposed have been investigated thoroughly by other researchers, for instance, the relationships between behavioral attitude, intention and social norm in the TRA model (e.g., Ajzen, 1991; Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975; Godin and Kok, 1996; Kim and Hunter, 1993; Sheeran and Taylor, 1999). Therefore, further elaboration is not necessary for the well-documented TRA hypotheses, depicted in the right side of Figure 1:

*H1:* Behavioral attitude has a positive effect on behavioral intention H2d: Social norm has a positive effect on behavioral intention

In some TRA studies is also a path from social norm to behavioral attitude, which have improved the predictive power of behavioral intention (e.g., Chang, 1998; Hansen et al., 2004; Langdridge et al., 2007; Shimp & Kavas, 1984). Thus:

H2c: Social norm has a positive effect on behavioral attitude

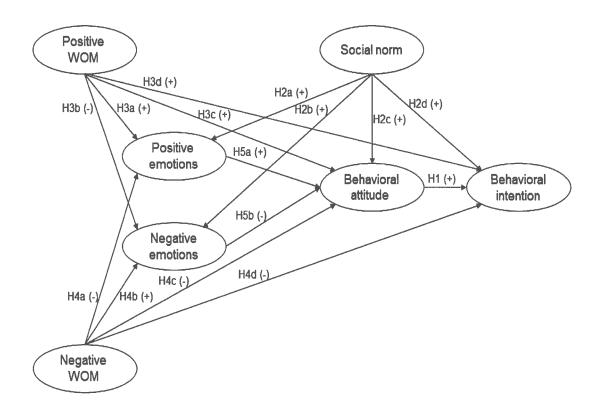


Figure 1. The conceptual model

In the following, we will discuss WOM and emotions, as well as the relationships that can be hypothesized between these and the TRA variables in the model.

#### Positive and negative WOM

Previous research shows that consumers respond asymmetrically to PWOM and NWOM. Some researchers argue that consumers are more prone to believe negative information than positive, indicating that NWOM is more powerful than PWOM. This is supported by the accessibility-diagnosticity theory (Fiske, 1980), the prospect theory (Kahneman and Tversky, 1979), and several empirical studies (Arndt, 1967; Burzynski and Bayer, 1977; Chevalier and Mayzlin, 2006; East et al., 2007; Fiske, 1980; Laczniak, 2001; Mizerski, 1982; Wright, 1974) even when the amount of PWOM exceeds the amount of NWOM (East et al., 2007; Keller, 2007; Mittal and Lassar, 1998; Peterson et al., 1992).

Arndt (1967) found that NWOM had twice the effect on purchase intention as PWOM. Nevertheless, he studied only one brand, which is criticized by East et al. (2008) who state that systematic research has to be carried out across brands and industries in order to make valid conclusions.

Other researches argue that PWOM has a greater effect than NWOM based on theories of brand loyalty and familiarity. Loyal customers like the brand and prefer it to others, and PWOM gives rise to mental justification and supports and confirms the consumer's current choice of brand. This will lead to a state of mental balance. Loyal consumers may be less likely to accept or notice NWOM about the brand since it may lead to a state of mental imbalance and result in dissonance. NWOM will contradict previous beliefs, attitudes and behavior, and to re-establish mental balance, the consumer may have to change her/his beliefs, attitude or behavior or alternatively downplay the negative information. This line of research suggests that a similar reasoning can be applied to consumers who are familiar with the brand and prior have a positive perception of the brand. In an empirical study East et al. (2008) find that PWOM is 76% more influential than NWOM within established product categories and well-known brands.

Yet other researchers like Ahluwalia et al. (2000) find that the impact of PWOM and NWOM on consumers' brand attitudes and purchase intentions are of the same size.

Hence, previous research lacks general conclusions about the asymmetrical direction of PWOM's and NWOM's influence on consumer responses. In our empirical study we investigate a well-established service industry (travel agencies) and a well-known company, where loyalty tends to be high, why we expect that PWOM have greater influence than NWOM on behavioral attitude and intention.

Based on this discussion we will investigate whether an asymmetric influence of WOM on behavioral attitude and intention exists. We hypothesize that the receiver of WOM deals with PWOM and NWOM differently.

Westbrook (1987) finds that positive and negative emotions influence the amount of WOM. In general, positive emotions have a strong positive relationship with PWOM, whereas negative emotions have a negative relationship with PWOM (White and Yu, 2005). However, our focus is the opposite – whether PWOM/NWOM impacts positive/negative emotions. Bristor (1990, p. 58) emphasizes that "what is also needed is to examine the effect of WOM on cognitions and affect". Even though this was emphasized nearly two decades ago, we are not aware of any research studying how WOM influences consumers' emotions.

The above discussion leads to the following hypotheses:

*H3a*: PWOM has a direct positive effect on positive emotions *H3b*: PWOM has a direct negative effect on negative emotions *H3c*: PWOM has a direct positive effect on behavioral attitude *H3d*: PWOM has a direct positive effect on behavioral intention *H4a*: NWOM has a direct negative effect on positive emotions *H4b*: NWOM has a direct positive effect on negative emotions *H4c*: NWOM has a direct negative effect on behavioral attitude *H4c*: NWOM has a direct negative effect on behavioral attitude *H4d*: NWOM has a direct negative effect on behavioral intention

#### WOM and social norm

It is natural and interesting to compare the normative (social norm) and informative (WOM) influence in the extended TRA model. This requires that WOM and social influence emotions, behavioral attitude and intention in a similar way, i.e., have similar relationship structures.

