

Estimation of consumers' purchase intention through Electronic Word of Mouth: A partial least square-structural equation modeling approach

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Abstract

The advancement of technology has boosted marketing activities through different electronic mediums. Electronic word of mouth (e-WOM) is one of the main mediums of marketing in recent times. The potential of e-WOM communications has increased due to social media interactions. With e-WOM companies are engaging consumers and driving the sales. From company perspectives, information characteristics, consumer motives, technological advancements are keys that engage consumers and drive purchase intention. Therefore, this study has developed a framework based on the Elaboration Likelihood Model (ELM) to assess the impact of e-WOM on consumer engagement and purchase intention. This model was assessed using Partial Least Square Structural Equation Modeling (PLS-SEM). The findings of the study revealed that the proposed theoretical model based on ELM lenses has high predictive power to depict purchase intention in e-commerce and suggests that information credibility, self-enhancement, and e-WOM engagement are vital factors that affect the purchase intention in e-commerce. The results provide valuable implications to the practitioners and managers of online companies.

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1

Estimation of consumers' purchase intention through Electronic Word of Mouth: A partial least square-structural equation modeling approach



Keywords: Information Quality, Information credibility, Innovativeness, e-WOM engagement, Purchase Intention.

1. Introduction

The newest stream within e-commerce, amongst which social aspects are determined by the phenomenon called S-commerce, as consumers have been empowered in it to create content by the usage of social media made by online forums, communities, reviews, recommendations, and ratings (Hajli & Sims, 2015). S-Commerce as a channel of e-WOM is solely intended for commercial use, whereas on the other hand the other channels aren't meant for commercial use, for instance, social networking sites (Moran, Muzellec, & Nolan, 2014). There is an expectation from the IT sector of investing almost 50 billion per annum in s-commerce by the year 2020 (Kim, Sun & Kim, 2013).

The e-WOM procedure begins, when the consumers identify the desire or need in the real state, as advertising and problem recognition are the best sources of help to the consumer to identify what problem they have and assure fulfillment of needs (Quester, Neal, Pettigrew, Grimmer, Davis & Hawkins, 2007). Once the identification of the problem is completed, information is sought through external or internal sources. Consumers are allowed, at this particular stage of e-WOM to make comparisons between alternatives of service and products after the information is sought. A reduction of risk takes place during purchase due to e-WOMin service or product choices, retailer selection, and brand choices. Even after the purchase, the consumer's behavior is continuously being affected by e-WOM, as the consumers' expectations indicate the post buying is up to the satisfaction level (Comegys, Hannula, & Vaisanen, 2006). The research community has started to give plentiful attention to e-WOMresearch because of the large number of challenges and potentials in association with it (Meuter, McCabe & Curran, 2013).

E-commerce websites provide online reviews (hereafter referred to as EC-e-WOM) playing a vital role in providing a helping hand with the decision-making process of the consumer (Cheung & Thadani, 2012; Duan et al., 2008; Davis & Khazanchi, 2008). A survey revealed, an approximately of 91% respondents claimed to be using online blogs, reviews, and various other user-generated content before purchasing new services or products and the other 46% of respondents indicated that their decisions were influenced by those comments (Cheung & Thadani, 2012). The risks the consumers perceive can be reduced by online reviews (Park & Kim, 2009; Cheung, Luo, Sia, & Chen, 2009), improve to the degree of their satisfaction and decision-making efficiency. It has proven that sales are significantly related to the volume of reviews online. The decision-making of a consumer is impacted through volumes of negative and positive reviews (Cheung et al., 2009; Berger, Sorensen & Rasmussen, 2010; Kamins & Assael, 1987). Whereas negative reviews have a greater impact than positive reviews (Herr, Kardes & Kim, 1991; Park & Lee, 2009). A report was presented by, the China Internet Network Information Center (CNNIC) in the year 2012.



According to it, consumption impulses were experienced by 43.1% of users when recommendations were made to them by their contacts on social media. As much as 38% of users, before making decisions regarding shopping will look into social media e-WOM and the number of users that like sharing commenting with friends and family on social networks are around 37.2%.

The results of past studies show us that customers who are highly involved in e-WOM are motivated more in comparison to providing reviews about their experiences towards pleasant or unpleasant experiences with product and services. The higher numbers of users involved in social media inevitably tend to enhance their overall purchase intention (Park & Kim, 2009). Past studies have also brought to light that there lies a positive effect of e-WOMin shaping the desires of a prospective customer towards the decision-making process of buying in social media (King et al., 2014). Results of previous studies indicate that variables such as information quality, information credibility, innovativeness, self-enhancement, have a significant influence one-WOMengagement (Ali, CheHussin, & Dahlan, 2019). This depicts that all these variables have a crucial impact on consumers' e-WOMand subsequent purchase intention.

In an online environment, trust is one of the important aspects, as the identities are not always available, the consumer feels difficulty in making evaluations for intangible products before consumption (Coulter, Brengman & Karimov, 2012). Previous studies reveal that website quality doesn't display any level of influence on e-WOM engagement (Ali et al., 2019). With the web's appearance, the effects of e-WOM have exceeded the expectations of researchers as well as academicians (Lee & Cranage, 2014; Kim, Naylor & Sugumaran, 2016). The e-WOM has been described as a casual communication aimed at usage or ownership of specific services and goods or about their sellers (Berger, 2014). It directly influences trust and consumer's purchasing behavior (Duan et al., 2008; Dellarocas, Zhang & Awad, 2007). Past studies conducted in the context of e-commerce have not paid an adequate amount of consideration to the engagement of e-WOM in e-commerce. Therefore, this study has included potentially significant antecedents in ELM to contribute to the literature of e-WOM and assess consumers' engagement regarding the purchase of products in the e-commerce platform.

The main objective of this study is to evaluate the influence of internal (innovativeness and selfenhancement) and external (information quality and information credibility) factors on e-WOM engagement in the e-commerce platform. Besides, to analyze the impact of e-WOM engagement on purchase intention.

