



Article

Configuring the Evolving Role of eWOM on the Consumers Information Adoption

Muddasar Ghani Khwaja 10 and Umer Zaman 2,*0

- Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, Islamabad Campus, Islamabad 44000, Pakistan; muddasar.ghani@szabist-isb.edu.pk
- Endicott College of International Studies (ECIS), Woosong University, Daejeon 300-718, Korea
- * Correspondence: umerzaman@endicott.ac.kr

Received: 9 August 2020; Accepted: 15 October 2020; Published: 23 October 2020



Abstract: Electronic word-of-mouth (eWOM) is reckoned to be one of the underlying factors that augments online retailing. The information adoption protocols have been revamped due to the extensive online information; consequently, adding a significant influence on the online purchase behaviors. Consumer review websites, shopping platforms, blogs and discussion forums are some of the leading eWOM platforms, as emphasized in prior literature. The current study, however, focuses on eWOM on the social media platforms, as the consumers' online decision-making process is confined to the adoption of information in the first phase. The study examines the effects of the antecedents of eWOM and multiple mediators (i.e. perceived risk, argument quality, information usefulness and trust inclination) on the consumers information adoption. The study used survey-based data and structural equation modelling (SEM) technique to determine the causality among the constructs. Future directions provide concrete managerial and theoretical implications as highlighted in the study.

Keywords: eWOM; trust inclination; perceived risk; source credibility; information adoption

1. Introduction

Mass media has provided magnanimous amount of information to the consumers which has consequently affected the decision-making process. An extensive amount of information has been baffling consumers in acquiring factual information transmitted on the online platforms. Initially it was argued that the transmission of widespread information is essential for consumers in order to make wise decisions [1–4]. However, this paradox has been totally revamped as determining authentic information is becoming challenging. Lever et al. [5] explained that due to authenticity and credibility concerns, consumers have become confused. Mahmood et al. [6] argued that due to the confusion at the consumers end, decision making aspect has been considerably affected. The online platforms have provided enough access to the consumers to attain information about the products and services [7]. The transmission of online information regarding experiences and opinions is called electronic word-of-mouth (eWOM) [7,8]. The platforms of information have been evolving over the years. Some of the core platforms for online information are consumer review websites, shopping platforms, blogs and discussion forums [9].

Meanwhile, in recent years, social media platforms are considered to be the leading portals in the processing of online information. Social media platforms are of more value and magnitude as two-way communication of eWOM executes more proficiently [10–12]. Rapid response and two-way communications have been as regarded as core benefits of eWOM communications [3,4,7]. Researchers have argued that eWOM on social media spreads quickly to a wider audience in a minimal amount of time [8,13]. Wu and Lin [14] and Matute et al. [15] explained that the patterns of online buying are now dependent upon the comments/suggestions being provided by the previous customers. Due to

aforementioned factors, considerable research studies have been conducted on examining eWOM on the social media platforms [16–18]. Researchers argue that the transmission of eWOM plays a crucial role in the decision-making of customers [19,20].

Ananda et al. [21] and Suwandee et al. [22] signified eWOM as an influential marketing tools which has changed the course of action on the online platforms. The prominence of social media as an eWOM platform have emerged in the recent times. Due to COVID-19, the dependence and utility of social media, as well as reliance on eWOM information, has been further enhanced [23,24]. Similarly, there is an elevation in the online buying behaviors of individuals [25]. For making determinations about unfamiliar products and services, social media has been widely used by the consumers [26,27]. Nevertheless, Le-Hoang [28] argues that there is still a limited amount of studies that have been conducted on exploring eWOM as a platform. Contemporary trends on eWOM have depicted that social media is the foremost eWOM platform widely used by the customers. Marketers also consider social media as a valuable eWOM transmitter which has the aptitude to disperse information swiftly to the target audience [29–31].

Another vital notion remains prevalent that the studies were confined on determining how eWOM effects on the purchase intentions or purchase behaviors of customers [32–35]. Conversely, it is indispensable to sideline information adoption before purchase intentions, as adopting the information is mandatory before making any decision. One of the distinguished factors of eWOM execution on social media remains that users have the option to interact with each other, unlike other eWOM platforms where there was no option to exactly know the person who is passing the information. The anonymous information being passed on has intense credibility issues. The current study focuses on providing a holistic framework indicating how the information is being adopted by the consumer. eWOM, as one of the major factors, has been thoroughly unfolded in this study. Moreover, how the antecedents of eWOM affect information adoption has also been explored. The ecommerce market of Pakistan has reached a hallmark of US \$3900 million in 2020 [36]. With the investments of leading online groups like Ali Express, the Pakistani ecommerce market is anticipated to grow by Rs. 50 billion [37]. The online fashion market has the maximum market share, US \$2748 million, while electronics and media account for US \$452 million. Interestingly, the age bracket of 18–24 years was involved extensively in online buying (44.99%). Meanwhile, 44.03% were in the age bracket of 25–34 years old [36]. Due to these factors, the study was conducted in the emerging market of Pakistan as the online shopping trend is becoming more elevated. Considering theoretical and contextual gaps on the information adoption protocols, the researchers made relevant theoretical associations, identified the approach for conducting the research, collected primary data through surveys from the respondents, conducted statistical analysis using structural equation modelling technique and discussed outcomes of the study.

