

# The Effects of Negative Electronic Word-of-Mouth and Webcare on Thai Online Consumer Behavior

Pongsatorn Tantrabundit, Lersak Phothong, Ong-art Chanprasitchai

**Abstract**—Due to the emergence of the Internet, it has extended the traditional Word-of-Mouth (WOM) to a new form called “Electronic Word-of-Mouth (eWOM).” Unlike traditional WOM, eWOM is able to present information in various ways by applying different components. Each eWOM component generates different effects on online consumer behavior. This research investigates the effects of Webcare (responding message) from product/ service providers on negative eWOM by applying two types of products (search and experience). The proposed conceptual model was developed based on the combination of the stages in consumer decision-making process, theory of reasoned action (TRA), theory of planned behavior (TPB), the technology acceptance model (TAM), the information integration theory and the elaboration likelihood model. The methodology techniques used in this study included multivariate analysis of variance (MANOVA) and multiple regression analysis. The results suggest that Webcare does slightly increase Thai online consumer’s perceptions on perceived eWOM trustworthiness, information diagnosticity and quality. For negative eWOM, we also found that perceived eWOM Trustworthiness, perceived eWOM diagnosticity and quality have a positive relationship with eWOM influence whereas perceived valence has a negative relationship with eWOM influence in Thai online consumers.

**Keywords**—Consumer behavior, electronic word-of-mouth, online review, online word-of-mouth, thai online consumer, webcare.

## I. INTRODUCTION

WORD-OF-MOUTH (WOM) was ranked as the most effective information source among the mix of information sources that consumers rely on as they make everyday decisions. In this, many scholars have studied and continuously accumulated the knowledge and mechanism driven under WOM. Many marketing researchers and practitioners (e.g. [1]-[3]) agreed that WOM can be perceived as a key issue that affects consumer’s product/service evaluation and purchasing decision.

In a current competitive market, the Internet has been adopted as the key communication tools and marketing channels for every organizations in order to increase their competitive advantages and satisfy customers’ satisfactions. The World Population Statistics reported that a number of the Internet users were increased dramatically from around 361 million in December 2000 to more than 3.7 billion in March

2017. The world Internet users were more than half of the world population and the Asian Internet users were the biggest part (accounting for 45%) of the world Internet users [4]. The tendency of the Internet users seems to increase sharply in the future. Therefore, firms have to create the effective online systems in order to sustain their existing consumers and attract the new ones. The development of the Internet connection has shifted and transformed the traditional WOM into the new form called online WOM or electronic WOM (eWOM) in many empirical studies (e.g. [5]-[8]).

Unlike traditional WOM, eWOM is able to present positive and negative reviews made by the former, actual or potential customers on a product or service with the statistically figures in a timely manner through the Internet [9]. Reference [10] added that blogs, discussion boards and review sites are the online channels that people are commonly used to express opinions on all sorts of movies, products, services, social issues and events. In addition, [11] noted that consumers do not just get tips from their family and friends anymore but they can easily get more information via the Internet about businesses, rate products and exchange opinions about consumer experiences across groups and boundaries. As a result, from this technological invention, consumers are able to share their opinions about the products to other people via the Internet channel.

According to [11], research on consumer behavior shows that online reviews are a key resource for consumers to decide where to go and what to buy. Consumers seek information from online reviews for many reasons. For instance, they want information from other consumers about a product or service which it might help them to find a way to keep costs down or reduce risk of wasting money on a poor product or service. They might use the information from online review as an instrumental reference to see what’s popular on other consumers for their own preferences. Similarly with hotel industry, according to eMarketer (2007, as cited in [12]), 25% of infrequent leisure travelers use online review for their hotel booking and 33% of frequent travelers switched a hotel stay based on online review from other travelers. As a result, the information of eWOM plays an importance role on travelers’ decision-making process and purchasing intention. Nowadays, many websites such as Amazon.com, Yahoo.com, and Hotels.com allow consumers to provide online review regarding the products and services listed on their websites. In addition, [13] noted that WOM information has a greater impact on information search when a consumer is not familiar with a service provider especially on travel-related decisions. Because of the characteristic of the service products which are

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intangible, and cannot be easily described, people tend to rely on WOM from experienced users in order to reduce uncertainty and lower perceived risk [14].

In the online world, eWOM is the new form of traditional WOM which can be considered as the extension of the traditional WOM in this new era. eWOM differs from traditional WOM in many perspectives because it mostly consists of written words through unilateral communication processes with indirect interaction which creates many-to-many communication without geographical limitation or social boundaries. eWOM also has a long-lived and easy to transmit or forward among individuals [15]. Unlike WOM, eWOM can be presented with various components (such as rating score, text review, helpfulness indicator, volume of reviews, reviewer's source identity, and responding message from producers) which are very useful and helpful criteria for the researchers to investigate the effects of each component in eWOM on an individual's behavior. Similarly to the driven mechanisms behind traditional WOM, many researchers have started to investigate eWOM in three aspects: the motivations, the processes, and the impacts on an individual's behavior (e.g. [16], [17]). As [18] stated that eWOM is a key source of information in consumers' purchasing decision, many companies try to get involve in eWOM in order to stimulate brand and product advocacy. In addition, the companies also afraid of the consequences of negative eWOM attempt to limit the influence of its effects once posted online [8]. As a result, many companies are trying to respond to the eWOM message regarding whether it is a positive or negative online review. These responding messages from product/ service providers were called Webcare by [5].

As [19] pointed out, eWOM offers prospective consumers with important information on whether to buy a product or service, consumers seek for information from eWOM as well as evaluate those information through their perception process by combining all available data of every component's appearances in the eWOM platform. Therefore, understanding the mechanism driven behind each of the components of eWOM could facilitate both scholars and practitioners to provide the appropriate eWOM platform in order to satisfy their customers.

## II. RESEARCH OBJECTIVES

1. To investigate the effects of negative eWOM and Webcare on Thai online consumer behavior.
2. To study the relationship among rating score, review content and Webcare on Thai online consumer's perception, attitude and decision-making towards the eWOM platform from both product and service perspective.
3. To generate a framework that extends the knowledge of eWOM for business practitioners, scholars and online communities' stakeholders.

## III. LITERATURE REVIEWS

### A. Word-of-Mouth

Reference [20] defined WOM as all informal communication transferred directed at other consumers about the ownership, usage, or characteristics of particular products and services or their sellers. Reference [21] referred to WOM as the informal transmission of ideas, comments, opinions, and information between two or more individuals where none of them is a marketer. According to [23], WOM was defined as product information opinion from one person transmits to others. As a result, in marketplace, WOM is considered as a valuable source of information for both consumers and marketers. Reference [22] describes five major components of WOM, as shown in Fig. 1. First, it starts with the source or communication sender. Second, the message or things are being communicated or shared. Third, the audience or persons are receiving the message. Fourth, the channel or medium through which the message is being communicated or shared. Last, the effect or the consequence of the communication.