The remainder of the paper will discuss the literature review and theoretical background in the second section. The third section is related to the methodology adopted in this research and focuses on data collection and sampling techniques. Then detailed analyses of the results are presented in

Estimation of consumers' purchase intention through Electronic Word of Mouth: A partial least square-structural equation modeling approach

3



section four of this study. Finally, the subsequent sections will deal with the conclusion, implications, and limitations of the study.

2. Literature Review

2.1. Theoretical Background

There are rising developments in online networking (Hameed & Irfan, 2020), e-commerce, and web 2.0, which is why firms have to take a step ahead by adding innovations on their websites, trying to provide their consumers with an engaging experience (Curty & Zhang, 2011; Friedrich, 2015). This study has kept in light and followed a few theories. Consumers these days are flooded with a huge amount of data regarding services, products, and brands. Due to the time constraints and various other factors, the user would not be successful in processing multiple persuasive messages through data sources such as friends or firms (Miller, Maruyama, Beaber & Valone, 1976). Therefore, certain information cues can be selected to present a significant aspect of advocacy. For that purpose, a theory of information processing called ELM was offered by Petty and Cacioppo, (1986) and Petty, Cacioppo, and Goldman (1981). Two possible routes to persuasion are recommended by ELM which affects the adjustment and development of a consumer's behavior. The reason for this is that consumers possess unlimited liberty to publish various kinds of content. Thus, making the role of quality and credibility critical at present (Xu, 2014). ELM was used widely as mentioned in the studies of past literature to understand e-WOM communications (Beneke et al., 2016). Researchers have previously made the use of ELM frequently to have a look into e-WOM and consumer's purchase intention (Reichelt et al., 2014, Cheung & Thadani, 2012; Prendergast, Ko, & Siu, 2010).

2.1.1. Information Quality

The overall quality of the content of utilizable information systems is called information quality. Information quality is said to be a multi-attribute idea. There are five attributes associated with determining the quality of information. If the characteristics that define the quality of information are of decent, good, or a higher quality and value, then the data we have acquired is of good quality. Timeliness is associated with the speed by which we receive the information. Therefore, we could assume that the faster information received the better would be its quality. Appropriateness refers to the factor, which shows us the matching between the receiver and the information available. As much as the information is sustainable to the receiver the more chances the information has of being of better or good quality. Reliability of the information is one of the key attributes that define its quality. The information can only be used if it is reliable to the user. The historical experiences, the procedure adapted to gain and process the data and the network of distribution gives us an understanding of how reliability works. Perfection in the information gained is called Accuracy. Favorably the quality is better if the accuracy of the information is better. Completeness is the information we have acquired that gives us a holistic picture of the Estimation of consumers' purchase intention **Idress Waris, Stafford Jude** through Electronic Word of Mouth: A partial 4 Jonathan D'costa, Irfan Hameed least square-structural equation modeling approach



entire reality rather than just a single part of the picture. Information quality in this study's light was defined to be the associated power of e-WOM's provided message. When consumers consider an argument valid, it is when they believed the effectiveness of the information (Sussman & Siegal, 2003). In e-WOM, the focus is given from individual to individual contacts that take place over the online web. Past studies depict that there is an affirmative relation between the quality of information and purchase intention and that purchase intention is affected positively by quality information (Lee & Shin, 2014; Park, Lee & Han, 2007). The above discussion provides enough evidence related to the significance of the quality of information on e-WOM engagement. Thus, we hypothesized that:

H1: Quality of e-WOM information has a significant, positive relation with e-WOM engagement.

2.1.2. Information Credibility

Information credibility is understood to be a fundamental component of the peripheral routes, because it being the communication receivers perceive, the credibility of the message the sender is trying to convey (Cheung & Thadani, 2012). When consumers think that any kind of information they have available is credible, consumers are willing to communicate with each other through any form of communication (Hameed, Khan, & Shahab, 2020). With the internet, millions of consumers find boundless freedom to speak freely about their experiences and share thoughts without actually meeting in person (Reichelt et al., 2014). The rising popularity of the usage of social media-based platforms such as the frequently used Facebook and its potential to spread incorrect information or misleading information makes it a challenge for consumers to know correctly if the information they have is reliable or not (Soomro, Hameed, Butt & Shakoor, 2012; Hameed & Waris, 2018). A study by Awad and Ragowsky (2008) stated that one very imperative determinant of the consumer's decision-making process is information credibility. When an individual engages in the activity of e-WOMand shares his experience about a product or commodity whether good or bad reviews, it affects the overall thought process of a potential customer who is reading the opinions or reviews. A past study revealed that consumer's purchase intention is affected by information credibility (Prendergast et al., 2010). The above discussion provides enough evidence related to the significance of information credibility on e-WOM engagement. Thus, we hypothesized that:

H2: The credibility of information has a significant impact on e-WOM engagement.

2.1.3. Innovativeness

Innovativeness may be defined as a degree to which a person may comparatively adapt to innovation faster or quicker than another member of his social circle or system (Rogers, 1976; Hameed & Haq, 2020). A wide range of concepts within the discipline of behavioral sciences has, largely the same kind of significance as innovativeness on consumer behavior (Hirschman, 1980;

| Estimation of consumers' purchase intention |
|--|
| through Electronic Word of Mouth: A partial |
| least square-structural equation modeling approach |



Hameed & Irfan, 2019). Mowen, Park, and Zablah (2007) found a negative relationship between WOM receiving and innovativeness when both factors were studied in the traditional (offline) environment. Sun, Youn, Wu, and Kuntaraporn (2006) study found that innovativeness positively affected information seeking. Observing a particular premise every individual, to an extent is a discoverer. Users of social media sites such as Facebook show us that individuals with superior innovativeness are not opinion seekers but rather opinion leaders (Tsang & Zhou, 2005). Another study established that innovative consumers are actively researching new products and sharing their reviews and experiences. Furthermore, there is a positive impact on opinion leadership of innovativeness (Sun et al., 2006). The above discussion provides enough evidence related to consumer innovativeness and its significance on e-WOM engagement.

H3: Consumer innovativeness has a positive relation with e-WOM engagement.