2. Literature Review

Electronic word-of-mouth (eWOM) is renowned as a powerful marketing instrument in modern times [38,39] Companies have been extensively making use of eWOM for the transmission of their offerings. Chu and Kim [40] explained that the dimensions of eWOM include tie strength, homophily, trust, normative influence and informational influence. Tie strength can be referred as the potency of bond between members of a network [41]. The social ties can be of a weak or strong nature [42]. The ties of family and friends are of a strong nature and cannot be side-lined at all. The interpersonal networks of individuals with family and friends are quite strong and they also provide emotional and substantive support [43,44]. Weak ties include taking information from colleagues, acquaintances and facilitation of information on diverse topics from various people [45]. The role of tie strength in eWOM communications is critical, as individuals consider information of strong ties to be of more credible nature [46]. The inclination of individuals with the people having strong tie characteristics is certainly strong, powerful and impactful [47].

Perceived risks factor studied by researchers were mainly inherent risk, handled risk, consequences, uncertainty and the amount at stake [38]. Bashir et al. [23] unfolded the dimensions of perceived risk

among e-shoppers by highlighting financial risk, product performance risk, time loss risk, psychology risk, delivery risk, social risk, knowledge risk, fraud risk and privacy and security risk. The study conducted by Bashir et al. [23] emphasized that perceived risk must be taken as multi-dimensional construct. However, the majority of researchers emphasized utilizing perceived risk as a unidimensional construct [48,49]. Similarly, eWOM source credibility has been argued to have four core antecedents, namely, expertness, trustworthiness, objectivity and homophily [6,16,19,29,30]. Therefore, it remained important to explore dimensional impact of eWOM antecedents on perceived risk. Expertness in the eWOM context is defined as the review or comment provided by a skillful professional on the online platforms. It is hence hypothesized that due to expertness, risk would be mitigated.

Recent studies focused on perceived risk influence in the online shopping sphere as the canvas of internet purchasing is expanding extensively [50]. Due to considerable online buying, the internet has become an effective platform for merchandisers. Hence, determination of perceived risk due to eWOM remains a critical aspect to be explored [29,51]. Trustworthiness is argued to be an important facet in terms of understanding the eWOM context. Individuals tend to rely on that information which is provided by a trustworthy source. Considering the aforementioned theoretical notions, the relationship was hypothesized as follows:

Objectivity in terms of providing the requisite information on the eWOM platforms is of considerable importance and significance. Posts on social media are sometimes subjective and vague which does not provide any objective stance. However, objective and precise information is argued to reduce the risk factor [16,19,29,48,49]. Therefore, the following relationship of eWOM source credibility antecedent (i.e., objectivity with perceived risk) is hypothesized:

Homophily is defined as the association among people with same backgrounds and having non-negative ties with each other [6,16,19]. In the eWOM context, it is discussed that individuals tend to associate themselves quickly with the posts shared by the people with same backgrounds. Meanwhile, it remains essential to configure whether the element of risk would be mitigated through homophily. Henceforth, the following hypothesis is developed:

Hypothesis 1 (H1). (a). eWOM expertness positively impacts upon perceived risk. (b). eWOM trustworthiness positively impacts upon perceived risk. (c). eWOM objectivity positively impacts upon perceived risk. (d). eWOM homophily positively impacts upon perceived risk.