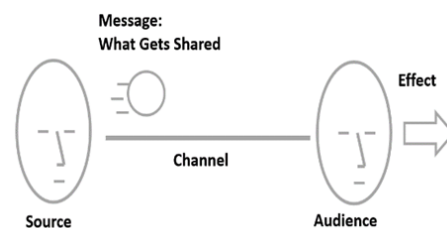


Fig. 1 The Major Components of WOM [22]

According to [22], Fig. 1 illustrates that consumers communicate about something (e.g. products, services, company, brands, groups) to someone (e.g. friends, neighbors) through a communication channel (e.g. phone, face-to-face) and eventually, that communication has consequences (e.g. impacting on the talker or listener on attitude or purchasing intention in the future). In this, the communication via WOM usually takes place within a social relationship context that might be characterized by the tie strength which is the closeness of the relationship established among the information senders and the receivers [24]. Reference [25] added that a social network is a structure that links individuals, families, companies or nations which then ties them together via some categories of interdependency such as friendship, shared values, financial interests or religious groups. As a result, the tie strength can be ranged from strong to weak depending on several aspects such as the type of resources, the persons at the time exchange, the frequency and the intimacy of the exchanges. The senders and receivers who have a strong tie will exchange more information and more frequently which create a greater influential WOM [14]. In addition, [28] added that informant senders and receivers who are similar in age, sex and social status tend to have WOM activity more often and communicate more easily because people tend to trust persons who are similar and think that those persons know more about their tastes and interests.

### B. The Effects of WOM on Consumer Behavior

Reference [22] divided the effects of WOM on consumer behavior into two categories. First, WOM affects consumer awareness. WOM can inform people of the existence of a product or behavior which is an important mechanism particularly for new, unknown or low-risk products and ideas. Second, WOM has a persuasive power on consumer behavior. WOM can change opinion about something right or worth doing, leads people to change their behavior to be liked or avoiding to be ostracized, and creates competitive concerns related to their status. WOM can also affect the social identity of consumers in terms of product/service usage which may influence the likelihood of purchase or consumption. Especially, when the uncertainty is high (e.g. risk reduction), WOM will become very important source of information. In addition, [3] stated that consumer's satisfaction, loyalty, perceived quality, commitment, trust and perceived value are increased significantly throughout WOM activity. Solomon [23] noted that WOM tends to be more effective, reliable and trustworthy than messages from formal marketing channels because people receive WOM from other persons that they know. WOM was seven times more effective than newspapers and magazine, four times more effective than personal selling and two times more effective than radio advertising in influencing consumers to switch brands. Moreover, [31] added that WOM was nine times more effective than advertising in converting neutral or unfavorable predispositions into positive attitudes in his study. In general, one dissatisfied customer can be expected to tell nine other people about his/her dissatisfying experience. On the other hand, one satisfied customer will express his/her satisfying experience to an average of five other people [30]. Reference [22] claimed that WOM is more influential on consumer awareness, expectations, perceptions, attitudes behavioral intentions and behaviors than other marketer-controlled sources. According to the consulting company McKinsey (2010) as cited in [22], it stated that WOM is the primary force behind 20% to 50% of all purchasing decision as well as it helps the company to generate more than two times of sales when comparing with paid advertising in skincare and mobile phone product categories. As a result, WOM is an important source of consumer expectations that can create an effective influence on consumer judgment and behavior [1], [28], [31].

### C. Electronic Word-of-Mouth (eWOM)

The Internet has created a new form of global networked communication that many marketing scholars called "Electronic World-of-Mouth (eWOM)", which can be defined as an "informal, person-to-person communication between a perceived noncommercial communicator and a receiver regarding a brand, a product, an organization, or a service". Reference [27] referred to eWOM as the knowledge exchange that consumers carry out online. Reference [9] defined eWOM as any positive or negative statement made by potential, actual, or former customers about a product or company that is made available to people and institutions through the Internet. Based on the virtual communities creating by the Internet,

consumers are able to create their social networks with people they have never met in person and exchange their opinions about products and services with other people. According to [32], these web channel platforms which include blogs, review sites, social network sites and forums, have changed the channels to transmit information between the senders and receivers in traditional WOM completely, as shown in Fig. 2. In WOM, the transmittance of information occurs in a simultaneous and bidirectional conversation between source and receiver, whereas in eWOM, the conversations do not have to be simultaneous and bidirectional. In addition, the information in eWOM usually appears in written form which is able to display over a longer period of time. Unlike traditional WOM, the source and receiver in eWOM do not usually know each other, and most of the time, the source is perceived as anonymous [7]. From the capability of eWOM communication, [9] noted that the permanence of the opinion has increased the level of information exchange comparing with the offline WOM. Moreover, according to [40], eWOM can be considered as the extension of traditional interpersonal communications in the new era. Although the study of [43] found that around 90% of WOM communication was actually offline, many recent marketing practitioners and scholars believed that eWOM would play an important role for consumers to rely on as a source of information in the near future due to the growing number of Internet users.

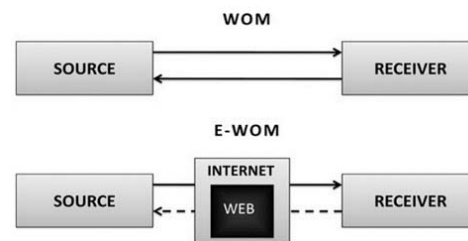


Fig. 2 WOM vs. eWOM [32]

### D. WOM vs. eWOM

There are many differences between offline WOM and eWOM. In this, [15] concluded the different characteristics of offline WOM and eWOM as shown in Table I.

As highlighted, there are many differences between offline WOM and eWOM. As such, it is conclusive that some practical theory and theoretical knowledge of offline WOM may not be appropriate and effective when applied to eWOM. Therefore, in order to create an effective eWOM, the researchers need to identify and understand the effect of each perspective of eWOM on consumer purchase decision-making behaviors.

### E. Rating Valence

Rating valence refers to numerical ratings evaluated by individuals who have already experienced the products or services. eWOMs automatically calculate rating valence by dividing summed rating scores by the number of raters [33]. The display of rating valence in eWOMs is different from websites to websites. For the rating valence, according to [34],

it is common to see ratings given as final conclusion from text-review in many displays such as grades, marks, stars, and thumbs up or thumbs down. For example, in the film's industry, movie reviews usually shows text-review together with the rating system (e.g. given stars) that can be assumed as a summary of the text-review and other point of views [33]. Moreover, [35] found that the rating system plays an important role in movie sales forecasting. The market success of a movie increases with the critics' ratings at a higher level of quality. In the film industry, a star is commonly used as rating valence. Reference [36] noted that a positive star rating affects a film's financial success in initial sales and it could help to reduce the effects of negative critic reviews. As a result, the rating system has been adopted as one of the product review tools and has become very popular among online firms.