2.1.4. Self Enhancement

Self-enhancement recommends that people carry the propensity to relate themselves with different brands. A fine distinction of self-enhancement lies within the positivity bias element linking to the sharing of the desire of the creation and maintenance of positive self-concept also known as self-image (Wojnicki & Godes, 2008). In an online engagement with other consumers through online reviews, which is partially designed, for negative criticism, reviewers with a positive self-image end up expressing joy, trust, and anticipation at such forums (Felbermayr & Nanopoulos, 2016). Every action by an individual focuses on self-benefit, as believed by the proponents of worldwide egoism (Batson & Shaw, 1991). Ali et al. (2019) defined selfenhancement as the readiness of an individual to give a review of her/his experiences for enhancement, of her/his status or image among the masses of consumers. A recent study found that, when opinions, personal and subjective experiences about products and services are included, favorable responses by consumers are generated by e-WOM (Kim & Song, 2018). Previous studies state that consumers participate in communities online mainly as a way to cater to their selfinterest, which may involve seeking peer recognition (Baethge, Klier & Klier, 2016; Hars & Ou, 2002). The above discussion provides enough evidence related to the significance of individual self-enhancement on e-WOM engagement. Thus, we hypothesized that:

H4: Self-enhancement has a positive influence on e-WOM engagement.

2.1.5. The e-WOM Engagement

A multidimensional term that represents the social nature, experience, and brand-related dynamics of a consumer is called Engagement (Brodie et al., 2011). The e-WOM information through online mediums with other consumers is defined as e-WOM engagement. Consumer engagement on social media with e-WOM involves interacting socially by mentioning, liking, receiving, or passing on information linked to products to their societal links (Interactive



Advertising Bureau, 2009). Often it includes others hearing out a consumer's experience. Engagement alludes to the emotional response towards situations and other stimuli through which the consumer forms some kind of relationship or bond with the stimulus (Kulshrestha & Kapoor, 2011). In the directive to rationalize the effect of e-WOM on users, we need to consider the engagement of consumers with e-WOM communications, as the first step. It would provide a deep understanding of what an individual consumer requires to connect with e-WOM. The willingness of requesting or sharing Researchers believed that consumers that are engaged in e-WOMcommunications are likely, to develop a higher intention to purchase (Baber, Thurasamy, Malik, Sadiq, Islam, & Sajjad, 2016; Chen, Chen & Chen, 2014; Erkan & Evans, 2016; Wu & Wang, 2011; Yu & Natalia, 2013). Another study revealed a positive relation between e-WOM and customer buying intention (Sharifpour, Sukati & Alikhan, 2016). The arguments presented by the previous researchers regarding the effectiveness of e-WOM engagement driving consumer purchase intention have confirmed the significance of e-WOMengagement in e-commerce purchase decisions. Therefore, we hypothesized that:

H5: The e-WOM engagement has a positive influence on Purchase Intention.

Figure 1. Conceptual Framework



3. Methodology

3.1 Method of Data Collection

Estimation of consumers' purchase intention through Electronic Word of Mouth: A partial least square-structural equation modeling approach

7



The data was collected from the social media users. This group of people has more knowledge regarding social media and advertising than non-users. Therefore, we have considered the youth from the population. Questionnaires were distributed to participants who are above 18 years and undergraduate graduate students, and employees at various organizations. Since working individuals these days are operating mostly on laptops the use of electronic commerce is of great magnitude. The data from the simple survey was in the form of questionnaires, which were mostly filled online during the COVID-19 pandemic outbreak.

3.2 Sampling Techniques

For this study, we have used the purposive sampling technique for the collection of the data because it relies on the researchers' judgment to choose who would be participating as a respondent (Waris & Ahmed, 2020; Hameed, Zaman, Waris, & Shafique, 2021). The purpose of this kind of technique is to find respondents who have certain characteristics or suit the needs of the study (Khan & Hameed, 2019a,b). It is cost-effective and compared to other techniques it is less time-consuming (Waris & Hameed, 2020b). The study aimed to choose representatives that were more suitable to the premise of the study. The representatives included individuals mostly engaged in the use of the internet and social sites for both socializing as well as engaging in e-commerce. Thus the individuals that mostly communicate through social media were likely to be engaged in e-WOM were considered for this study.

3.3 Sample Size

The sample data was collected from the residents of the city of Karachi. The sample size was determined by following the criterion suggested by previous researchers (Kline, 2011; Hair et al., 2014; Khan & Hameed, 2017). According to them, 1:10 was the appropriate sample size, as the total number of items for the selected variables was 17. Therefore, the total numbers of 170 respondents were enough for testing the model. To increase reliability, we have distributed a questionnaire to 370 respondents. In the end, we have received 251 valid responses. The respondent's descriptive characteristics are presented in Table 3.1. This table shows us the number of males and females that had participated in the form of respondents. It showed us the age as well as the level of education that the respondent has received. Additionally, it gave us an idea about internet usage time or the average time an individual invested or spent over the internet.

| Demographic Information | Frequency | Percentage |
|--|-----------|--------------------------------|
| Gender | | |
| Male | 140 | 55.8 |
| Female | 110 | 43.8 |
| Estimation of consumers' purchase intention | | Idress Waris, Stafford Jude |
| through Electronic Word of Mouth: A partial | 8 | Jonathan D'costa, Irfan Hameed |
| least square-structural equation modeling approach | | |



| Total | 251 | 100.0 |
|----------------|-----|--------|
| Age | 231 | 100.0 |
| 18-22 years | 82 | 32.67 |
| 23-27 years | 116 | 46.22 |
| 28-32 Years | 30 | 11.95 |
| 33-37 Years | 8 | 3.19 |
| 38-42 Years | 3 | 1.20 |
| 43 or above | 12 | 4.78 |
| Total | 251 | 100.00 |
| Education | | |
| Undergraduate | 80 | 31.9 |
| Graduate | 105 | 41.8 |
| Post Graduate | 66 | 26.3 |
| Total | 251 | 100.0 |
| Internet Usage | | |
| 1-2 hours | 20 | 8.0 |
| 3-5 hours | 29 | 11.6 |
| 6-9 hours | 59 | 23.5 |
| 10-13 hours | 84 | 33.5 |
| 14 above | 59 | 23.5 |
| Total | 251 | 100.0 |