Katz and Lazarsfeld (1955) and Whyte (1955) argue for a social norm, but Arndt (1967) could not confirm such a social norm in the form of 'social control' and 'compliance' in his studies. Actually, several studies find that the informative influence (WOM) has a higher impact on the consumer's attitude and buying intention than the normative influence (social norm) (Burnkrat and Cousineau, 1975; Mascarenha and Higby, 1993; Park and Lessig, 1977; Ward and Reigen, 1990). The reason may be that social communication more often tends to reflect discussion and sharing of knowledge, where consumers will have faith in relevant reference group's informative evaluation of alternative brands. On the other hand, social communication seldom leads to attempts to control the buying behavior of the receiver of WOM (Arndt, 1967; Burnkrat and Cousineau, 1975; Kaplan and Miller, 1987; Ward and Reingen, 1990), indicating a weak relationship between social norm and buying intention.

This leads to the following hypotheses:

*H2a:* Social norm has a positive effect on positive emotions *H2b:* Social norm has a positive effect on negative emotions *H2c:* Social norm has a positive effect on behavioral attitude *H2d:* Social norm has a positive effect on behavioral intention

#### Emotions

The literature eagerly discusses whether emotional responses are a function of the cognition or whether emotional responses affect the cognition (Damasio; 2000, 2003; Du Plessis, 2005). According to Du Plessis (2005) emotions are the first part of a rational decision caused by more neuron connections flowing from the emotional part of the brain to the rational part of the brain than the other way around. This is also supported by Ajzen (2002), Martensen et al. (2007), Martensen and Grønholdt (2008), Zajonc (1980) and Verplanken et al. (1998).

Previous research argues for a separation of emotions into a positive and a negative dimension (Babin, Lee, Kim and Griffin, 2005; Dubé-Rioux, 1990; Hansen, 2005; Kim and Griffin, 2005; Lazarus, 1991; Liljander and Strandvik, 1997; Mano and Oliver, 1993; Phillips and Baumgartner, 2002; Westbrook, 1987). We will follow these recommendations in our analysis of how emotions drive behavioral attitude, and separate emotions into a positive and negative dimension. This discussion leads to the following hypotheses:

*H5a:* Positive emotions have a direct positive effect on behavioral attitude *H5b:* Negative emotions have a direct negative effect on behavioral attitude

The 15 proposed hypotheses are depicted on the links in Figure 1.

# Methodology

#### Measures development

The conceptual model's seven variables are viewed as latent variables, which are measured by three to six measurement variables or items based on established scales from academic literature.

To measure PWOM and NWOM, the scales developed by Bansal and Voyer (2000) and Murray and Schlacter (1990) are used. The emotion items are based on Hansen (2006) and Hansen and Christensen (2007). The social norm measures are operationalizations of different facets derived from Hansen (2008), Hansen et al. (2004), and Langdridge et al. (2007). The behavioral attitude scale used for this study is adapted from Martensen et al. (2007) and Spears and Singh (2004). The measurement of behavioral intention is based on Martensen et al. (2007) and Putrevu and Lord (1994).

All items are generic which means they are formulated in such a flexible manner that they can be used across companies and industries. Hereby the estimation results can be compared across companies and industries which give the opportunity to use the results in benchmarking studies. This is an obvious advantage for this model and the attached measurement system. The developed questionnaire consists of 36 items listed in the Appendix.

#### Data collection

A professional market research agency has collected data by means of an online panel survey with persons between 18 and 60 years old. The case study was one of the largest travel agencies in Denmark, Star Tour. All respondents were familiar with this travel agency and were told positive or negative things about the agency from families, friends, acquaintances, colleagues, neighbors, etc. A total of 509 valid interviews were conducted, and a representative sample was obtained.

#### Analytical approach

The conceptual model in Figure 1 is operationalized as a structural equation model (SEM) which links each latent variable with the corresponding measurement variables (the measurement model), and links the latent variables through causal relationships (the structural model) symbolized by the arrows in the Figure 1. All measures are reflective.

The data were analyzed using the partial least squares approach to structural equation modeling (PLS-SEM) that estimates both measurement and structural model at once by maximizing the explained variance of the dependent latent variables (Hair et al., 2011), which is contrary to covariance-based SEM (CB-SEM) (Hair et al., 2011). This means that PLS-SEM does offer advantages for predictive purposes (Fornell and Cha, 1994; Hair et al., 2011). PLS-SEM places minimal restrictions on sample size, measurement scales and data distributional assumptions (Hair et al., 2011), and it is robust (Cassell et al., 1999; Chin, 1998; Fornell and Bookstein, 1982; Hair et al. 2012; Hulland, 1999; Tenenhaus et al., 2005). Furthermore, PLS-SEM is especially suited for exploratory research, theory development and complex models (many latent and measurement variables) (Hair et al., 2011), such as the current study. Therefore, we have chosen the PLS-SEM method.

Given the capabilities of PLS-SEM, it is not surprising that an increasing number of studies in marketing and other business disciplines have employed the technique (Hair et al., 2011; Hair et al., 2012; Henseler et al., 2009, Ringle et al., 2012).

We followed the recommended two-stage analytical procedure for PLS-SEM (Fornell and Larcker, 1981; Hair et al., 2012; Hulland, 1999): First, the measurement model (also called

the outer model) was evaluated, then the structural model (also called the inner model) was evaluated, including estimation and testing of the model. In both stages we used the software SmartPLS (Ringle et al., 2005), which has become an increasingly applied tool to analyze structural equation models.