TABLE I  
THE CHARACTERISTICS OF TRADITIONAL WOM AND eWOM [15]

Traditional WOM	eWOM
Personal/ Face-to-face	Impersonal/ Online
One-to-one	Many-to-many
Direct interaction	Indirect interaction
Spoken word (talk, telephone, meeting)	Written word (e-mail, text chatting, blogs)
Bilateral communication	Unilateral or bilateral communication
Synchronous communication	Asynchronous or Synchronous communication
Geographic limitation	No geographic limitation
Social boundaries	No Social boundaries
Identifiable	Anonymous & Identifiable
Indirect observation	Direct observation
Immeasurable	Measurable
Short-lived	Timeless
Spontaneous	Planned and effortless
Difficult to transmit	Easy to transmit/forward
Low ripple/multiplier effect	High ripple/multiple effect

In [37], they discovered that positive valence increased book sales in Amazon.com and BarnesandNoble.com while negative valence decreased sales. They also noted that the impact of one-star reviews had a greater impact of five-star reviews. However, some literatures did not show whether rating valence has an impact on sales. Reference [33] argued that the ratings are only a summary of the text valences which can be viewed as single-dimension aspects of product quality. In their investigation about inconsistent review and rating valences, they found that people respond more to text-review than rating valence. Therefore, [33] stated that nature of rating does not present enough information to affect consumer perception.

#### F. Text-Review

Product's text-review is one of the most popular components of eWOMs. People utilize it to find out more product information on the Internet before they make a purchasing decision. People are likely to observe others' opinions towards the product in order to reduce uncertainty risk because others' opinions represent indirect experience on

many sensory aspects [38]. In addition, product text-review is an influential driver of consumer satisfaction and loyalty, especially in the increasing environment of virtual online community allowing people to easily share their ideas through online forums, fan clubs and user groups. In one survey, half of the respondents viewed customer product reviews before they decided to purchase from a major online shopping website. Their satisfaction with the online shopping experience was 5% greater than other participants who did not view product reviews. Moreover, product reviews also provide a wider array of options that gives an opportunity for unfamiliar products to be chosen by customers [23].

Reference [39] pointed out that qualitative text-reviews were ignored in many literatures because those studies were mainly focused on the numerical rating valence that came along with text-reviews. However, [37] argued that text-reviews comparing to the average star-ranking summary provided by the web sites, contain more fine-grained, complete and comprehensive information about the quality of the product that cannot be conveyed by numerical ratings.

In [37], they found that the length of reviews (total number of typed characters) associated with sales of books when the respondents were given the same level of the overall rating score of a book. Furthermore, [39] added that single point estimation of rating valence might not be an adequate predictor of true product quality due to under-reporting by consumers with moderate product reviews.

There are many studies that represent how a customer reacts to text-review. Positive reviews are perceived to be more influential and consumers tend to give more weight in positive text valence whether the review can be trusted and the product is actually worth to purchase [33]. On the other hand, [36] found that negative reviews hurt box office revenue more than positive reviews help box office revenue. Negative biases normally come from morality judgments but positive biases usually occur with ability judgment. Consumers tend to believe negative reviews more than positive ones. Negative reviews could be perceived as the mirror image, which is worth noting for a corporate perspective but it may be regarded as extremely positive from a consumer perspective. Therefore, the negative information has more impact on consumers' attitude than the positive one [36].

#### G. Source Identity Indicator

In the persuasion and influential message literatures, [44] stated that source credibility could be identified as the first-and most-studied variables. The various dimensions of source credibility such as expertise, bias and attractiveness have been found to influence the impact of a message on the receiver's beliefs. There were three related sources of data connecting to source's credibility. Firstly, credibility judgments based on prior beliefs concerning and prior affective responses to the messages that come from the source of existent data which the receivers had known. Secondly, the use of source credentials as spokesperson's credibility for the receivers who have little or no prior familiarity with the source. Thirdly, the receivers determine source credibility through the message itself that is

based on the perceived quality of the message such as well presented, plausible, with convincing specifics, examples or data. However, in [45], the most commonly observed source from the receivers is the personal characteristics of the information providers that includes demographic information (e.g. gender, education, profession, socio-economic status, age).

Theory of social comparison introduced by [46] is able to explain how source similarity influences persuasiveness. People always compare their attitudes and capabilities with others. So, the tendency to compare oneself with another increases such that an individual is perceived to be similar to oneself because similar people have similar needs and preferences. In addition, according to [47], the receivers are able to better identify and understand the sources that are similar to them. Therefore, perceived sender similarity increases the persuasiveness of the information transmitted. As a result, a source perceived as similar to the receiver is more persuasive than a source perceived as dissimilar [34].

#### Webcare

Responding to eWOM can be referred as “Webcare” which can be defined as the act of engaging in online interactions with consumers, by actively searching the web to address consumer feedback such as comments, questions, complaints and so on [5]. Although the intention of Webcare is responding to eWOM in both negative and positive comments, many researchers [17] believed that Webcare is a useful and helpful tool for a company to implement as a countering for negative eWOM as well as control undesirable outcomes on consumer behavior. According to [8], by applying Webcare, companies attempt to solve complaints that cause consumers to engage in negative eWOM as well as limiting the potential damage that such complaints could have on other consumers. It can be concluded that Webcare aim to service dissatisfied consumers in order to reduce the chance that negative eWOM spread through others.

As to the earlier discussion in this chapter, the effect of negative eWOM has always created more impact on consumers’ attitudes and behaviors than a positive one [5], [37]. As a result, many companies increasingly utilize Webcare on their eWOM platform because they afraid of the consequences of negative eWOM once it was posted online. When Webcare is utilized successfully, the companies are able to keep consumers’ satisfaction even though they had an unsatisfactory experience with a product or service in the past. In addition, Webcare also protect or even improve the companies’ reputation among those who read about these unsatisfactory experiences. Therefore, if a company responds to consumer complaints adequately, these groups of consumers may stop posting negative eWOM or even start posting about their positive experiences which could lead the company to have more positive brand evaluation among consumers [8].

According to [5], there were almost 60% of people who submit negative online reviews on a public site such as Twitter or Trip Advisor expect a response from the company in the

complaint. Unfortunately, [11] noted that some online reviewers are actually working on behalf of a competitor that aims to damage the reputation of other businesses and exaggerate the positive image to their business.