3.4 Instruments of the Data Collection

A questionnaire was developed, to be used as an instrument of collecting data. A Likert scale of five points, which ranged from 5 (Strongly agree) to 1 (Strongly disagree) was used as a way to measure variables. Items from previous research were adapted and were modified accordingly to suit the study's context. Particularly, information quality had three items and was adapted from a study of (Filieri, 2015). In formation, credibility included three items which were adapted and modified from the study conducted by (Akyüz, 2013). Innovativeness was adapted from a study by (Saremi, 2014). Self-enhancement items were adapted and modified according to the current study from the previous study of Chu et al. (2008). Electronic word of mouth engagement included three items and was adapted from the study Kim (2011). Purchase intention included three items and was the adaptation from the study of Lin et al., 2013; Waris & Hameed, 2020c).

4. Results Analysis

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4.1 Measurement model

For the analysis of the data, we have used partial least square structural equation modeling (PLS-SEM). The usage of PLS-SEM in this specific study was for various purposes. This study's motive was to identify those factors which were associated with e-WOM engagement and to make a fitting model that showed the relationship amongst them and observing the role of e-WOM

| Estimation of consumers' purchase intention |
|--|
| through Electronic Word of Mouth: A partial |
| least square-structural equation modeling approach |

9



engagement on a consumer's purchase intention. Another main reason to use the smart PLS technique was that its requirement for a sample size request was minimum (Urbach & Ahlemann, 2010; Waris & Hameed, 2020a). Hair et al. (2016) noted that it can be used when the size of data is not too great. Finally, it was used because it is best suited to analyze complex models containing multiple constructs. Smart PLS 3.0 has been used to assess the structural model and measurements.

This study has employed a two-step analytical method; first, we analyzed the measurement model and then tested the structural model. Before evaluating the hypothesis, we assessed the discriminant and convergent validity. Using three criteria's which include composite reliability (CR), outer loadings, and average variance extracted (AVE), the composite reliability (CR) was evaluated. The threshold for CR, AVE and outer loadings are 0.7, 0.5, and 0.7 respectively, as studied by (Hair et al., 2016). As observed in the below-mentioned Table 4.1, all the values of AVE are exceeding 0.5 and CR are values are greater than the required 0.7 surpassing the value set as the threshold. The values of the outer loading are expected to be greater than 0.7, however, two of the outer loading values were below 0.7 and they remain in the table based on recommendations of Hair et al. (2016) observing that the deletion of those particular items doesn't increase either AVE or CR. Table 4.2 shows the indicator item cross-loadings, which show the relationship of items with the latent variables. Then an assessment of the discriminant variability is then done by the Fornell- Larcker criterion. The construct's uniqueness is indicated by the discriminant validity in Table 4.3 and the phenomenon which is captured has not been taking under observation by others. Discriminant validity establishes when the values diagonal are greater than the inter-correlation among the constructs. In this study, all the values in diagonal are greater than inter-correlation among the constructs, thus confirms that the constructs are unrelated to each other and valid for the analysis. The model fit can be assessed through the predictive power of the model. The blindfolding procedure has been used to estimate the predictive power of the model. The values of Q2 and R2 depict the predictive relevance of the model that indicates the overall fit. The value of Q2 above 0 indicates that the model is fit and having adequate relevance. In this study, the value of Q2 for both the endogenous constructs is above 0.38 thus indicating excellent predictive relevance (Table 4.4). The values of R2 indicate the variance explained by the exogenous construct on endogenous constructs (Hameed & Khan, 2020). As the values of R2 for both endogenous construct e-WOMengagement is greater than 56%, and the value of R2 for purchase intention is greater than 47% indicate that this model has explained 47% variance through independent variables, which is very good variance in terms of the predictive power of the constructs.

| Table 4.1. Construct reliabili | ty and validity |
|--------------------------------|-----------------|
|--------------------------------|-----------------|

| Construct Name | Items | Loadings | CR | AVE | |
|---|-----------------|----------|--------------------------------|---------------|--|
| Information Quality | IQ1 | 0.883 | 0.887 | 0.723 | |
| | IQ2 | 0.832 | | | |
| Estimation of consumers' purchase i | ntention | | Idress Waris, | Stafford Jude | |
| through Electronic Word of Mouth: A partial | | 10 | Jonathan D'costa, Irfan Hameed | | |
| least square-structural equation mod | leling approach | | | | |



| | IQ3 | 0.856 | | |
|-------------------------|-----|-------|-------|-------|
| Information Credibility | IC1 | 0.872 | 0.891 | 0.732 |
| | IC2 | 0.823 | | |
| | IC3 | 0.871 | | |
| Innovativeness | IN1 | 0.912 | 0.890 | 0.802 |
| | IN2 | 0.878 | | |
| Self- Enhancement | SE1 | 0.847 | 0.884 | 0.717 |
| | SE2 | 0.809 | | |
| | SE3 | 0.884 | | |
| e-WOM Engagement | EE1 | 0.906 | | |
| | EE2 | 0.887 | 0.914 | 0.781 |
| | EE3 | 0.858 | | |
| Purchase Intention | PI1 | 0.989 | 0.937 | 0.833 |
| | PI2 | 0.913 | | |
| | PI3 | 0.927 | | |