# Results

### Measurement model evaluation

We examined the reliability and validity of the scales. First, item reliability is normally established if the factor loading of an item is 0.7 or more (Carmines and Zeller, 1979; Hair et al., 2011; Hulland, 1999). We found from the SmartPLS output, that the lowest loading was 0.72, i.e. greater than the 0.7 threshold, and 32 of the 36 item loadings were 0.8 or above. This indicates that item reliability was very satisfied for all latent variables.

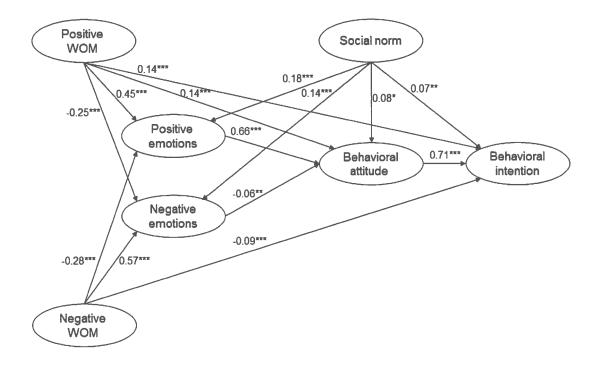
Second, composite reliability (internal consistency) was assessed using the composite reliability coefficient recommended by PLS researchers, and acceptable level are said to be 0.7 or higher (Baumgartner and Homburg, 1996; Chin, 1998; Fornell and Larcker, 1981; Hair et al., 2011; Hulland, 1999). We found that all composite reliability coefficients were greater than 0.9 and exceed clearly the recommended threshold. In addition, we also used the average variance extracted (AVE), which should be greater than 0.5 (Chin, 1998; Fornell and Cha, 1994; Fornell and Larcker, 1981; Hair et al., 2011). The AVE for all latent variables exceed this condition, since the lowest reported AVE value was 0.67, demonstrating composite reliability for all latent variables also in this way.

Third, discriminant validity is present if the square root of AVE of a latent variable is larger than its correlations with the other latent variables (Fornell-Larcker criterion) (Chin, 1998; Fornell and Larcker, 1981; Hair et al., 2011; Hulland, 1999). This criterion was met for all latent variables, which indicates that the latent variables in the model are distinct from each other.

Thus, with acceptable reliability and validity assessments our measures were considered to be appropriate for subsequent estimation and test of the causal model.

### Structural model evaluation

The PLS estimation was carried out by including all hypothesized relationships in Figure 1 and testing these relationships at the conventional 0.05 level of significance (one-sided) by using t-values obtained from the bootstrap re-sampling procedure. One insignificant relationship (from NWOM to behavioral attitude) was removed and the model was reestimated and tested. The final estimated model with estimated path coefficients ( $\beta$ ) and their significance is illustrated in Figure 2, showing that all these path coefficients have sign as expected and are statistically significant (all t  $\geq 2.12$ , p  $\leq 0.017$ , one-sided).



Note: Numbers on the arrows are estimated path coefficients ( $\beta$ ). \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001, one-sided.

### Figure 2. The estimated model

To evaluate the PLS model  $R^2$  values for the endogenous latent variables are examined (Chin, 1998; Hair et al., 2011; Hulland, 1999), which for positive and negative emotions are respectively 0.47 and 0.42, and for behavioral attitude and intention are respectively 0.70 and 0.76. According to Hair et al. (2011), these  $R^2$  values can be described as moderate for emotions and substantial for behavioral attitude and intention. Overall, these explanatory powers indicate good overall model fit.

In conclusion, the quality of the model is good with substantial explanatory power. Thus, there is great certainty and precision in the results and conclusions to be drawn from the study.

### **Discussion and practical implications**

It appears from Figure 2 that 13 hypotheses are accepted (all  $p \le 0.017$ ) and only one hypothesis is rejected, namely H4c (p > 0.05). In general, the findings clearly indicate the relevance of including WOM and emotions in the TRA model, and to separate both components in a positive as well as a negative dimension. It is also indicated that emotions functions as a relevant and important mediator for both WOM and social norm.

	Positive emotions	Negative emotions	Behavioral attitude	Behavioral intention
Positive WOM (PWOM)	0.45	-0.25	0.46	0.46
Negative WOM (NWOM)	-0.28	0.57	-0.22	-0.25
Positive emotions			0.66	0.47
Negative emotions			-0.06	-0.04
Social norm	0.18	-0.14	0.20	0.21
Behavioral attitude				0.71

Note: Total effect is direct effect plus indirect effects (based on path coefficients in Figure 2).

#### Table I. Total effects on endogenous variables

Table I shows calculated total effects on the endogenous variables, i.e. the sum of direct effect and indirect effects through the paths in the model. Based on the total effects on behavioral intention we can calculate the relative contribution between PWOM and NWOM in influencing behavioral intention: PWOM 65% and NWOM 35%. The relative contribution between WOM (informal exchange of information) and social norm (normative social pressure) in influencing behavioral intention is: PWOM 50 %, NWOM 27 %, and social norm 23 %.

### *The impact of WOM*

PWOM has a significant influence on behavioral attitude and intention, supporting hypotheses H3c and H3d. However, NWOM does not have a significant direct effect on behavioral attitude as hypothesized (H4c is rejected) and only a slight, but statistical significant, impact on behavioral intention ( $\beta = -0.09$ ; H4d). The negative information consumers hear about a product or a company does not influence their rational and cognitive thinking directly, only indirectly through negative emotions. This is in harmony with Sweeney et al.'s (2005) results. They find that NWOM are more emotional in nature and may result in strong and emotionally charged negative attitudes of an organization while PWOM may be more cognitive in nature and enhance cognitive attitude perceptions (Sweeney et al., 2005, 2008).