Sussman and Siegal [52] expanded the developed phenomenon and extended the prevailing field of knowledge with the integration of dual process theories. Davis [53] proposed that an information adoption model (IAM) emerged with the integration of technology acceptance model (TAM) along with elaboration likelihood model (ELM). The model proposed that central and peripheral are the two routes through which people can be affected by messages [52]. Argument quality is stated as the aptitude to argue with a message. The studies of Prantl & Micik [11] and Khwaja et al. [19] highlighted the association among message senders and message characteristics of eWOM components. Information usefulness is regarded as a perception of the user concerned with the reliability of information. The reviews or comments on the internet are deemed to be of importance are not are defined in this respective factor [12,47]. Perceived risk is considered to be subjective and it varies from individual to individual, and consumers behaviors are in fact risk taking [49]. Therefore, inspection of perceived risk on information usefulness and argument quality was hypothesized as the following hypotheses:

Hypothesis 2 (H2). *Perceived risk positively influences on information usefulness.*

Hypothesis 3 (H3). *Perceived risk positively influences on argument quality.*

The adoption of information is often conceded as a notion which would eventually make the decision in favor or against something [29]. The underlying doctrine of information adoption process clarifies that information cannot be attained without the absence of certain core metrics (i.e., argument

quality, source credibility and information usefulness) [6,19]. The systematic deployment of all these three components would eventually lead to the information adoption protocols. The information adoption model (IAM) has been broadly used in different contexts; in particular, its application in the eWOM research studies has been quite lucrative. In the acceptance of technology, there are numerous factors that have an impact on technology's usage. Saleem & Ellahi [39] elucidated that a seller's information is less credible for individuals as they seek consumers reviews. The reviews of consumers are considered to be of credible nature as they provide product insights without any bias. From the company's end, there is always positive portrayal of the product and services; hence an element of perceived risk remains in the minds of potential customers [15]. Due to these factors, it is important to coin the following theoretical association in the hypothesized form:

Hypothesis 4 (H4). *Argument quality positively impacts upon trust.*

Hypothesis 5 (H5). Information quality positively impacts upon trust.

At the same time, complete information of the product and service being shared by the seller is highly appreciated by the customers. The customers cross-check the credibility of the information by reviewing users' comments. The adoption of information by the individuals becomes easier when there is synergy between the information being provided by the seller and online users [54,55]. Trust inclination is henceforth considered significant to be measured upon information adoption as it is the final construct before the adoption of information takes place.

Hypothesis 6 (H6). Trust inclination positively influences on information adoption.

The initial six hypotheses measure the direct effects upon each other while remaining in the sequential path. However, it remains important to understand how eWOM as a composite construct would impact information adoption while other mediators remain intact [38]. The theoretical associations also indicate strong positive causality among eWOM and information adoption. Therefore, the following hypothesis is constructed:

Hypothesis 7 (H7). *Perceived risk, argument quality, information usefulness and trust inclination have a positive sequential mediation role among eWOM and information adoption.*

3. Materials and Methods

As per the objectives of the study, positivism research philosophy has been deployed using a deductive method. The theoretical framework (see Figure 1) has been constructed on the foundations of the theory of reasoned action. The survey method and a structured questionnaire was used. The items of the questionnaire were adapted from the study of Hussain et al. [38]. Questionnaire items were further dig-down to authenticate the core source. It was ensured that precise scrutiny of the questionnaire would be done through pre-testing and pilot study. Necessary scientific measures were taken to rectify concerns. Furthermore, in order to ensure determinants of eWOM engagement, the demographics section of the questionnaire asked about internet usage frequency. Non-probability convenience sampling technique was used and the respondents were all online shoppers from Pakistan. The study was collected in a single time horizon; therefore, it had a cross-sectional design. The sample size of the study was 346. Hair et al. [56] elaborated that for the conduction of path analysis, a sample size above 200 is ample. Structural equation modelling (SEM) was deployed for the testing of hypotheses. For the initial data cleansing, normality and exploratory factor analysis (EFA), SPSS 24.0 software was used. For inspecting confirmatory factor analysis (CFA) and path modelling, AMOS 24.0 was used. All the linearity assumptions were precisely fulfilled so that there would not be any shortcomings.

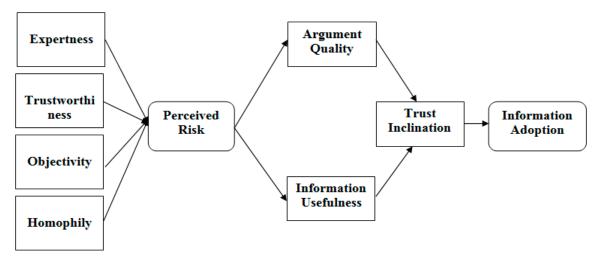


Figure 1. Theoretical framework (source: self-developed).