Table 4.2. Indicator item Cross loading

| | e-WOM | Information | Innovativeness | Information | Purchase | Self- |
|-----|------------|-------------|----------------|-------------|-----------|-------------|
| | Engagement | Credibility | | Quality | Intention | Enhancement |
| EE1 | 0.906 | 0.613 | 0.529 | -0.141 | 0.663 | 0.626 |
| EE2 | 0.887 | 0.557 | 0.450 | -0.167 | 0.595 | 0.608 |
| EE3 | 0.858 | 0.539 | 0.437 | -0.156 | 0.557 | 0.583 |
| IC1 | 0.610 | 0.872 | 0.651 | -0.171 | 0.610 | 0.519 |
| IC2 | 0.508 | 0.823 | 0.521 | -0.145 | 0.577 | 0.470 |
| IC3 | 0.530 | 0.871 | 0.617 | -0.241 | 0.617 | 0.494 |
| IN1 | -0.168 | -0.229 | -0.146 | 0.912 | -0.126 | -0.077 |
| IN2 | -0.144 | -0.154 | -0.109 | 0.878 | -0.117 | -0.064 |
| IQ1 | 0.493 | 0.622 | 0.863 | -0.136 | 0.514 | 0.499 |
| IQ2 | 0.370 | 0.550 | 0.832 | -0.126 | 0.387 | 0.387 |
| IQ3 | 0.486 | 0.607 | 0.856 | -0.105 | 0.494 | 0.468 |
| PI1 | 0.580 | 0.648 | 0.474 | -0.159 | 0.898 | 0.650 |
| PI2 | 0.610 | 0.607 | 0.501 | -0.112 | 0.913 | 0.613 |
| PI3 | 0.683 | 0.668 | 0.537 | -0.105 | 0.927 | 0.668 |
| SE1 | 0.609 | 0.530 | 0.452 | -0.105 | 0.656 | 0.847 |
| SE2 | 0.497 | 0.436 | 0.417 | -0.007 | 0.474 | 0.809 |
| SE3 | 0.624 | 0.499 | 0.490 | -0.078 | 0.644 | 0.884 |



| Constructs | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------|--------|--------|--------|--------|-------|-------|
| e-WOM Engagement | 0.884 | | | | | |
| Information Credibility | 0.646 | 0.855 | | | | |
| Information Quality | 0.536 | 0.700 | 0.850 | | | |
| Innovativeness | -0.175 | -0.217 | -0.144 | 0.896 | | |
| Purchase Intention | 0.687 | 0.703 | 0.554 | -0.136 | 0.912 | |
| Self-Enhancement | 0.686 | 0.579 | 0.536 | -0.079 | 0.706 | 0.847 |

 Table 4.3. Discriminant validity results (Fornell–Larcker criterion)

Table 4.4. The predictive power of the constructs

| Constructs | R square | Q square |
|--------------------|----------|----------|
| e-WOM Engagement | 0.568 | 0.434 |
| Purchase intention | 0.472 | 0.386 |







Table 4.5. Hypotheses Assessment Summary

| Hypotheses | Path- coefficients | t-values | P-value | Decision |
|--|-----------------------|----------|---------|----------|
| H1: Quality of e-WOM information has a significant, positive relation with e-WOM engagement. | 0.046 | 0.689 | 0.491 | Rejected |
| H2: The credibility of information has a significant impact on e-WOM engagement. | 0.332 | 4.590 | 0.000 | Accepted |
| H3: Innovativeness has a positive relation with e-WOM engagement. | -0.059 | 1.806 | 0.071 | Rejected |
| H4: Self-enhancement has a positive influence one-WOM engagement. | 0.464 | 6.731 | 0.000 | Accepted |
| H5: e-WOM engagement has a significant positive impact on consumers' purchase intention. | 0.687 | 15.267 | 0.000 | Accepted |

Figure 4.5 shows the results of the structure which was constructed based on the hypothesis model tests, estimated coefficients of paths with both P- values and their associated T – values. The assessed structural model results are offered in Table 4.5. The results suggested that 3 of our 5

Estimation of consumers' purchase intention through Electronic Word of Mouth: A partial least square-structural equation modeling approach



variables were significant the other 3 were vice versa. Hypothesis H2 was accepted, predicting that the credibility of information has a significant impact on e-WOM engagement t-statistics (t = 4.590; p = 0.000). Likewise H4 and H5 namely self-enhancement influence on e-WOM engagement (t = 6.731; p = 0.000) and e-WOM engagement on purchase intention (t = 15.267; p = 0.000). However, the results were insignificant in the case of the positive influence of information on e-WOM engagement.

5.1 Discussions

The purpose of the research was to create a rather strong understanding of e-WOM engagement determinants and how e-WOM engagement influenced a consumer's purchase intention in e-commerce. This study made both practical and significant theoretical contributions for the understanding of the engagement of consumers with e-WOM and the influence it exerted on a consumer's intention to purchase. This was accomplished by analyzing the estimation through ELM lenses. Previously, most research focused on consumer behavior or either on the characteristics of the information. However, the valuation of e-WOM engagement elements has remained unclear. The empirical tests conducted on the present study revealed e-WOM engagement influenced purchase intention and some stronger factors of e-WOM engagement were information credibility, self-enhancement, innovation, and information quality. Firms may find e-WOM beneficial if customers share or request the content, eventually leading to higher returns. In this study consumers with credible information tend to engage in e-commerce. The finding was similar to prior studies (Baber et al., 2016; Erkan & Evans, 2016). When encouragement or credibility is perceived by consumers they are more likely to participate in such communication. Consumers should always be encouraged to attach cues, the vital ones while sharing personal involvements to guide others, to establish without difficulty the credibility of the message. It was also observed that a consumer's self-enhancement had a substantial positive impact on e-WOM engagement (H4). It shows consistency with previously studied literature (Sundaram et al., 1998). Receiving from others, positive recognition is a desire of an individual, which results in them sharing their experiences to be considered an excellent shopper or a consumption expert. Promoters of worldwide egoism claim that the things we do, keeping aside how beneficial it is to others and the nobility of the action, the purpose of that action directs towards self-benefit the ultimate goal. In websites related to e-commerce, the consumers are concerned more with credibility and how they can help other consumers through sharing their experience rather than the quality of the website or information.