Findings also indicate that PWOM has a strong and direct positive impact on positive emotions as hypothesized ( $\beta = 0.45$ ; H3a), and a somewhat slightly negative direct impact on negative emotions ( $\beta = -0.25$ ; H3b). The opposite is valid for NWOM; NWOM has a slightly negative direct impact on positive emotions ( $\beta = -0.28$ ; H4a), and a strong, positive direct impact on negative emotions ( $\beta = 0.57$ ; H4b). Even though the effect of NWOM on negative emotions is twice the effect of positive emotions, this is irrelevant, since negative emotions have very little effect on behavioral attitude and intention ( $\beta = -0.06$  and -0.04, respectively). So PWOM seems to boost the consumers' positive feelings for a product and slightly reduce the negative feelings, whereas the NWOM seems to slightly reduce the consumers' positive feelings for a product and strongly up-rate the already negative feelings for the product.

Table 1 shows that the total impact of PWOM is twice the impact of NWOM on behavioral attitude ( $\beta = 0.46$  and -0.22, respectively) as well as on behavioral intention ( $\beta = 0.43$  and -

0.15, respectively). PWOM is more influential than NWOM. This contradicts the accessibility-diagnosticity and prospect theory claiming that negative information has a larger effect on outcomes than positive information. The result demonstrates asymmetric response to WOM.

### The impact of social norm

Social norm has significant and direct positive impacts in accordance with the four hypothesized relationships H2a, H2b, H2c and H2d. Table I shows that the social norm has equal effect on positive emotions, behavioral attitude and intention, and a slightly less effect on negative emotions ( $\beta = 0.18$ , 0.20, 0.21 and -0.14, respectively).

#### Comparison of the impacts of WOM and social norm

All impacts of social norm are relatively small compared to PWOM, indicating that PWOM has greater total impacts on positive/negative emotions, behavioral attitude and intension than social norm. Actually, the total effect of PWOM is more than twice the effect of social norm on both behavioral attitude (0.46 vs. 0.20) and intention (0.46 vs. 0.21). The effect of NWOM on positive and negative emotions is also considerable higher than the ones for social norm, indicating that NWOM has greater total impact on emotions than social norm. On the other hand, both social norm and NWOM has almost the same total effect on behavioral attitude and intention (-0.25 and 0.21; -0.22 and 0.20). Thus, the relevance of including WOM in a TRA context is hereby confirmed.

#### The role of emotions

The direct effects of positive and negative emotions on behavioral attitude are both significant (supporting H7a and H7b), even though negative emotions have a very low and negative impact and positive emotions have a very high and positive impact ( $\beta = -0.06$  and 0.66).

Table I shows that positive emotions are primarily influenced by PWOM ( $\beta = 0.45$ ) indicating that marketers should focus on PWOM rather than reducing NWOM. On the other hand it is interesting that the negative effect of NWOM on positive emotions is relatively high ( $\beta = -0.28$ ), indicating that marketers cannot completely ignore NWOM. Negative emotions are primarily influenced by NWOM ( $\beta = 0.57$ ); PWOM has limited negative effect on negative emotions ( $\beta = -0.25$ ). Social norm has only moderate impact on positive as well as negative emotions ( $\beta = 0.18$ ; -0.14). These findings indicate that emotions are a mediator for both WOM and social norm; but emotions are especially important as a mediator for WOM.

# Conclusions

### Contributions to the field

This study looks at how WOM and emotions can be included in a TRA framework. Previous research shows that WOM has a large impact on receivers' attitudes and buying behavior, but WOM has never been included simultaneously with social norm in one of the most recognized models within the area of consumer behavior, TRA. Our study contributes to the field in four areas.

First, previous research claims that the effect of WOM depends on whether it is positive or negative. This distinction is incorporated in the presented model, and gives the possibility to directly compare the effects of positive and negative WOM. Our findings clearly support the relevance of such a separation. Findings indicate that PWOM and NWOM have an asymmetric influence on all the dependent variables in the TRA model. The effect of PWOM is twice the effect of NWOM on behavioral attitude and intention, and PWOM has twice the effect on positive emotions compared to negative emotions, and vice versa for NWOM on emotions.

Second, our findings indicate that PWOM has twice the effect of social norm on behavioral attitude and intention, and that social norm and NWOM have equal impacts. These findings confirm that the normative influence (social norm) has a limited role compared to the positive part of the informative influence (PWOM), and it underscores the importance of separating WOM into a positive and negative dimension and including both in the TRA model.

Third, findings also support the inclusion of both positive and negative emotions in the extended TRA model, and that emotions are a mediator for especially WOM and to a lesser extend for social norm. WOM has a high impact on emotions, especially PWOM on positive emotions and NWOM on negative emotions.

Finally, we develop a structural equation model and a measurement instrument which gives the advantage to analyze what drives WOM receiver's behavioral attitude and intention in a simultaneous way by using PLS. High validity and reliability measures are achieved when looking at the measurement model and high  $R^2$  values are obtained for the structural model.

#### Limitations and future research directions

The study focuses on only one brand. The replicability of this study's findings for other industries can be questioned, since social norm, type of WOM and emotions may be very brand or category dependent. Therefore similar studies need to be carried out for other brands and industries.

Future studies may also look into who the preferred WOM sources are. Studies of strong versus weak ties could increase the understanding of the various links between source knowledge, expertise, credibility and demographic homophily (Gilly et al., 1998). Awareness and the complexity of the decision could also be included as moderators. If the receiver of WOM has high awareness and are very familiar with the brand or company, we will expect a lower WOM effect and vice versa.