#### *H. Stages in Consumer Decision Making*

A consumer purchase is a response to a problem of people wanting to make a purchase and go through a series of steps in order to satisfy their needs and wants. Reference [23] described these steps as (1) problem recognition, (2) information search, (3) evaluation of alternatives, (4) product choice and (5) outcomes. According to Solomon [23], in problem recognition stage, it occurs when people perceive a significant difference between their current state of affairs and other states. They realize that to get from here to there, they have to solve a problem, either small or large, simple or complex. Once they recognize a problem, they need to find adequate information to solve it, which moves them into the next stage. Next, in information search stage, it is the processes by which people survey the environment for appropriate information to help them make a reasonable decision. There are many kinds of information search which include pre-purchase search (search for specific information), ongoing search (stay up-to-date with information), internal search (scanning their own memory banks to assemble information), external search (obtain information from an external source such as advertisements, friends and so on), deliberate search (get information from direct learning), and accidental search (get information from indirect learning). Next, in the stage of evaluating alternatives, people tend to categorize a product and then identify alternatives which are related to many marketing strategies such as product positioning strategy, identifying competitors, locating products, and so on. The following stage is product choice which is a stage in which people select a product or service among alternatives. In this stage, people might apply evaluation criteria (the dimensions people use to judge the merits of competing options), implement determinant attributes (the features people use to differentiate among their choices), utilize cybermediaries to narrow down their alternatives (e.g. directories and portals, eWOM, forum, fan clubs, blogs, financial intermediaries, intelligent agents, electronic recommendation agent), rely on product signal (e.g. country-of-origin) or choose familiar brand names (e.g. brand loyalty, consumer habit). The final stage is the outcome, where people evaluate their decision making process and fulfill a problem arisen in the first stage.

In this study, the researcher aimed to investigate the effects of negative review and Webcare on Thai online consumers’ behavior in both product and service. Consequently, this research would explore consumer behavior literatures on the stages of information search, the evaluation of alternatives, product choice as well as the outcomes from the decision-making process.

#### TRA and TPB

TRA was first introduced by [48]. The purpose of TRA is to

facilitate the linkage between behavior attitude and intension. Due to the limitation of research on correlations between attitude measures and performance of volitional behaviors in social psychology academia, the TRA provides a model that predicts the intention to perform behavior based on two perspectives which include an individual's attitudinal and normative beliefs. This theory was formulated to demonstrate how a specified behavior is created by an individual's beliefs, attitudes and intentions toward that behavior. The TRA model also includes the variable of subjective norm as one element in predicting intention and behavior. TPB is an extension of the TRA model. TPB was created in order to fulfill the understanding and prediction on what influences an individual's behavior and what strategies need to be applied to influence change in a target behavior. Reference [49] added perceived behavior control as a new predictor to the model. TPB is based on the assumption that an individual normally behaves in a sensible manner. The theory presumes that an individual's intention to perform or not perform a behavior is depended on the result of attitudes formulated through life experiences, personal characteristics and perceptions drawn from these prior experiences. In the TPB model, [49] presented three determinants of behavior intention. First, "attitude toward the behavior" can be described as the degree

to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question. Attitude is a composite variable because it is formed through experience and perceptions. Second, "subjective norm" can be considered as the perceived social pressure to perform or not to perform the behavior. This variable is influenced by culture, individuals, networks or group such as family or friends. Third, "perceived behavioral control" can be referred as the perceived ease or difficulty of performing the behavior. This variable is assumed to reflect past experience as well as anticipated impediments and obstacles.

### 1. The TAM

The TAM was first developed by [50]. The main purpose of the TAM is to explain computer-usage behaviors. Many researchers claimed that this model was based on TRA but it focused more on finding the variables that correlate with behaviors from information systems literature. Therefore, this model would be well-suited for modelling acceptance and usage of any product and service that involve computer technology. TAM assumes that technology adoption, intention to use and actual use are depended on perceived usefulness and perceived ease of use of technology, as shown in Fig. 3.

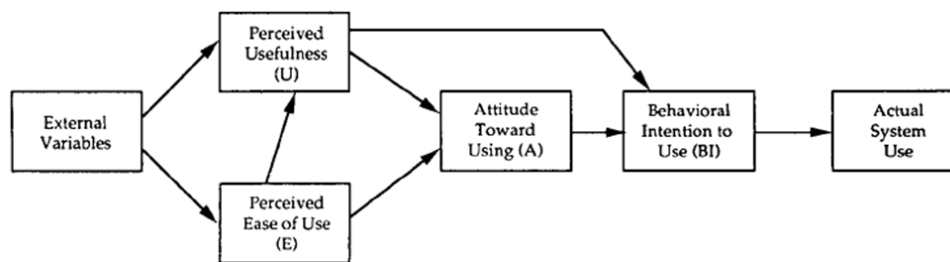


Fig. 3 Technology Acceptance Model [50]

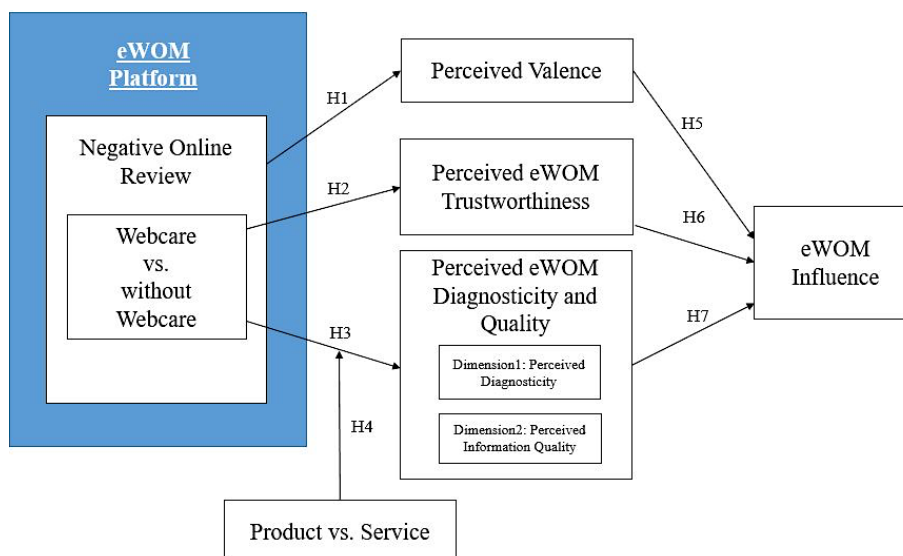


Fig. 4 The Purposed Conceptual Model for this Research



According to the model, it predicts user acceptance and intentions based on the influence of two variables which are perceived usefulness and perceived ease of use. These two variables determine behavior on attitudes toward using and then behavioral intentions to use, which behavioral intentions to use finally determines the actual system use. In addition, [50] also propose a direct relationship between perceived usefulness and behavioral intentions in two determinants as the following: "Perceived usefulness (U)" is referred to as the degree to which an individual believes that using a particular system will enhance his/her performance. "Perceived ease of use (EOU)" is defined as the degree to which an individual believes that using a particular system will free them from effort. TAM has been utilized in various studies which include the adoption of instant messaging, mobile commerce, mobile shopping, mobile ticketing, digital multimedia, broadcasting, mobile TV, 3G services, and mobile gaming.