5.2 Conclusion

This study has provided a vital contribution through its results, associated with e-WOM engagement as well as e-commerce in numerous ways. To begin with, the contribution is in terms of literature about e-WOM in the context of e-commerce. Consumers are now considered



information seekers and information sources, due to the widespread of social networking sites. Electronic word of mouth currently is considered a very energetic tool of marketing that impacts consumers more than advertisements. However, not much consideration has been received towards what determines a consumer's engagement in e-WOM within e-commerce. This study examines the determinants related to e-WOM engagement and how it influences purchase intention in ecommerce. Secondly, we extend the current amount of knowledge of the mechanics of e-WOM engagement also the role of it in buying intention in e-commerce, through the model developed. A contribution is made to literature, employing a theoretical lens to fill the gap found in previous research, which investigated the impact of e-WOM engagement. The results shed light on some insightful thoughts related to firms and how e-WOM could be exploited by consumer engagement and happen to encourage the generation of e-WOM among e-commerce users. Firms can benefit from consumer-generated e-WOM. Pioneers like eBay and Amazon encourage their customers to pass reviews. The findings of this particular study would be guiding firms in the development of better strategies, in using an e-commerce platform to encourage consumers to expand value cocreation and engage in e-WOM. Finally, it is emphasized on the significance to consider consumer behavior, technological factors and information characteristics because of them resulting in higher engagement of consumer with word of mouth electronically and result eventually in greater buying intention. These conclusions can aid as pointers for e-commerce companies and how they could use these factors as a means of inspiring the engagement through e-WOM between electronic commerce consumers. According to specification the creation of an effectual setting in terms of user engagement through e-WOM, above significant constructs should be given top priority. Leading eventually to greater intention to buy, as empirically validated in this study Altogether it this study presented various executive as well as theoretical suggestions for the tactical management of consumer engagement within e-commerce through e-WOM. As we claim the understanding of those factors that would encourage eWOM engagement in this paper, consideration must be given to consumer behavior, information characteristics, and technological factors. The results obtained empirically show that the study's model is significant as it identifies these factors.

5.3 Policy Implications

This study's findings offer some practical as well as theoretical implications for the ones interested in e-commerce. It was noted that previous studies focused either on consumer behavior or information characteristics. A lack of understanding was identified related to the integration of the respective ideas, in the accumulation of social and contextual features into a single model which was suggested in previous studies (Knoll, 2016). The theoretical foundation for the model of this study is derived from ELM. Empirical evidence is provided in this study about social factors impacting e-WOM engagement. It is considered reasonable because having a reassuring climate in e-commerce is a key essential factor in offering comfort and ease throughout the process

Estimation of consumers' purchase intention through Electronic Word of Mouth: A partial least square-structural equation modeling approach



entirely. The study results stated that information credibility, self-enhancement, and e-WOM are crucial factors affecting purchase intention in e-commerce.

5.4 Future Research

Although this study has contributed to the literature of e-commerce, however, some limitations were identified, those were unavoidable and offer opportunities in the future for further research. This study limits the finding of the studies to websites based on e-commerce that incorporate features of social media to assist social activities. In the future researchers can further examine different sorts of e-commerce forums, as the results of dissimilar platforms could differ from each other. The model discussed currently can be used in different contexts to provide new interesting results. Future researchers can consider assessing the model in an entirely diverse cultural setting. This study has considered individual characteristics of consumers that affect the e-commerce purchase intention, future researches can incorporate technological and social characteristics that influence the individual decision regarding the purchase of products on the e-commerce platform. Further, future studies can include the influence of social media influencers in the purchase of products through e-commerce.

References

- Akyüz, A. (2013). Determinant factors influencing eWOM. *Mediterranean Journal of Social Sciences*, *4*(11), 159.
- Ali, Y. S., CheHussin, A. R., & Mohamed Dahlan, H. (2019). Electronic Word of Mouth engagement in social commerce platforms: An empirical study. *Information Development*, 0266666919867488.
- Awad, N. F., &Ragowsky, A. (2008). Establishing trust in electronic commerce through online word of mouth: An examination across genders. *Journal of Management Information Systems*, 24(4), 101-121.
- Baber, A., Thurasamy, R., Malik, M. I., Sadiq, B., Islam, S., & Sajjad, M. (2016). Online wordof-mouth antecedents, attitude, and intention-to-purchase electronic products in Pakistan. *Telematics and Informatics*, 33(2), 388-400.
- Baethge, C., Klier, J., & Klier, M. (2016). Social commerce—state-of-the-art and future research directions. *Electronic Markets*, *26*(3), 269-290.
- Balakrishnan, B. K., Dahnil, M. I., & Yi, W. J. (2014). The impact of social media marketing medium toward purchase intention and brand loyalty among generation Y. *Procedia-Social and Behavioral Sciences*, 148, 177-185.



- Batson, C. D., & Shaw, L. L. (1991). Evidence for altruism: Toward a pluralism of prosocial motives. *Psychological Inquiry*, 2(2), 107-122.
- Beneke, J., de Sousa, S., Mbuyu, M., & Wickham, B. (2016). The effect of negative online customer reviews on brand equity and purchase intention of consumer electronics in South Africa. *The International Review of Retail, Distribution and Consumer Research*, 26(2), 171-201.
- Berger, J., Sorensen, A. T., & Rasmussen, S. J. (2010). Positive effects of negative publicity: When negative reviews increase sales. *Marketing Science*, 29(5), 815-827.
- Brodie, R. J., Hollebeek, L. D., Jurić, B., & Ilić, A. (2011). Customer engagement: Conceptual domain, fundamental propositions, and implications for research. *Journal of service research*, 14(3), 252-271.
- Chen, C. W., Chen, W. C., & Chen, W. K. (2014). Understanding the effects of eWOM on cosmetic consumer behavioral intention. *International Journal of Electronic Commerce Studies*, 5(1), 97-102.
- Cheung, C. M., & Thadani, D. R. (2012). The impact of electronic word-of-mouth communication: A literature analysis and integrative model. *Decision support systems*, 54(1), 461-470.
- Cheung, M. Y., Luo, C., Sia, C. L., & Chen, H. (2009). The credibility of electronic word-ofmouth: Informational and normative determinants of on-line consumer recommendations. *International journal of electronic commerce*, 13(4), 9-38.
- Chu, S. C., & Kim, Y. (2011). Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites. *International Journal of Advertising*, *30*(1), 47-75.
- Comegys, C., Hannula, M., & Väisänen, J. (2006). Longitudinal comparison of Finnish and US online shopping behavior among university students: The five-stage buying decision process. *Journal of Targeting, Measurement, and Analysis for Marketing, 14*(4), 336-356.
- Coulter, K. S., Brengman, M., & Karimov, F. P. (2012). The effect of web communities on consumers' initial trust in B2C e-commerce websites. *Management Research Review*.
- Curty, R. G., & Zhang, P. (2011). Social commerce: Looking back and forward. *Proceedings of* the American Society for Information Science and Technology, 48(1), 1-10.
- Davis, A., & Khazanchi, D. (2008). An empirical study of online word of mouth as a predictor for multi-product category e-commerce sales. *Electronic markets*, *18*(2), 130-141.