# Acknowledgement

The authors gratefully acknowledge the financial support to data collection provided from M3 Research, Denmark.

# Appendix. Survey items

#### *Positive WOM (PWOM)*

To what extent do you agree or disagree that other people tell you *positive* things about [this travel agency] (Star Tour in this study) which...

- ... I have not thought about before
- ... influence my opinion about [this travel agency] in a positive way
- ... help me make a decision about choosing [this travel agency]
- ... show me, that they are proud of having chosen [this travel agency]
- To what extent do you agree or disagree that other people recommend you to choose [this travel agency]
- To what extent do you agree or disagree that other people only have good things to tell you about [this travel agency]

#### Negative WOM (NWOM)

To what extent do you agree or disagree that other people tell you *negative* things about [this travel agency] which...

- ... I have not thought about it before
- ... influence my opinion about [this travel agency] in a negative way
- ... help me make a decision about not choosing [this travel agency]
- ... show me that they would never consider choosing [this travel agency]
- To what extent do you agree or disagree that other people will dissuade you from choosing [this travel agency]
- To what extent do you agree or disagree that other people only have bad things to tell you about [this travel agency]

#### Positive emotions

How suitable do you find these words in regard to your feelings for [this travel agency]?

Trust Happiness Satisfaction Desirable Pleasure Exclusive

Negative emotions

How suitable do you find these words in regard to your feelings for this travel agency?

Irritation Anger Frustration Disappointment Boring Regret

### Social norm

Most people who are important to me find that [this travel agency] is a good choice

I would consider choosing [this travel agency] because people important to me also have chosen this travel agency

[This travel agency] is popular among people important to me

#### Behavioral attitude

I have a positive attitude toward choosing [this travel agency] [This travel agency] is a good choice for me [This travel agency] fulfills my needs [This travel agency] is my preferred brand among travel agencies

I like [this travel agency]

#### Behavioral intention

[This travel agency] will be worth considering next time I have to choose a travel agency I will choose [this travel agency] next time I need a travel agency I will recommend [this travel agency] to others If you had to choose a travel agency today, how likely is it that it will be [this travel agency]?

Note: All survey items are rated on a seven-point scale: from 'strongly disagree' to 'strongly agree' (PWOM, NWOM, behavioral attitude and the first three items under behavioral intention), from 'very unlikely' to 'very likely' (the fourth item under behavioral intention) or from 'very unsuitable' to 'very suitable' (positive and negative emotions).

## References

- Ahluwalia, R. (2002), "How prevalent is the negativity effect in consumer environments?", *Journal of Consumer Research*, Vol. 29, No. 2, pp. 270–279.
- Ajzen, I., and Fishbein, M. (1980), Understanding Attitudes and Predicting Social Behavior, Prentice Hall, Upper Saddle River, New Jersey.
- Ajzen, I. (1991), "The theory of planned behavior", Organizational Behavior and Human Decision Processes, Vol. 50, pp. 179-211.
- Ajzen, I. (2002), "Residual effects of past on later behavior: Habituation and reasoned action perspectives", *Personality and Social Psychology Review*, Vol. 6, No. 2, pp. 107-122.
- Allsop, D.T., Bassett, B.R., and Hoskins, J.A. (2007), "Word of mouth: Principles and applications", *Journal of Advertising Research*, Vol. 47, No. 2, pp. 398-411.
- Anderson, E.W. (1998), "Customer satisfaction and word of mouth", *Journal of Service Research*, Vol. 1, No. 1, pp. 5-17.
- Arndt, J. (1967), Word of Mouth Advertising: A Review of the Literature, Research Monograph, Advertising Research Foundation, New York.
- Bansal, H.S. and Voyer, P.A. (2000), "Word of mouth processes within a services purchase decision context", *Journal of Service Research*, Vol. 3, No. 2, pp. 166-177.
- Babin. B.J., Lee, Y.-K., Kim, E.-J., and Griffin, M. (2005), "Modeling consumer satisfaction and word-of-mouth: Restaurant patronage in Korea", *Journal of Services Marketing*, Vol. 19, pp.133-139.
- Baumgartner, H., and Homburg, C. (1996), "Applications of structural equation modeling in marketing and consumer research: A review", *International Journal of Research in Marketing*, Vol. 13, pp. 139-161.
- Bone, P.F. (1995), "Word of mouth effects on short-term and long-term product judgements", *Journal of Business Research*, Vol. 32, No. 3, pp. 213-223.
- Bristor, J. M. (1990), "Enhanced Explanations of Word of Mouth Communications: The Power of Relationships", *Research in Consumer Behavior*, Vol. 4, No. 51-83.
- Bruyn, A. De and Lilien, G.L. (2008), "A multi-stage model of word-of-mouth influence through viral marketing", *International Journal of Research in Marketing*, Vol. 25, No. 3, pp. 151-163.

