The Influence of E-Word-Of-Mouth on the Consumer’s Purchase Decision: a Case of Body Care Products

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ABSTRACT

This study aims to explore the causal relationship between e-word-of-mouth (e-WOM) and its influence on purchase decisions through structural equation modeling (SEM). Five constructs were formulated through literature review: expertise, search extent, own experience, trustworthiness, and e-WOM effect. Results of this study show that four constructs all have positive influence on e-WOM effect, and own experience has the most influence on purchase decisions.

Keywords: e-word-of-mouth, information search, purchase decision, trustworthiness

INTRODUCTION

The launch and development of the internet has not only subverted the conventional business model, but changed the consumer’s searching method of relevant product/service information. Word-of-mouth (WOM) communication is a non-commercial, interpersonal dialog about a product, brand or service between consumers. The persuasive effect of WOM is due to the following reasons (Silverman, 1997): (1) the information provided by WOM is perceived as being more credible than that provided commercially since most WOMs are from relatives, friends and the third party whom one trusts more; (2) WOM is a two-way communication, not a one-way propaganda; (3) WOM provides potential customers with user experience to reduce purchase risk and uncertainty; (4) Since WOM is live and can instantly respond to inquiries, it can provide more complete and relevant information. Word-of-mouth has been proven to be an effective method of obtaining useful information for purchase decisions (Henricks 1998; Silverman 1997); its counterpart in cyberspace—electronic-word-of-mouth(e-WOM) has been in existence from the beginning of the internet age and proven to be useful in online transactions (Gelb and Sundaram, 2002; Henning-Thurau, Gwinner, Walsh and Gremler, 2004; Khermouch and Green, 2001). E-WOM takes the forms of posted-views, mailbags, discussion forums, list services, personal e-mail, chat rooms, instant messaging, blogging, and twittering. With the advent of web 2.0, e-WOM is getting more pervasive and more important in purchase decision-making. As a result, many studies have investigated the working mechanisms of e-WOM (Bansal and Voyer, 2000; Henning-Thurau and Walsh, 2003). In this study, we will explore the relationship between and among factors of information: the sender’s expertise, the receiver’s search extent, the sender’s own-experience, trustworthiness, and the influence of e-WOM on purchase intention (henceforth e-WOM effect). Briefly stated, we will examine the following influences:

- The sender’s expertise on the receiver’s search extent, trustworthiness, and e-WOM effect.
- The receiver’s search extent on trustworthiness and e-WOM effect.
- The sender’s own experience on trustworthiness and e-WOM effect.
- Trustworthiness on e-WOM effect.
LITERATURE REVIEW

There are many factors of WOM that can influence the purchase decision and have been studied previously; however, only the following factors are considered in this study: message’s trustworthiness, sender’s expertise, receiver’s search extent, and sender’s own experience.

Message’s Trustworthiness

Traditional WOM is a face-to-face communication between parties known to each other, and trustworthiness can be more easily built on familiarity; thus, the information conveyed is more likely to be used in purchase decision-making (Doney and Cannon, 1997; File, Cermak, and Prince, 1994; Holdford (2004); Miller and Baseheart, 1969; Niininen, Buhalís, and March, 2007).  In the internet context, although the sender and the receiver of a message are often not known to each other, the message’s trustworthiness should have significant influence on e-WOM effect as on traditional WOM (Senecal and Nantel, 2004). Thus, the following hypothesis is suggested:

Hypothesis 1: In the internet context, trustworthiness of messages positively affects e-WOM effect.

Sender's Expertise

Bloch and Richins (1986) discovered that consumers with higher proficiency can make brisk valuation and correct judgment due to their abundant product knowledge and experience; this makes them information sources sought by consumers not familiar with the products/services. This viewpoint that highly proficient consumers are often consulted targets of the masses is supported by Gilly, Graham, Wolfinbarger and Yale (1998). Bansal and Voyer (2000) also found that the sender’s expertise positively affects on the receiver’s search extent. Moreover, the sender’s expertise is also an important criterion for judging the trustworthiness of the information source (Dholakia and Sternthal, 1977) and is considered a critical influential factor of information (Solomon, 1997). According to the “Source Credibility Model”, the information source possessing relevant product knowledge or experience has significant effect on changing a consumer’s attitude and opinion (Hovland and Weiss, 1951). Brister (1990) also thought that since expertise comes partly from one’s own experience and partly from one’s own knowledge; when the sender exhibits high expertise, the receiver will think the provided information will be more correct, and hence the purchase decision will more likely be influenced by the information senders convey. Gilly et al (1998) also discovered that the sender’s expertise affected positively the receiver’s purchase intention. For our purpose, we will confine expertise only in reference to product/service knowledge and treat experience as another influencing factor. Thus, from the above discussion, the following hypotheses are suggested:

Hypothesis 2: Information from the sender’s expertise affects positively, the receiver’s search extent.
Hypothesis 3: Information from the sender’s expertise affects positively, information’s trustworthiness.
Hypothesis 4: Information from the sender’s expertise affects positively, the e-WOM effect.