- Dellarocas, C., Zhang, X. M., & Awad, N. F. (2007). Exploring the value of online product reviews in forecasting sales: The case of motion pictures. *Journal of Interactive Marketing*, 21(4), 23-45.
- Duan, W., Gu, B., & Whinston, A. B. (2008). Do online reviews matter?—An empirical investigation of panel data. *Decision support systems*, 45(4), 1007-1016.
- Erkan, I., & Evans, C. (2016). The influence of eWOM in social media on consumers' purchase intentions: An extended approach to information adoption. *Computers in Human Behavior*, 61, 47-55.
- Fan, Y. W., & Miao, Y. F. (2012). Effect of electronic word-of-mouth on consumer purchase intention: The perspective of gender differences. *International Journal of Electronic Business Management*, 10(3), 175.
- Felbermayr, A., & Nanopoulos, A. (2016). The role of emotions for the perceived usefulness in online customer reviews. *Journal of Interactive Marketing*, *36*, 60-76.
- Filieri, R. (2015). From market-driving to market-driven. Marketing Intelligence & Planning.
- Friedrich, T. (2015). Analyzing the Factors that Influence Consumers' Adoption of Social Commerce–A Literature Review. Twenty-First Americas Conference on Information Systems, Puerto Rico, pp. 1-16
- Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. (2014), Multivariate Data Analysis. Pearson New International Edition, Upper Saddle River, NJ.
- Hajli, N., & Sims, J. (2015). Social commerce: The transfer of power from sellers to buyers. *Technological Forecasting and Social Change*, *94*, 350-358.
- Hameed, I., & Haq M. A. (2020). Book review: Research, innovation, and entrepreneurship in Saudi Arabia: Vision 2030. *International Small Business Journal*, *39*(2), 184-184
- Hameed, I., & Irfan, B. Z. (2020). Social Media Self-Control Failure leading to antisocial aggressive behavior. *Human Behavior and Emerging Technologies*, 3(2), 296-303.
- Hameed, I., & Irfan, Z. (2019). Entrepreneurship education: a review of challenges, characteristics, and opportunities. *Entrepreneurship Education*, *2*, 135–148.
- Hameed, I., & Khan, K (2020). An extension of the goal-framing theory to predict consumer's sustainable behavior for home appliances. *Energy Efficiency*, *13*(7), 1441–1455



- Hameed, I., Khan, M. B., & Shahab, A. (2020). Perceived Humor and Purchase Intention: Mediating Role of Attitude towards the Advertisement and Brand. *The Lahore Journal of Business*, 8(2), 55–84.
- Hameed, I., & Waris, I. (2018). Eco Labels and Eco-Conscious Consumer Behavior: The Mediating Effect of Green Trust and Environmental Concern. *Journal of Management Sciences*, 5(2), 86-105.
- Hameed, I., Waris, I., & ul Haq, M. A. (2019). Predicting eco-conscious consumer behavior using the theory of planned behavior in Pakistan. *Environmental Science and Pollution Research*, 26(15), 15535-15547.
- Hameed, I., Zaman, U., Waris, I., & Shafique O. (2021). A Serial-Mediation Model to Link Entrepreneurship Education and Green Entrepreneurial Behavior: Application of Resource-Based View and Flow Theory. *International Journal of Environmental Research* and Public Health. 18(2), 550.
- Herr, P. M., Kardes, F. R., & Kim, J. (1991). Effects of word-of-mouth and product-attribute information on persuasion: An accessibility-diagnosticity perspective. *Journal of consumer research*, 17(4), 454-462.
- Hirschman, E. C. (1980). Innovativeness, novelty-seeking, and consumer creativity. *Journal of consumer research*, 7(3), 283-295.
- Kamins, M. A., & Assael, H. (1987). Moderating disconfirmation of expectations through the use of two-sided appeals: A longitudinal approach. *Journal of Economic Psychology*, 8(2), 237-253.
- Khan, K., & Hameed, I. (2017). The mediation of customer satisfaction and moderation of Price: Evidence from the generation Y users of cell phones. *KASBIT Business Journal*, 10, 21-56.
- Khan, K., & Hameed, I. (2019a). Determinants of sustainable consumption in high and low involvement product categories. *Amazonia Investiga*, 8(20), 503-515.
- Khan, K., & Hameed, I. (2019b). Relationship between Consumer Motivations and Sustainable Consumer Behavior in a Developing Market. *KASBIT Business Journal*, *12*, 161-191.
- Kim, J., Naylor, G., Sivadas, E., & Sugumaran, V. (2016). The unrealized value of incentivized eWOM recommendations. *Marketing Letters*, 27(3), 411-421.