- Brown, J.J., and Reingen, P.H. (1987), "Social ties and word of mouth referral behavior", *Journal of Consumer Research*, Vol. 14, pp. 350-362.
- Bughin, J., Doogan, J., and Vetvik, O.J. (2010), "A new way to measure word-of-mouth marketing", *McKinsey Quarterly*, April.
- Burnkraut, R.E., and Cosineau, A. (1975), "Informational and normative influence in buyer behavior", *Journal of Consumer Research*, Vol. 2, pp. 206-215.
- Burzynski, M.H., and Bayer, D.J. (1977), "The effect of positive and negative prior information on motion picture appreciation", *Journal of Social Psychology*, Vol. 101, pp. 215-18.
- Carmines, E.G., and Zeller, R.A. (1979), *Reliability and Validity Assessment*, Sage University Paper Series on Quantitative Applications in the Social Sciences, No. 07-017. Sage, Beverly Hills, California.
- Cassel, C., Hackl, P., and Westlund, A.H. (1999), "Robustness of partial least squares method for estimating latent variable quality structures", *Journal of Applied Statistics*, Vol. 26, No. 4, pp. 435-446.
- Chang, M.K. (1998), "Predicting unethical behavior: A comparison of the theory of reasoned action and the theory of planned behavior", *Journal of Business Ethics*, Vol. 17, pp. 1825-1834.
- Chin, W.W. (1998), "The partial least squares approach to structural equation modeling", in Marcoulides, G.A. (Ed.), *Modern Methods for Business Research*, Lawrence Erlbaum Associates, Mahwah, New Jersey, pp. 295-336.
- Conner, M., & Armitage, C.J. (1998), "Extending the theory of planned behavior: A review and avenues for further research", *Journal of Applied Social Psychology*, Vol. 28, No. 15, pp. 1429-1464.
- Damasio, A.R. (2000), The Feeling of What Happens: Body, Emotion and the Making of Consciousness, Vintage, London, UK.
- Damasio, A.R. (2003), Looking for Spinoza: Joy, Sorrow, and the Feeling Brain, Harcourt Books, Orlando, Florida.
- Day, G.S. (1971), "Attitude change, media and word of mouth", Journal of Advertising Research, Vol. 11, No. 6, pp. 31-40.
- Dubé-Rioux. L. (1990), "The power of affective reports in predicting satisfaction judgments", in Goldberg, M.E. and Pollay, R.W. (Eds.), *Advances in Consumer Research*, Vol. 17, pp. 571-576, Association for Consumer Research, Provo, Utah.
- Du Plessis, E. (2005), The Advertised Mind, Kogan Page, London, UK.
- Eagly, A.H. and Chaiken, S. (1993), *The Psychology of Attitudes*, Harcourt Brace Jovanovich, Fort Worth, Texas.
- East, R., Hammond, K., and Wright, M. (2007), "The relative incidence of positive and negative word of mouth: A multi-category study", *International Journal of Research in Marketing*, Vol. 24, No. 2, pp. 175–184.
- East, R., Hammond, K., and Lomax, W. (2008), "Measuring the impact of positive and negative word of mouth on brand purchase probability", *International Journal of Research in Marketing*, Vol. 25, No. 3, pp. 215–224.
- Fishbein, M., and Ajzen, I. (1975), *Belief, Attitude, Intention and Behavior*, Addison-Wesley Publishing Company, Reading, Massachusetts.
- Fiske, S.T. (1980), "Attention and weight in person perception: The impact of negative and extreme behavior", *Journal of Personality and Social Psychology*, Vol. 38, No. 6, pp. 889-906.
- Fornell, C. and Bookstein, F.L (1982), "Two structural equation models: LISREL and PLS applied to consumer exit-voice theory", *Journal of Marketing Research*, Vol. 19, No. 4, pp. 440-452.

- Fornell, C. and Cha, J. (1994), "Partial least squares", in Bagozzi, R.P. (Ed.), Advanced Methods of Marketing Research, Blackwell, Cambridge, Massachusetts, pp. 52-78.
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18, No. 1, pp. 39-50.
- Gildin, S. Z. (2002), "Understanding the power of word-of-mouth", *Revista de Administracao Mackenzie*, 4, pp. 91-106.
- Gilly, M.C., Graham, J.L., Wolfinbarger, M.F., and Yale, L.J. (1998), "A dyadic study of interpersonal information search", *Journal of the Academy of Marketing Science*, Vol. 26, No. 2, pp. 83-100.
- Godin, G. and Kok, G. (1996), "The theory of planned behaviour: A review of its applications to healthrelated behaviors", *American Journal of Health Promotion*, Vol. 11, pp. 87-97.
- Hair, J.F., Sarstedt, M., Pieper, T.M., and Ringle, C.M. (2012), "The use of partial least squares structural equation modeling in strategic management research: A review of past practices and recommendations for future applications", *Long Range Planning*, Vol. 45, No. 5/6, pp. 320-340.
- Hansen, F. (2005), "Distinguishing between feelings and emotions in understanding communications effects", *Journal of Business Research*, Vol. 58, No. 10, pp. 1426-1436.
- Hansen, F. (2006), "Emotional responses: A new paradigm in communication research", Proceedings of the 35<sup>th</sup> EMAC Conference, Athens, Greece, 23-26 May 2006. Athens, Greece: Department of Marketing and Communication, Athens University of Economics and Business, and EMAC (European Marketing Academy).
- Hansen, F. and Christensen, S.R. (2007), *Emotion, Advertising and Consumer Choice*. Copenhagen Business School Press, Copenhagen, Denmark.
- Hansen, T. (2005), "Perspectives on consumer decision making: An integrated approach", *Journal of Consumer Behavior*, Vol. 4, No. 6, pp. 420-437.
- Hansen, T. (2008), "Consumer values, the theory of planned behaviour and online grocery shopping", *International Journal of Consumer Studies*, Vol. 32, No. 2, pp. 128-137.
- Hansen, T., Jensen, J.M., and Solgaard, H.S. (2004), "Predicting online grocery buying intention: a comparison of the theory of reasoned action and the theory of planned behaviour", *International Journal of Information Management*, Vol. 24, pp. 539-550.
- Hair, J.F., Ringle, C.M., and Sarstedt, M. (2011), "PLS-SEM: Indeed a silver bullet", *Journal of Marketing Theory and Practice*, Vol. 19, No. 2, pp. 139-152.
- Hair, J.F., Sarstedt, M. Ringle, C.M., and Mena, J. (2012), "An assessment of the use of partial least squares structural equation modeling in marketing research", *Journal of the Academy of Marketing Science*, Vol. 40, No. 3, pp. 414-433.
- Harrison-Walker, L.J. (2001), "The measurement of word-of-mouth communication and investigation of service quality and customer commitment as potential antecedents", *Journal of Service Research*, Vol. 4, No. 1, pp. 60-75.
- Henseler, J., Ringle, C.M., and Sinkovics, R.R. (2009). "The use of partial least squares path modeling in international marketing", in Sinkovics, R.R. and Ghauri, P.N. (Eds.), *Advances in International Marketing, Vol. 20*, Emerald Group, Bingley, UK, pp. 277-320.
- Herr, P.M., Kardes, F.R., and Kim, J. (1991), "Effects of word of mouth and product-attribute information on persuasion: an accessibility-diagnosticity perspective", *Journal of Consumer Research*, Vol. 17, No 3, pp. 454-462.
- Hulland, J. (1999), "Use of partial least squares (PLS) in strategic management research: A review of four recent studies", *Strategic Management Journal*, Vol. 20, No. 2, pp. 195-204.
- Kahneman, D. and Tversky, A. (1979), "Prospect theory. An analysis of decision under risk", *Econometrica*, Vol. 47, pp. 263-291.