Information Receiver’s Search Extent

Senders and receivers of the WOM are independent participants in the communication process, and receivers often initiate product dialog by asking senders for information. Thus, the receiver’s action of seeking information is assumed to be an important factor in WOM communication. Arndt (1967) found that WOM seekers are selectively exposed to WOM messages and are more predisposed to such messages. Consequently, WOM messages have more influence on the purchase decision of receivers more actively seeking information. This was confirmed by Bansal and Voyer (2000). In the context of internet communication, we propose the following hypotheses:

Hypothesis 5: Information receiver’s search extent positively affects his trustworthiness of information.
Hypothesis 6: Information receiver’s search extent positively affects e-WOM effect.

Information Sender’s Own Experiences

According to Bickart and Schindler (2001), the reason why internet forums can attract consumers to browse/search for product information and affect consumer’s purchase behavior more than corporate web pages is because consumers believe information obtained from internet forums is more credible than that from corporate web
pages, and hence is more convincing and persuasive. They also pointed out that the reason why information content provided by internet forum contributors is more trustworthy is because most contributors have their own experience about products/services, thus information seekers and receivers will not feel compelled to recommend or receive manipulated information. Nowadays using Web 2.0 tools such as RSS (Really Simple Syndication), blogs, Social Collaborative networking, Podcasting and online video, Massively Multiplayer Online Role Playing Game, Tagging, Mash-ups, and Wikis to express one’s own experiences is widespread (Sigala, 2007). Although e-WOM is mostly in written form, its personal experience effect certainly plays a critical role in convincing customers as in traditional WOM. Therefore, we propose the following hypotheses:

Hypothesis 7: For e-WOM, the message sender’s personal experience positively affects trustworthiness of the message.

Hypothesis 8: For e-WOM, the message sender’s personal experience positively affects e-WOM effect.

METHODOLOGY

Framework

According to the literature review, this study built a framework of e-WOM working mechanism as shown in Figure 1.

Variable’s Operational Definition and Measurement

For trustworthiness and expertise constructs, basically we adopt Ohanian’s (1990) scale for measurement except for two minor adjustments. These concern Expertise construct, because “skilled” is not suitable to describe body-care product users, thus this question item was deleted from the questionnaire; moreover, the question of experience/inexperience was deleted from Expertise construct since it should belong to the Sender’s Own Experience construct. For receiver’s search extent and e-WOM effect on purchase intention, we employed Bansal and Voyer’s (2000) scale for measurement; however, we changed “number of attempts” to “number of searches made” and “number of inquiries made”, and added “visiting more web sites” so as to be more concrete. As for the sender’s own experience, since no existing measurement mentioned this in the literature, we devised some questions for this construct. As a result, the constructs, their corresponding manifest variables, and evaluating criteria in the questionnaire, are listed in Table 1 below.

Figure 1: Framework of this Study
Survey Design and Sampling

300 questionnaires were distributed to body care product users and 275 of those returned were deemed valid. Among the 275 respondents, 82.4% of them were female, 67.8% were at least college-educated, and all were aged from 17 to 35. All questions were on a 5-point Likert-type scale.