After data cleansing, the sample size of the study emerged to be 346 respondents. Female respondents dominated with 204 out of 346 (59.6%), while male respondents were 138 (40.4%). There is no reason behind female dominance in terms of response rate. The age range of 18–23 years dominated with 80.3% respondents. This denotes that the majority of respondents were from Generation Z. Meanwhile, the 24–29 years age bracket had 11.3% respondents. These respective age brackets dominated since the majority of online buying is being done by generation Z and generation Y. Almost 92.5% respondents used internet once in a day, around 39.6% respondents bought products online once every month, and 24.3% did online shopping once every 90 days (see Table 1).

Items	Category	Frequency	Percentage
Candan	Female	207	59.8%
Gender	Male	139	40.2%
	Below 18 years	12	3.5%
	18–23 years	278	80.3%
Age	24–29 years	39	11.3%
	30–35 years	14	4.0%
	36 years and above	3	0.9%
	At least one time in a day	320	92.5%
Internet usage frequency	At least one time in two days	24	6.9%
	At least one time in a week	2	0.6%
	Less than one time in every 180 days	18	5.2%
	At least one time in every 180 days	73	21.1%
Internet shopping frequency	At least one time in every 90 days	84	24.3%
	At least one time in every 30 days	137	39.6%
	At least one time in a week	34	9.8%

Table 1. Respondents demographic profile (N = 346).

4. Results

4.1. Model Estimation Using Structural Equation Modelling (SEM)

Structural Equation Modelling (SEM) technique was used for the achievement of study's objectives. For utilizing SEM, a considerable sample size is required for the structural fit and a moderate size is required for the measurement model [57]. A four-step process was carried out for the analysis which comprised initially of data cleansing/screening. Then, exploratory factor analysis (EFA) along with confirmatory factor analysis (CFA) was conducted. Lastly, path modelling was carried out for the hypotheses testing phase.

4.1.1. Data Cleansing

The data cleansing section provides the depiction if the data has normality, outliers, missing data and linearity issues. The construct-wise examination of data normality is vital for data modelling. Table 2 provides detailed data normality outcomes which reveals that the standard deviation (SD) values were less than 2, that indicates about 95% data are normal Similarly, skewness data was between the bracket of 1 and -1, highlighting no concerns of skewness. Lastly, kurtosis values were between the acceptable range of 3 and -3. Meanwhile, SE stands for standard deviation. Hence, in terms of data normality, no concerns were identified and the data was profound for further statistical analysis.

Variables —	Minimum	Minimum Maximum		Mean SD		Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	SE	Statistic	SE	
PvdRisk	1.00	5.00	2.6942	0.64096	-0.007	0.131	-0.452	0.261	
Trust	1.00	5.00	3.2965	0.68395	-0.402	0.131	0.169	0.261	
InfUse	1.00	5.00	3.6899	0.62933	-0.729	0.131	1.471	0.261	
Objetvty	1.00	5.00	3.2353	1.36284	-0.371	0.131	-1.126	0.261	
Exprtnes	1.00	5.00	2.2179	0.91688	-0.125	0.131	-1.218	0.261	
Homo	1.00	5.00	3.7544	0.57019	-0.662	0.131	1.309	0.261	
AQ	1.00	5.00	2.1383	0.50870	-0.155	0.131	-0.137	0.261	
TrtWorth	1.00	5.00	2.2072	0.72919	0.711	0.131	0.423	0.261	
InfoAdp	1.00	5.00	3.4301	0.47721	-0.683	0.131	1.542	0.261	

Table 2. Composite normality (N = 346).

4.1.2. Exploratory and Confirmatory Factor Analysis (EFA/CFA)

The conduction of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) is significant in co-variance based structural equation modelling (CB-SEM). Specifically, CFA is esteemed as the core difference between CB-SEM and variance-based structural equation modelling (VB-SEM). The results of both EFA and CFA are provided in Table 3. EFA loadings are denoted by ρ , and CFA factor loadings are denoted by λ. Hair et al. [56], stated that the EFA loadings should be greater than 0.4, while CFA loadings should be greater than 0.3. Results in the table below indicate that both EFA and CFA factor loadings were greater than 0.4 and 0.3, respectively. For constructs reliability, Cronbach's alpha (αvalues were examined. The alpha values were within the acceptable range of 0.7 to 1 [58]. Furthermore, reliability was further affirmed by examining the composite reliability (CR) values [59]. The results highlighted that the CR values were also above the threshold of 0.70 [60]. Average variance extracted (AVE) is an essential test for determining constructs validity. AVE values above than 0.50 indicate that there are no validity concerns [60]. The results notified no validity concerns of the constructs. For ensuring that there are no shortcomings in the model estimation, measurement model fit indices are examined. The incremental and absolute fit indices comprised of chi-square/degree of freedom chi-square/degree of freedom (χ^2 /df) value which was 1.288. The value is in the tolerable range of 1-5. Similarly, the outcomes of standardized root mean residual (SRMR) and root mean square error of approximation (RMSEA) emerged to be 0.038 and 0.029, respectively, which is also in the acceptable range. Additionally, aggregate goodness of fit indices (AGFI), goodness of fit indices (GFI), Tucker-Lewis index (TLI), confirmatory fit index (CFI) and normative fit index (NFI) values were 0.888, 0.909, 0.985, 0.983, and 0.929, respectively; henceforth, confirmatory factor analysis had suitable outcomes.