- Kaplan, D.A. and Miller, M. (1987), "Group decision making and normative versus informational influence: Effects of type of issue and assigned decision role", *Journal of Psychology*, Vol. 53.
- Keller, E. (2007), "Unleashing the power of word of mouth: Creating brand advocacy to drive growth", *Journal of Advertising Research*, Vol. 47, No. 4, pp. 448-452.
- Keller, E. and Fay, B. (2012), *The Face-to-Face Book: Why Real Relationships Rule in a Digital Marketplace*, Free Press, a division of Simon & Schuster, New York.
- Kim, M., and Hunter, J. (1993), "Relationships among attitudes, intentions and behavior", *Communication Research*, Vol. 20, pp. 331-364.
- Kotler, P., Keller, K.L., Brady, M., Goodman, M., and Hansen, T. (2012), *Marketing Management*, Second European edition, Pearson, Harlow, England.
- Laczniak, R. N., DeCarlo, T. E., and Ramaswami, S. N. (2001), "Consumers' responses to negative word-of-mouth communication: An attribution theory perspective", *Journal of Consumer Psychology*, Vol. 11, No. 1, pp. 57–74.
- Langdridge, D., Sheeran, P., and Connolly, K. (2007), "Analyzing additional variables in the theory of reasoned action", *Journal of Applied Social Psychology*, Vol. 37, No. 8, pp. 1884–1913
- Lazarus, R.S. (1991), Emotion and Adaptation, Oxford University Press, New York.
- Liljander, V. and Strandvik, T. (1997), "Emotions in service satisfaction", International Journal of Service Industry Management, Vol. 8, pp. 148-169.
- Mangold, W. G., Miller, F., and Brockway, G. R. (1999), "Word-of-mouth communication in the service marketplace", *Journal of Services Marketing*, Vol. 13, No. 1, pp. 73-89.
- Mano, H. and Oliver, R.L. (1993), "Assessing the dimensionality and structure of the consumption experience: Evaluation, feeling and satisfaction", *Journal of Consumer Research*, Vol. 20, pp. 451-466.
- Martensen, A., Grønholdt, L., Bendtsen, L., and Jensen, M.J. (2007), "Application of a model for the effectiveness of event marketing", *Journal of Advertising Research*, Vol. 47, No. 3, pp. 283-301.
- Martensen, A., and Grønholdt, L. (2008), "How events work: Understanding consumer responses to event marketing", *Innovative Marketing*, Vol. 4, No. 4, pp. 45-57.
- Mascarenhas, O.A.J. and Higby, M.A. (1993), "Peer, parent, and media influences in teen apparel shopping", *Journal of the Academy of Marketing Science*, Vol. 21, pp. 53-58.
- Mizerski, R. W. (1982), "An attribution explanation of the disproportionate influence of unfavorabl e information", *Journal of Consumer Research*, Vol. 9, pp. 301-310.
- Murray, K.B. and Schlacter, J.L. (1990), "The impact of services versus goods on consumers' assessment of perceived risk and variability", *Journal of the Academy of Marketing Science*, Vol. 18, No. 1, pp. 51-65.
- Nyilasy. G. (2006), "Word of mouth: What we really know and what we don't", in Kirby, J. and Paul Marsden, P. (Eds.), *Connected Marketing: The Viral, Buzz and Word of Mouth Revolution*, Elsevier, New York.
- Park, W.C. and Lessig, P.V. (1977), "Students and housewives: Differences in susceptibility to reference group influence". *Journal of Consumer Research*, Vol 4 (September), pp. 102-110.
- Perugini, M. and Bagozzi, R.P. (2001), "The role of desires and anticipated emotions in goaldirected behaviours: Broadening and deepening the theory of planned behavior", *British Journal of Social Psychology*, Vol. 40, pp. 79-98.
- Phillips, D.M. and Baumgartner, H. (2002), "The role of consumption emotions in the satisfaction response", *Journal of Consumer Psychology*, Vol. 12, pp. 243-252.
- Prendergast, G., Ko, D. and Yuen, S.Y.V. (2010), "Online word of mouth and consumer purchase intentions", *International Journal of Advertising*, Vol. 29, Vol. 5, pp. 687-708.