### Table 1: Questionnaire Items, Reliability, and Validity

<table>
<thead>
<tr>
<th>Construct</th>
<th>Manifest variable</th>
<th>Evaluating Criteria</th>
<th>Factor Loading</th>
<th>Cronbach’s α</th>
<th>Composite Reliability</th>
<th>Average variance extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message’s trustworthiness</td>
<td>X₁</td>
<td>Messages are dependable</td>
<td>0.832</td>
<td>0.879</td>
<td>0.829</td>
<td>0.618</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Messages are reliable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Messages are trustworthy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X₂</td>
<td>Messages are sincere</td>
<td>0.743</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X₃</td>
<td>Messages are honest</td>
<td>0.781</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expertise</td>
<td>X₄</td>
<td>Sender is an expert</td>
<td>0.823</td>
<td>0.847</td>
<td>0.820</td>
<td>0.603</td>
</tr>
<tr>
<td></td>
<td>X₅</td>
<td>Sender is knowledgeable</td>
<td>0.737</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X₆</td>
<td>Sender is qualified</td>
<td>0.768</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiver’s Search Extent</td>
<td>X₇</td>
<td>Visiting more web sites</td>
<td>0.847</td>
<td>0.902</td>
<td>0.856</td>
<td>0.666</td>
</tr>
<tr>
<td></td>
<td>X₈</td>
<td>Number of searches made</td>
<td>0.756</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X₉</td>
<td>Number of inquiries made</td>
<td>0.842</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e-WOM Effect</td>
<td>X₁₀</td>
<td>Significant influence</td>
<td>0.873</td>
<td>0.897</td>
<td>0.895</td>
<td>0.630</td>
</tr>
<tr>
<td></td>
<td>X₁₁</td>
<td>Mention of helpful things</td>
<td>0.764</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X₁₂</td>
<td>Provided different ideas</td>
<td>0.762</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X₁₃</td>
<td>Really helped</td>
<td>0.749</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X₁₄</td>
<td>Influence on knowing features</td>
<td>0.815</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sender’s own Experience</td>
<td>X₁₅</td>
<td>Denote own experience</td>
<td>0.734</td>
<td>0.813</td>
<td>0.697</td>
<td>0.535</td>
</tr>
<tr>
<td></td>
<td>X₁₆</td>
<td>Cited other’s opinion/experience</td>
<td>0.729</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RESULTS AND ANALYSIS

SEM (structural equation modeling), which includes measurement model and path analysis, is an efficient way to find the causal relationships between constructs and their underlying measurement suitability; and Amos 7.0 software with maximum likelihood estimation (ML) was used to implement SEM. The actual results are stated as follows.

**Measurement Model: Confirmatory Factor Analysis**

Reliability, validity and internal consistency

Confirmatory factor analysis (CFA) was employed to test reliability and validity after collecting the questionnaires. The CFA results along with the Cronbach’s α value of each construct are also shown in Table 1. The loading factor values of each manifest variable were higher than 0.7 (the suggested threshold value is 0.6, see Bagozzi & Yi, 1988), indicating that internal consistency and convergent validity were good; composite reliability (Construct reliability) and the Cronbach’s α value of each construct were higher than 0.8 (the suggested threshold value is 0.7), also the average variance extracted of each construct was greater than 0.5, indicating good reliability. For the overall assessment of the measurement, multiple fit indexes are reported in Table 2 from which we can see that the model was reasonably consistent with the data, with all the fit indexes better than the recommended values.

### Table 2: CFA fit indexes

<table>
<thead>
<tr>
<th>Criteria</th>
<th>p</th>
<th>$\chi^2$/df</th>
<th>AGFI</th>
<th>NFI</th>
<th>RFI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Value</td>
<td>&lt;0.05</td>
<td>Between 1 and 5</td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Actual value</td>
<td>0.027</td>
<td>2.545</td>
<td>0.913</td>
<td>0.904</td>
<td>0.912</td>
<td>0.926</td>
<td>0.039</td>
</tr>
</tbody>
</table>
Structural Model: Path Analysis

Overall model fit

Overall fit indexes are reported in Table 3, which shows that the model was reasonably consistent with the data, with all the fit indexes better than the recommended values. Figure 2 indicates the path loadings in addition to t values (in parentheses) for each path.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>p</th>
<th>$\chi^2$/df</th>
<th>AGFI</th>
<th>NFI</th>
<th>RFI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Value</td>
<td>&lt;0.05</td>
<td>Between 1 and 5</td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Actual value</td>
<td>0.032</td>
<td>2.56</td>
<td>0.913</td>
<td>0.919</td>
<td>0.907</td>
<td>0.931</td>
<td>0.026</td>
</tr>
</tbody>
</table>

DISCUSSION AND CONCLUSIONS

Based on the test results, the following conclusions were drawn:

(1) Hypotheses 1, 3, 5, 7 were accepted while hypotheses 4, 6 and 8 were rejected, meaning that sender’s expertise, receiver’s search extent, and own experience have influences on how e-WOMs are adopted only through trustworthiness of the messages conveyed.