#### *J. The Research Conceptual Model*

The conceptual framework in this research was developed based on the parts of processing eWOM and the outcomes after processing it from the stages of consumer decision making on consumer behavior theory. It was also applied the TRA, TPB, and the TAM as the parts of consumer behavior perception, attitude and decision-making toward eWOM platform. The conceptual model for this study is shown in Fig. 4.

#### *K. Perceived Valence*

According to Information Integration Theory by [41], a model can be formed based on how an individual processes combining different sources of information to make an overall evaluation by averaging them. Reference [41] believed that when people face with several choices, they integrate those options by applying algebraic models (adding, averaging and multiplying) which provide validated scale values of the stimuli in order to make a judgment. When applying information integration theory with eWOM literature reviews, the outcome of this process is the perceived valence of eWOM [32]. The information integration theory differs from the objective ratio of valence because the objective perspective gives more favor on the weighting average from the objective ratio, whereas information integration theory integrates all the pieces of information based on its credibility and reliability which are perceived as the subjective ratio. As a result, the most credible information will have more weight in the final average [41]. This concept relates to the eWOM literatures in the fact that negative eWOM has a more influential effect on consumer attitude than the positive one [36], [37], [16]. As [32] stated that the relationship between valence and eWOM impact should be established based on the subjective ratio, the perceived valence of eWOM from online consumers should include more aspects other than a summarized objective ratio. Similarly with the study of [33], they found that nature of rating in eWOMs does not present enough information to affect consumer's perception toward a product or service. As [37] added that text-reviews comparing with the average star-

ranking summary provided by the web sites, contain more fine-grained, complete and comprehensive information about the quality of the product that cannot be conveyed by numerical ratings. According to [37], the purposed conceptual model, the researcher applied only negative rating score and review contents in this study due to the fact that the negative review produces more effects on consumer behavior than a positive one. As a result, the following hypothesis is proposed: H1. There is no difference in perceived valence between the respondents who receive a negative eWOM with Webcare and the respondents who receive a negative eWOM without Webcare in an eWOM platform.

#### *L. Perceived eWOM Trustworthiness*

When consumers perceived high social or psychological risk on purchasing intention process, they tend to rely on credible information that is more diagnostic or referential from a source that they believe to be reliable. Thus, WOM can be perceived as an important influential source for consumers to rely on. However, in an eWOM platform, the source identity can be anonymous in some reviews which eventually has an impact on consumer attitude. As [44] pointed out that sources of data has an effect on receiver's beliefs, eWOMs should include a source identity indicator in order to increase trust in informant credibility as well as improve the persuasive effect of eWOM. According to theory of social comparison [46], people always compare their attitudes and capabilities with others. Therefore, a source perceived as similar to the receiver is more persuasive than a source perceived as dissimilar [33].

Perceived source credibility can be defined as how much the message receiver believes in the sender. As a result, if the source has high credibility, it would increase the consumer's attitude on believing the eWOM message [27]. Informational trust can also be defined as a user's beliefs about the reliability, credibility and accuracy of information gathered through the web [51]. In this, if the receivers view the Webcare as one kind of source credibility, their attitudes toward eWOM trustworthiness would increase. The following hypothesis is proposed:

H2. There is a difference in perceived eWOM trustworthiness between the respondents who receive a negative eWOM with Webcare and the respondents who receive a negative eWOM without Webcare in an eWOM platform.

#### *M. Perceived eWOM Diagnosticity and Quality*

Reference [52] introduced the Accessibility-Diagnosticity model in order to investigate the effects of measurement operations on belief, attitude, intention and behavior. An individual's belief, attitude or intention depends on any piece of information that is used as an input for product judgment. The probability for using any piece of information is decided by the accessibility of that information from an individual's memory, the diagnosticity of that information, and the accessibility and diagnosticity of other information. According to [30], perceived diagnosticity can be defined as the degree to which information helps consumers to categorize products (such as high quality vs. low quality). Based on the stages in

consumer decision making, people tend to gather more product information in order to develop product knowledge as well as build up an attitude toward products. The accessibility-effect occurs when the product information significantly shapes the way consumers think about the product (called product attitude) as such information is retrieved from their memories. On the other hand, the diagnosticity-effect emerges when the consumer feels that the received product information allows them to have a better product judgment and applies that information as an input to form product attitude. However, the effects of product judgment will decrease when people face more diagnostic pieces of information such as prior impressions or when people find the extremely negative attribute information. Based on the purpose of this study in determining the effects of eWOM on online consumer behavior in hotel industry, the researcher assumes that all participants in this research do not have prior experiences of the given hotel. All information about the given hotel is presented on eWOMs only. Therefore, the accessibility-effect from an individual's memory will not apply in this situation. In addition, [33] stated that WOM can be considered to be more diagnostic in nature when comparing with nonperson sources of information. As a result, the diagnosticity-effect is an appropriate measurement in this study.

In B2C e-commerce, information quality is often referred as the quality of the content presented on a web site and an important factor which can be measured from credibility, accuracy, and believability. Informational trust can be defined as a user's beliefs about the reliability, credibility and accuracy of information gathered through the web [51]. Information quality of eWOM can be defined as the consumer's perception of the quality of information presented on eWOMs which is measured from product review content in terms of accuracy, credibility and believability. Therefore, the responding message such as Webcare will add more accuracy and credibility on informational quality as well as increase believability on informational trust on an eWOM platform. As a result, Webcare would help to increase online consumer's perception and attitude toward eWOM diagnosticity and quality. The following hypothesis is proposed:

H3. There is a difference in perceived eWOM diagnosticity and quality between the respondents who receive a negative eWOM with Webcare and the respondents who receive a negative eWOM without Webcare in an eWOM platform.

Reference [54] introduced Elaboration Likelihood Model in order to demonstrate the information-processing route of consumers with the degree of involvement. The model assumes that consumers with a high degree of involvement tend to process information through a central route, whereas consumers with a low degree of involvement tend to process information through a peripheral route. The model helps to clarify the difference between message content and other related clues to determine the credibility of the messages. The central route is used when an individual faces with strong and valid content messages that provide cognitively convincing arguments around information content. The peripheral route is

used when there is an absence of a central route. It is based on social and affective clues rather than a message content. As a result, consumers of central route information processing are likely to think rationally, whereas consumers of peripheral route information processing tend to judge using their emotions. In the study of [27] relating to the effects positive eWOM on brand trust, brand affection, purchase intention and overall brand attitude, the study concluded that emotional eWOM has less impact compared with rational eWOM in high product involvement such as shampoo. Therefore, product information with high involvement (such as service) will have higher perceived diagnosticity than the low involvement one (search product). As a result, the following hypothesis is proposed:

H4. There is a difference in perceived eWOM diagnosticity and quality between the respondents who receive a negative eWOM with search product and the respondents who receive a negative eWOM with service in an eWOM platform.