- Kim, S. B., Sun, K. A., & Kim, D. Y. (2013). The influence of consumer value-based factors on attitude-behavioral intention in social commerce: The differences between high-and lowtechnology experience groups. *Journal of Travel & Tourism Marketing*, 30(1-2), 108-125.
- Kim, T., & Song, J. (2018). Development of generalized reliability importance measure (GRIM) using Gaussian mixture. *Reliability and Optimization of Structural Systems*, 147.
- Kline, R. B. (2011). Principles and practice of structural equation modeling (3rd ed.). New York, NY: The Guildford Press.
- Knoll, J. (2016). Advertising in social media: a review of empirical evidence. *International Journal of Advertising*, 35(2), 266-300.
- Kulshrestha, C., & Kapoor, A. (2011). Branding and sustainable competitive advantage in Indian politics: Brand Rahul Gandhi. Brand Obsessed Society: *Branding Yoga Guru Baba Ramdev in India*, 96-119.
- Lee, C. H., & Cranage, D. A. (2014). Toward understanding consumer processing of negative online word-of-mouth communication: the roles of opinion consensus and organizational response strategies. *Journal of Hospitality & Tourism Research*, 38(3), 330-360.
- Lee, E. J., & Shin, S. Y. (2014). When do consumers buy online product reviews? Effects of review quality, product type, and reviewer's photo. *Computers in Human Behavior*, *31*, 356-366.
- Meuter, M. L., McCabe, D. B., & Curran, J. M. (2013). Electronic word-of-mouth versus interpersonal word-of-mouth: are all forms of word-of-mouth equally influential? *Services Marketing Quarterly*, 34(3), 240-256.
- Miller, N., Maruyama, G., Beaber, R. J., & Valone, K. (1976). Speed of speech and persuasion. *Journal of personality and social psychology*, *34*(4), 615.
- Moran, G., Muzellec, L., & Nolan, E. (2014). Consumer moments of truth in the digital context: How "search" and "e-word of mouth" can fuel consumer decision making. *Journal of Advertising Research*, 54(2), 200-204.
- Mowen, J. C., Park, S., & Zablah, A. (2007). Toward a theory of motivation and personality with application to word-of-mouth communications. *Journal of business research*, *60*(6), 590-596.
- Park, C., & Lee, T. M. (2009). Information direction, website reputation, and eWOM effect: A moderating role of product type. *Journal of Business Research*, 62(1), 61-67.



- Park, D. H., Lee, J., & Han, I. (2007). The effect of online consumer reviews on consumer purchasing intention: The moderating role of involvement. *International journal of electronic commerce*, 11(4), 125-148.
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In Communication and persuasion (pp. 1-24). Springer, New York, NY.
- Petty, R. E., Cacioppo, J. T., & Goldman, R. (1981). Personal involvement as a determinant of argument-based persuasion. *Journal of personality and social psychology*, *41*(5), 847.
- Prendergast, G., Ko, D., & Siu Yin, V. Y. (2010). Online word of mouth and consumer purchase intentions. *International Journal of Advertising*, 29(5), 687-708.
- Quester, P., Neal, C., Pettigrew, S., Grimmer, M. R., Davis, T., & Hawkins, D. (2007). *Consumer* behavior: Implications for marketing strategy. McGraw-Hill.
- Reichelt, J., Sievert, J., & Jacob, F. (2014). How credibility affects eWOM reading: The influences of expertise, trustworthiness, and similarity on utilitarian and social functions. *Journal of Marketing Communications*, 20(1-2), 65-81.
- Rogers, E. M. (1976). New product adoption and diffusion. *Journal of Consumer Research*, 2(4), 290-301.
- Saremi, H. Q. (2014). *Effectiveness of electronic word of mouth recommendations* (Doctoral dissertation, Ph. D thesis, McMaster University, Canada., 93).
- Sharifpour, Y., Sukati, I., & Alikhan, M. N. A. B. (2016). The influence of electronic word-ofmouth on consumers' purchase intentions in the iranian telecommunication industry. *American Journal of Business*, 4(1), 1-6.
- Soomro, Y. A., Hameed, I., Butt, A. S., & Shakoor, R. (2012). Significance of Internet Marketing in Promoting Consumer Goods in Subcontinent. *International Journal of Humanities and Social Science*, 2(13), 213-217.
- Sun, T., Youn, S., Wu, G., & Kuntaraporn, M. (2006). Online word-of-mouth (or mouse): An exploration of its antecedents and consequences. *Journal of Computer-Mediated Communication*, 11(4), 1104-1127.
- Sundaram, D. S., Mitra, K., & Webster, C. (1998). Word-of-mouth communications: A motivational analysis. *Advances in consumer research*, 25(1).
- Sussman, S. W., &Siegal, W. S. (2003). Informational influence in organizations: An integrated approach to knowledge adoption. *Information systems research*, *14*(1), 47-65.



- Tsang, A. S., & Zhou, N. (2005). Newsgroup participants as opinion leaders and seekers in online and offline communication environments. *Journal of Business Research*, 58(9), 1186-1193.
- Verhoef, P. C., Reinartz, W. J., & Krafft, M. (2010). Customer engagement as a new perspective in customer management. *Journal of service research*, *13*(3), 247-252.
- Waris, I., & Ahmed, W. (2020). Empirical evaluation of the antecedents of energy-efficient home appliances: application of the extended theory of planned behavior. *Management of Environmental Quality: An International Journal*, 31(4), 915-930.
- Waris, I., & Hameed, I. (2020a). Promoting environmentally sustainable consumption behavior: an empirical evaluation of purchase intention of energy-efficient appliances. Energy Efficiency, 13(8), 1653-1664.
- Waris, I., & Hameed, I. (2020b). An empirical study of consumers' intention to purchase energyefficient appliances. *Social Responsibility Journal*. Doi.org/10.1108/SRJ-11-2019-0378.
- Waris, I., & Hameed, I. (2020c). An empirical study of purchase intention of energy-efficient home appliances: the influence of knowledge of eco-labels and psychographic variables. *International Journal of Energy Sector Management*, 14(6), 1297-1314.
- Wojnicki, A. C., & Godes, D. (2008). Word-of-mouth as self-enhancement. *HBS marketing research paper*, (06-01).
- Wu, P. C., & Wang, Y. C. (2011). The influences of electronic word-of-mouth message appeal and message source credibility on brand attitude. Asia Pacific Journal of Marketing and Logistics.
- Xu, Q. (2014). Should I trust him? The effects of reviewer profile characteristics on eWOM credibility. *Computers in Human Behavior, 33*, 136-144.
- Yu, Y. W., & Natalia, Y. (2013). The effect of user-generated video reviews on consumer purchase intention. In 2013 Seventh International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (pp. 796-800). IEEE.