(2) Following the above, the relative influence of sender’s e-WOM owing to sender’s expertise, receiver’s search extent, and own experience can be reduced to their effects on trustworthiness. For own experience, its coefficient was 0.36. For sender’s expertise, its coefficient of direct effect was 0.23, and the intermediate effect through receiver’s search extent was 0.0576, totaling 0.328; still slightly less than that of own experience. The coefficient of receiver’s search extent, which is an intermediate variable like trustworthiness, was only 0.25. Therefore, it seems that one’s own experience, whether it is the sender’s own experience or another’s encounter, can arouse the message receiver’s empathy and acquire his/her faith.

Note: One asterisk (*) denotes significance at the 0.05 level, and two asterisks (**) denote significance at the 0.01 level. t values are in parentheses

Figure 2: Path coefficients for SEM model

MANAGERIAL IMPLICATIONS

Due to the advent of the internet, great variation has arisen in the means of interpersonal communication; anyone can store and transmit massive information in next to no time and get responses from all internet users immediately
such that transmission of WOM becomes much quicker. Based on the above conclusions, we propose the following suggestions for business managers, hoping to be helpful in marketing practice.

1. Looking for influential internet opinion leaders (internet ravens) through whom business information gets transmitted more effectively: WOM and online communication both are interpersonal links, combining WOM with the internet makes transmission of WOM much easier and faster. Opinion leaders in internet markets not only actively take part in marketing activity, but are also good at transmitting market information using WOM; thus, they are very helpful in the transmission of business information. In real life, an expert’s opinion often paves the way for others to follow; but then the opinion leaders become the ones influencing the market since they possess specific knowledge about some particular product. Thus, the enterprises can trace the number of forwarding e-mails of internet users via suitable tracking software and record forwarding quantity at each level, thereafter using data mining techniques to search the active internet market opinion leaders on e-WOM activity so as to help in business marketing.

2. Fortifying usefulness tracing of e-WOM: Companies should at any time listen and try to understand their own products/services being discussed online by consumers, or even topics of some particular brands. For traditional marketing research, usually the subjects are asked to give assent in advance and answer pre-specified questions under fixed modes; the original purpose often may not be attained. In contrast, those comments and opinions voluntarily offered online can express the real thought in the consumer’s mind, since he is not confined by the direction and induction of the questionnaire. If the results of marketing investigation are different from the messages conveyed by the consumers in discussion zones and forums, the company probably should take a new look at the product design. Moreover, there are various opinions published by thousands of internet users in some well-known consumer forums; such consumers can possibly be opinion leaders proficient in various fields and the opinions they offer can be valuable and useful. Therefore, for a company, to trace relevant e-WOMs not only can utilize positive internet information, but can confine influence of the possible negative information as well. One can even combine this information with marketing activity to have greater impact.

3. Establishing product discussion zones or chat room to share one’s own experience and offer smooth consumer’s communication channel: according to previous WOM studies, the sender’s own experience and the receiver’s search extent positively affect the influence of WOM on purchase decisions while the receiver’s expertise can lessen the influence of WOM. However, negative WOMs arouse more consumers’ attention than positive WOMs, and thus have more weight and do a lot of harm to an enterprise. Normally, negative WOMs comes from the complaints of unsatisfactory customers, thus a company should establish consumer communication channels and keep them uncongested. Traditional complaint and appeal channels can not only respond to customer’s complaints and prevent unfavorable product information from spreading out, but bring about awareness of the improvement direction of the product/service. The company can also establish discussion zones or forums according to different types of products on their website, giving customers a place for WOM communication so that consumers can lay charges at their own will. This will let the company improve their products according to these charges and have the opportunity to damp down this “noise” or use advertisements to “sterilize”. Through sharing in a discussion zone, senders and receivers have communication channels and in the meantime, receivers with professional knowledge and expertise can transmit information to influence more people. The discussion zone can also be used to publish new company information irregularly and offer suitable products for website members to use so that more curious consumers are attracted there to collect information, thus attaining the purpose of WOM transmission.

4. Strengthening relation marketing between enterprises and consumers, and devising different strategies according to different needs of consumers: relation marketing means to maintain and continue close relationships with current customers so as to strengthen customer’s loyalty and increase purchase quantity. Endeavoring to maintain good interactive relationships with loyal customers and offer products/services to meet customer’s needs make it a starting point of WOM propaganda; not only can it keep current customers, but create unique value for the company’s product and image through transmission of consumer’s WOMs, and consequently enlarge the customer base to earn more profit margin.
REFERENCES