#### *N. eWOM influence*

Message valence in traditional WOM and eWOM has been investigated in many studies. However, the effects of positive and negative review messages are still inconclusive. For example, some studies found that the effect of a negative message has more influence on consumer's attitude than a positive one [36]. On the other hand, some empirical research found that the positive message influences consumer's purchase intention and product sale [32]. In addition, several studies did not find any evidence to support the different effects of positive or negative review on consumer behavior. Since this study applied only negative review content, the following hypothesis is proposed:

H5. Perceived valence of eWOM negatively affects eWOM influence.

Many empirical studies emphasize on the importance of the information source in the communication process in traditional WOM. Here, the informant's credibility plays an important role on the effect of WOM on the receiver's attitude toward the WOM message. Similarly with eWOM, the information source of the message sender will also relate to the role of source credibility in the virtual communication process which eventually affects the perceived eWOM influence of the receiver's attitude toward the eWOM message. Therefore, the following hypothesis is proposed:

H6. Perceived eWOM trustworthiness positively affects eWOM influence.

Many empirical studies claimed that the better and more extensive the information is, the greater the consumer satisfaction. Consequently, since the consumer satisfaction level is higher, it also increases the level of consumer's purchasing intention [54]. However, consumers will treat reviews differently depending on their perceived informational quality and trust toward the message. If a review content contains more understandable and objective comments with sufficient reasons of recommendation, it will be more persuasive than a review content that consists of feelings and



recommendations without specific reasons. While rational review can be perceived as a high quality review, an emotional review can be considered as a low quality review.

As [55] stated that information with high quality can have a positive impact on consumer attitude and purchasing intention, the following hypothesis is purposed:

H7. Perceived eWOM diagnosticity and quality positively affects eWOM influence.

#### IV. METHODS

*Research Design:* As the purpose of this study is to investigate the effects of eWOM and Webcare on Thai consumer behavior, the research was mainly conducted by the quasi-experimental research design. Quantitative approach was implemented in this research. A self-administrated online questionnaire was used to collect primary data from respondents who have the experience in shopping online.

*Experimental Scenario Design:* The study used the 2X2 details of an eWOM platform that include two given responding messages from product/service providers (with Webcare vs. without Webcare), and two product types (a CCTV Wi-Fi camera vs. reserving a room in a hotel). Each respondent was randomly assigned to one of four experimental conditions in order to reflect their individual differences and responses to this investigation. This study decided to use the scenario situation in which the participants need to find a CCTV Wi-Fi camera or a hotel from the third party website. The experimental stimulus was adapted based on Thai well-known websites that provide large amounts of reviews such as lazada.com, alibaba.com, agoda.com, trivago.com, hotels.com, tripadvisor.com, expedia.com, bookit.com, orbitz.com, and venere.com. In this, each respondent was asked to assume that he/ she was a decision-maker. The online review platform that he/ she found from the third party does not have influences or bias from the product/ service providers.

*Population, Sample, Data Collection:* Non-probability sampling was applied in this study. Convenience sampling and snowball sampling were used as the methods of sample selection by distributing an online questionnaire. Participants were randomly chosen by their experiences on purchasing either a product or service via online channels for more than three times in the past and be older than 19 years of age due to their purchasing power. Each respondent was asked to follow the instruction and randomly processed to one of the four scenarios. The scenario appeared on the left side of the respondent's monitor and the online questionnaire was presented on the right side of the respondent's monitor together at the same time. Online questionnaires were distributed through the university's e-mail groups, personal emails, social media, forums and some websites for over seven weeks between February and April 2017. A total of 256 responses were collected, while only 178 were usable for further analysis.

#### V. MEASUREMENTS

This study applied the research measurement items from

previous empirical studies in order to keep the reliability of the scale. The measurement items of eWOM influence were adapted from [56]. Two items of perceived valence were adapted from [55]. The six-measurement items of perceived eWOM trustworthiness were adapted from [53]. The four-measurement items of perceived eWOM diagnosticity and quality were adapted from [42] and [29]. Each measurement items of perceived valence, perceived eWOM diagnosticity and quality and perceived eWOM trustworthiness were measured by a 5-point Likert scale.

#### VI. RESULTS

Prior to the data analysis, all measurement items were tested for reliability and validity. All Cronbach's alpha values of measurement items in this study were greater than 0.7 which were considered to have sufficient values for the internal reliability of the constructs. Confirmatory Factor Analysis (CFA) was conducted to assess the measurement validity.

The participants in this study consist of 113 males (63.5%) and 65 females (36.5%). The majority ages of the participants were between 20-29 years old (48.3%) and respondents who have a bachelor degree or equal accounted for 51.1%. More than half of all participants had purchased a product or service via online channels for more than 10 times and around 45% gathered information from online reviews prior making a purchasing decision in the past. The participants were randomly distributed in one of the four scenarios. The majority group of participants (31.5%,  $n = 56$ ) was assigned to scenario 3 which is a product with Webcare. The second largest group (28.7 %,  $n = 51$ ) participated with scenario 1 which is a product without Webcare. Followed by the group (20.8 %,  $n = 37$ ) who responded to the survey with scenario 2 which is a service without Webcare. The lowest number of respondents (19.1%,  $n = 34$ ) was in scenario 4 which is a service with Webcare. In this, there were 107 participants who received the scenarios with search product, whereas 71 respondents were received the scenarios with service. Ninety respondents received the scenarios that included Webcare whereas the remaining group of 88 did not receive the scenarios that presented Webcare.

A two-way between-subject MANOVA was performed on three dependent variables: perceived valence, perceived eWOM trustworthiness, perceived eWOM diagnosticity and quality. There were two independent variables: eWOM (with/without), and product type (search product/service). The result shows that there was no statistically significant ( $F_{(1,175)} = 0.018, p > 0.05, \eta^2 = 0.052$ ) on perceived valence between the respondents without Webcare ( $M = 1.824, SD = 0.865$ ) and the respondents with Webcare ( $M = 1.843, SD = 1.013$ ). There was no statistically significance ( $F_{(1,175)} = 0.345, p > 0.05, \eta^2 = 0.002$ ) on perceived eWOM trustworthiness between the respondents without Webcare ( $M = 3.787, SD = 0.520$ ) and the respondents with Webcare ( $M = 3.834, SD = 0.551$ ). There was also no statistically significance ( $F_{(1,175)} = 1.400, p > 0.05, \eta^2 = 0.008$ ) on perceived eWOM diagnosticity and quality between the respondents without Webcare ( $M = 3.814, SD = 0.612$ ) and the respondents with Webcare ( $M = 3.927, SD =$

0.653). There was no statistically significant ( $F_{(1,175)} = 0.028$ ,  $p > 0.05$ ,  $\eta^2 = 0.000$ ) on perceived eWOM diagnosticity and quality between the respondents who received a negative eWOM with search product (a CCTV Wi-Fi camera) ( $M = 3.865$ ,  $SD = 0.625$ ) and the respondents who received a negative eWOM with service (hotel) ( $M = 3.881$ ,  $SD = 0.651$ ). As a result,  $H_2$ ,  $H_3$ , and  $H_4$  were rejected, whereas  $H_1$  was supported.