- Price, L.L. and Feick, L.F.(1984), "The role of interpersonal sources in external search: an informational perspective", *Advances in Consumer Research*, Vol. 11, pp. 250-255.
- Putrevu, S. and Lord, K.R. (1994), "Comparative and noncomparative advertising: Attitudinal effects under cognitive and affective involvement conditions", *Journal of Advertising*, Vol. 23, No. 2, pp. 77-91.
- Ringle, C., Wende, S., and Will, A. (2005), *SmartPLS, Release 2.0*, University of Hamburg, Hamburg, Germany. Available at: www.smartpls.de.
- Ringle, C., Sarstedt, M., Straub, D.W. (2012), "A critical look at the use of PLS-SEM in MIS Quarterly", *MIS Quarterly*, Vol. 36, No. 1, pp. 3-106.
- Sheeran, P. and Taylor, S. (1999), "Predicting intentions to use condoms: A metaanalysis and comparison of the theories of reasoned action and planned behavior", *Journal of Applied Psychology*, Vol. 29, pp. 1624–1675.
- Shimp, T.A. and Kavas, A. (1984), "The theory of reasoned action applied to coupon usage", *Journal of Consumer Research*, Vol. 11, pp. 795-809.
- Shiv, B. and Fedorikhin, A. (1999), "Heart and mind in conflict: The interplay of affect and cognition in consumer decision making", *Journal of Consumer Research*, Vol. 26, No. 3, pp. 278-292.
- Smith, R.E. and Vogt, C.A. (1995), "The effects of integrating advertising and negative word of mouth communications on message processing and response", *Journal of Consumer Psychology*, Vol. 4, pp. 133-151.
- Spears, N. and Singh, S.N. (2004), "Measuring attitude toward the brand and purchase intentions", *Journal of Current Issues and Research in Advertising*, Vol. 26, No. 2, pp. 53-66.
- Sundaram, D.S., Mitra, K., and Webster, C. (1998), "Word of mouth communications: A motivational analysis", in Alba, J.W. and Hutchinson, J.W. (Eds.), *Advances in Consumer Research*, Association for Consumer Research, Provo, Utah, pp. 527-531.
- Sweeney, J.C., Soutar, G.N., and Mazzarol, T. (2005), "Positive and negative word-of-mouth are not necessarily opposites", paper presented at the *First International Conference on Word-of-Mouth Marketing, Hamburg, 6-7 October 2005,* Brand Science Institute, Hamburg, Germany.
- Sweeney, J.C., Soutar, G.N., and Mazzarol, T. (2008), "Factors influencing word of mouth effectiveness: receiver perspectives", *European Journal of Marketing*, Vol. 42, No. 3/4, pp. 344-364.
- Swan, J.E., and Oliver, R.L. (1989), "Postpurchase communications by consumers", *Journal* of *Retailing*, Vol. 65, No. 4, pp. 516-533.
- Söderlund, M. and Rosengren, S. (2007), "Receiving word-of-mouth from the service customer: An emotion-based effectiveness assessment", *Journal of Retailing and Consumer Services*, Vol. 14, pp. 123-136.
- Tenenhaus, M., Vinzi, V.E., Chatelin, Y.-M., and Lauro, C. (2005), "PLS path modeling", *Computational Statistics and Data Analysis*, Vol. 48, No. 1, pp. 159-205.
- Trusov, M., Bucklin, R.E., and Pauweis, K. (2009), "Effects of word-of-mouth versus traditional marketing: Findings from an internet social networking site", *Journal of Marketing*, Vol. 73, No. 5, pp. 90-102.
- Verplanken, B., Aarts, H., van Knippenberg, A., and Moonen, A. (1998), "Habit versus planned behavior: A field experiment", *British Journal of Social Psychology*, Vol. 37, No. 1, pp. 111-128.
- Wangenheim, F.v. (2005), "Postswitching negative word of mouth", Journal of Service Research, Vol. 8, No. 1, pp. 67-78.
- Ward, J.C., and Reigen, P.H. (1990), "Sociocognative analysis of group decision making among consumers", *Journal of Consumer Research*, Vol. 17, No. 3, pp. 245-262.

- Weber, E.U., Blais, A-R., and Tada, Y. (1998), "From Shakespeare to Spielberg: Predicting selection among modes of decision making", paper presented at the expanded version of the presidential address by Elke Weber, delivered at the 1998 Annual Meeting of the Society for Judgment and Decision Making, Dallas, Texas.
- Westbrook, R.A. (1987), "Product/consumption-based affective responses and postpurchase processes", *Journal of Marketing Research*, Vol. 24, pp. 258-270.
- Whyte, W. H. (1955), "The web of word of mouth" in Clark, L.H. (Ed.), *The Life Cycle and Consumer Behavior*, New York University Press, New York.
- White, C. and Yu, Y.-T. (2005), "Satisfaction emotions and consumer behavioral intentions", *Journal of Services Marketing*, Vol. 19, No. 6/7, pp. 411-420.
- Wright, P. (1974), "The harassed decision maker: Time pressures, distractions, and the use of evidence", *Journal of Applied Psychology*, Vol. 59, No. 5, pp. 555-561.
- Zajonc, R.B. and Hazel, M. (1982), "Affective and Cognitive Factors in Preferences", *Journal* of Consumer Research, Vol. 9 (September), pp. 123-131.