A stepwise multiple regression was performed to predict eWOM influence. All correlations between predictors and outcome variable were statistically significant ( $r_{\text{VAL-INF}} = -0.221$ ,  $p < 0.05$ ;  $r_{\text{TRUST-INF}} = 0.546$ ,  $p < 0.05$ ;  $r_{\text{DIA\_QUA-INF}} = 0.758$ ,  $p < 0.05$ ). eWOM influence was primarily predicted by perceived eWOM diagnosticity and quality, and increased to a higher degree of prediction by perceived eWOM trustworthiness and perceived valence, respectively. The results from Table II demonstrated that the multiple regression of model 3, which combined perceived eWOM diagnosticity and quality, perceived eWOM trustworthiness, and perceived valence variables as predictors, was able to explain about 62.6% of eWOM influence variable ( $R^2 = 0.626$ ,  $R^2_{\text{Adjusted}} = 0.617$ ). In addition, the value of Durbin-Watson statistic 3 was 1.829, which was in the acceptable range of 1.5 to 2.5. According to Table II, the model was statistically significant ( $F_{(3, 173)} = 61.032$ ,  $p < 0.001$ ). Perceived eWOM diagnosticity and quality variable had a statistically significant positive relationship to predict eWOM influence variable and received the strongest weight in the model ( $B = 0.446$ ,  $\beta = 0.478$ ,  $t_{(177)} = 5.957$ ,  $p < 0.001$ ). Perceived eWOM trustworthiness factor also had a statistically significant positive relationship to predict perceived eWOM influence variable but had less impact comparing to eWOM diagnosticity and quality variable ( $B = 0.343$ ,  $\beta = 0.387$ ,  $t_{(177)} = 4.523$ ,  $p < 0.001$ ). However, perceived valence factor had a statistically significant negative relationship to predict the eWOM influence variable and received the lowest weight in the model ( $B = -0.056$ ,  $\beta = -0.120$ ,  $t_{(177)} = -2.503$ ,  $p < 0.05$ ).

negatively affected eWOM influence ( $\beta = -0.120$ ). Fig. 5 illustrates the result of the multiple regression in this study.

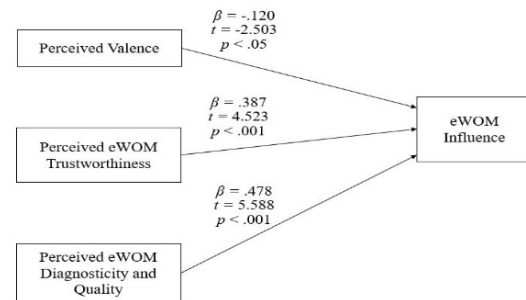


Fig. 5 A Summary of Results from the Multiple Regression Analysis

## VII. DISCUSSION OF FINDINGS AND CONCLUSIONS

The results indicated that perceived valence was mainly evaluated by integrating all pieces of information that were presented in the eWOM platform. The results also showed that there was no significant difference on perceived valence from the main treatment effects between the group of respondents who did not receive Webcare and the group of respondents who received Webcare on their scenarios. In addition, there was no statistically difference on perceived eWOM valence from the main treatment effect between the group of respondents who received search product and the group of respondents who received service on their scenarios. The results also indicated that there was no statistically difference on perceived valence from the interaction effects of Webcare and product types. This implies that Thai online consumer's perception of valence was not evaluated only by Webcare component or product types, but also by other available eWOM components such as rating scale, review contents or volume of reviewers. The finding here is found to be consistent with the theory of information integration by [41] that people accumulate all possible sources of information to make an overall evaluation. The results also supported many existing studies (e.g. [33], [32], [6]) that perceived valence of eWOM from online consumers should involve more perspectives later than a summarized objective ratio. According to the result of the multiple regression model, eWOM, perceived valence has a negative effect on eWOM influence. In this, the lower score of perceived valence, the higher score of eWOM influence. These results are similar to many scholars (e.g. [16], [37]) in that a negative eWOM has more influential effects on consumer attitudes than the positive one. This can be explained by the category diagnosticity theory where negative information is more diagnostic and useful than positive one when categorizing products based on their performance and quality [6]. In this study, the service of hotel performance was used as experience products which the online reviews were associated with either performance or quality perspectives. As a result, online consumer's attitudes toward the online service review with negative valence is more influential than the positive one [36]

TABLE II  
MODEL SUMMARY

Variable	Model 3: Prediction of eWOM Influence		
	$\beta$	$t$	Sig
<i>Independent Variables</i>			
Perceived eWOM Diagnosticity and Quality	0.478***	5.588***	0.000
Perceived Trustworthiness	0.387***	4.523***	0.000
Perceived Valence	-0.120*	-2.503*	0.013
F		61.032***	0.000
R <sup>2</sup>		0.626***	0.000
Adjusted R <sup>2</sup>		0.617***	0.000
Durbin-Watson		1.892	
Tolerance		0.664	
VIF		1.507	

\*  $p < 0.05$ , \*\*\*  $p < 0.001$ ,  $N = 176$

The results from the multiple regression analysis confirmed that perceived eWOM diagnosticity and quality ( $\beta = 0.478$ ), and perceived eWOM trustworthiness ( $\beta = 0.387$ ) positively affected eWOM influence, whereas perceived valence

that consumers tend to believe negative comments rather than positive comments.

Although the main treatment effects of Webcare from product/service providers on perceived eWOM trustworthiness and perceived eWOM diagnosticity and quality were not statistically significant, the results of descriptive analysis indicated that the participants who received Webcare from product/ service providers produced a higher score on both perceived eWOM trustworthiness and perceived eWOM diagnosticity and quality when compared to the participants who did not receive Webcare. This finding indicated that although the effects of Webcare from product/ service providers on perceived eWOM trustworthiness and perceived eWOM diagnosticity and quality were not found in this study, there were some evidences to support that online consumer's perceptions toward perceived eWOM trustworthiness and perceived eWOM diagnosticity and quality increased by implementing the Webcare in an eWOM platform.

The results of the multiple regression analysis showed that perceived eWOM trustworthiness has a direct positive impact on eWOM influence. This finding can be supported by the theory of social comparison proposed by [46] that people will always compare their attitudes and capabilities to others. So, perceived sender similarity increases the persuasiveness of the information transmitted. The results also supported the statement of [34] that a source perceived as similar to the receiver is more persuasive than a source perceived as dissimilar. Although the information reviewers and receivers in eWOMs may or may not have similar demographics and lifestyles, they are related to each other in term of consumer-perspectives. This finding confirmed that participants who received information similarity of needs and were able to observe other characteristics of reviewers which eventually increased their trust toward reviewer's credibility.

The results of multiple regression analysis confirmed that perceived eWOM diagnosticity and quality has the most powerful positive impact on eWOM influence. This finding is somewhat consistent with many prior studies (e.g. [2]). As [55] noted that the quantity and quality of online reviews such as relevance, understandability, sufficiency, and subjectivity are essential characteristics of eWOM that affect consumer information-processing, this study found similar results in that rational review content containing more quantity and quality of online hotel reviews produces more influential impact on online consumer's information-processing than emotional review content. However, the result of perceived eWOM diagnosticity and quality between the respondents who received search product and service reviews in this study was no statistically different. In this, this study could not find enough evidences to support the study of [55]. Since a hotel is a high-product involvement, consumer's purchasing intention with high-product involvement is influenced by both review quantity and quality; however, consumer's purchasing intention with low-product involvement is mostly influenced by review quantity rather than review quality.

In this study, according to the multiple regression model, the results from the 4-scenario conditions confirmed that

perceived eWOM diagnosticity and quality, perceived eWOM trustworthiness, and perceived valence were able to predict about 62.6% of eWOM influence. Perceived eWOM diagnosticity and quality variable has the strongest contribution in predicting eWOM influence.

#### VIII. CONTRIBUTIONS OF THIS RESEARCH

Since the introduction of TRA by [48] and the extension of the TRA model called Theory of Planned Behavior (TPB) by [49], both models were utilized in various research fields including sociology, psychology and marketing [39]. Particularly in marketing research, TPB was employed to investigate the consumer behaviors in both attitude and intention perspectives from various industries such as tourism destination choice, e-coupon usage, green consumption, smoking, e-commerce services, and recycling. In this research, the results from the multiple regression model confirmed that eWOM components have direct effects on online consumer's attitude and behavior which can support the TPB theory.

In this research, TAM was applied in the conceptual model in order to facilitate the adoption of eWOM on human consumer behavior because eWOMs are involved with computer-usage behavior and associate with information system literatures. The results found indicated that there was a direct relationship of perceived eWOM diagnosticity and quality, and perceived eWOM trustworthiness on eWOM influence (or called technology acceptance in TAM).

The findings in this study also support the accessibility-diagnostics model developed by [52] in that an individual's belief, attitude or intention depends on any piece of information that is used as an input for product judgment. There were many marketing studies that adopted this model in their investigation of consumer's belief, attitude, intention and behavior [2], [27]. As a result, in order to increase online consumer's perception toward information diagnosticity, business practitioners and website providers should provide an eWOM platform that encourages hotel reviewers to include more rational information in their review contents and display those rational information to message receivers accordingly. For example, amazon.com has displayed a similar statement of review contents made by reviewers as well as presented the number of people who wrote down those similar contents on its eWOM platform.

According to the study results, the effects of eWOM components on online consumer's perception toward perceived eWOM diagnosticity and quality was not found significant in this study, but if considering only the group who received Webcare and did not receive Webcare, perceived eWOM diagnosticity and quality was increased slightly when the respondent was given Webcare from product/ service provider compared with the respondents who did not receive Webcare. This result is consistent with the statement from many researchers that Webcare is a useful and helpful tool for a company to implement as a countering negative eWOM as well as control undesirable outcomes on consumer behavior. As a result, business practitioners or managers should utilize Webcare on their online review platform in order to reduce the

effects of negative eWOM on consumer's perceptions.

#### IX. LIMITATIONS AND FUTURE RESEARCH

This research study consisted of several limitations. First, due to the fact that the research implemented snowball samplings to collect data, it was limited to people who have similar interests or related connections in the same boundaries. In this, some potential respondents who were qualified for the study were excluded due to the employed data sampling method. Second, due to the data collection method adopted, convenient sampling method was used instead of random sampling method. As a result, some biases might be occurred in the findings as a consequence of the sampling selection bias. Lastly, another limitation in this study is the research design that implemented quasi experimental design. So, participants might not have the feeling of the actual need to find a hotel as well as the experimental design did not involve with the actual monetary transaction to purchase the product/service. In this, participants might produce different results if they were actually searching for a product/ service and had to make a real money transaction.

The study suggests various recommendations for future research. This research study observed the simple, interaction and main effects of one eWOM component on online consumers' perceptions by manipulating the use of Webcare. Other eWOM components (such as the number of reviews, the rating score, or the number of votes for helpfulness indicators) were not manipulated. As a result, for future research, manipulating other eWOM components as additional independent variables in this research model could help to explore more effects of each eWOM component as well as determine their contributions on online consumers' perceptions.

This study manipulated respondents by using online reviews that are considered as low-medium negative reviews. Applying extremely high positive or extremely low neutral reviews in future studies, the results from online consumers might be different. In addition, for future research, investigating the effect of neutral online review in this research model might also be interesting because online consumers' perceptions toward neutral eWOM might create different results from the current study.

Another recommendation for future studies is to conduct a similar study from cross-cultural perspectives. Since different cultural backgrounds create different worldviews, beliefs, attitudes and behaviors, the future research could explore these different effects by comparing respondents who have different places of origin from two or more distinctive cultural differences such as USA (individualism) vs. Japan (collectivism). Furthermore, future studies could investigate the effects of eWOM from the respondents who come from different countries that are dissimilar in the Internet infrastructures such as high Internet penetration country vs. low Internet penetration country. The findings of such studies could provide additional support to both business practitioners and researchers.

Finally, this current research study investigated the effects

of eWOM on online consumer behavior by assuming that message receivers obtained eWOM from the third-party websites only. Future studies could investigate the effects of eWOM from other sources such as social media or from other Internet devices such as mobile phone applications or tablets. Currently, some researchers started to investigate the characteristics of eWOM in different social media channels. For instance, [26] found that people usually share positive eWOM through Facebook, whereas negative eWOM was mainly distributed through Twitter. Therefore, the findings of such studies could provide a state-of-the-art eWOM platform in the hotel industry for researchers, marketers, practitioners, system designers and website providers.

#### ACKNOWLEDGMENT

This research would not have been possible without the financial support of Mahasarakham Business School, Mahasarakham University, Thailand.

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