Table 3. Confirmatory factor analysis (CFA)/exploratory factor analysis (EFA) factor loadings, reliability, and validity of measurement model.

Constructs and Items	P	λ	α	C.R	AVE
Expertness					
Exp1	0.811	0.699	0.917	0.875	0.639
Exp2	0.742	0.807			
Exp3	0.888	0.746			
Exp4	0.833	0.927			
Homophily					
Homo1	0.872	0.840	0.919	0.919	0.739
Homo2	0.867	0.914			
Homo3	0.847	0.861			
Homo4	0.836	0.823			
Objectivity					
Obj1	0.991	0.982	0.950	0.949	0.862
Obj2	0.849	0.860			
Obj3	0.938	0.939			
Trustworthiness					
TW1	0.732	0.804	0.913	0.917	0.734
TW2	0.849	0.853			
TW3	0.945	0.903			
TW4	0.873	0.864			
nformation Usefulness					
InUse1	0.875	0.877	0.770	0.879	0.710
InUse2	0.907	0.911			
InUse3	0.682	0.729			
Perceived Risk					
PR1	0.704	0.728	0.869	0.771	0.529
PR2	0.779	0.773			
PR3	0.682	0.678			
Argument Quality					
AQ1	0.593	0.674	0.914	0.910	0.594
AQ2	0.836	0.853			
AQ3	0.697	0.775			
AQ4	0.692	0.781			
AQ5	0.923	0.790			
AQ6	0.950	0.827			
AQ7	0.630	0.676			
Trust Inclination					
Trt1	0.704	0.796	0.873	0.875	0.701
Trt2	0.857	0.848			
Trt3	0.893	0.865			
Information Adoption					
IU1	0.938	0.816	0.789	0.792	0.656
IU2	0.587	0.803			
	r-Olkin (KM0				
- · · ·	quare $(df = 5)$				

 $\label{eq:measurement model fit statistics:} \\$

a. Absolute fit indices

Chi square (χ^2) = 586.114, degree of freedom (df) = 455, P = 0.000, Chi square/degree of freedom (χ^2 /df) = 1.288, SRMR = 0.038, AGFI = 0.888, GFI = 0.909, RMSEA = 0.029 *b. Incremental fit indices*

TLI = 0.980, NFI = 0.929 and CFI = 0.983

Note. $P = Factor loadings at 0.40 using EFA; \lambda = Standardized factors loadings using CFA; a = Cronbach Alpha; CR = Composite Reliability; AVE = Average variance extracted.$

In the confirmatory factor analysis section, convergent validity was addressed through AVE values estimation and it turned out that no AVE issues were prevalent. Consequently, discriminant validity remained imperative to be explore and it was precisely measured separately. Discriminant validity results with the correlations values are provided in Table 4. According to Khwaja et al. [9], the values of maximum shared variance (MSV) must be less than 1. The correlations diagonal in the table below also reveal that the values are in the acceptable range and there are no discriminant validity problems in the constructs.

Constructs	MSV	AQ.	Homo.	TW.	Exp.	Obj.	InUse.	Trt.	PR.	InAdp.
AQ.	0.297	0.771								
Homo.	0.344	0.370	0.860							
TW.	0.165	0.406	0.264	0.857						
Exp.	0.113	0.001	0.028	0.006	0.799					
Obj.	0.113	0.114	0.139	0.069	-0.336	0.928				
InUse.	0.424	0.283	0.565	0.245	0.106	0.000	0.843			
Trt.	0.297	0.545	0.537	0.263	0.101	0.071	0.415	0.837		
PR.	0.146	0.379	0.326	0.382	0.048	0.220	0.136	0.322	0.727	
InAdp.	0.424	0.384	0.586	0.233	0.158	0.075	0.651	0.529	0.266	0.810

Table 4. Discriminant validity of constructs.

4.1.3. Path Analysis Outcomes

After the attainment of precise statistical outcomes of the data cleansing, EFA and CFA; the foremost aspect remained to configure hypotheses testing. For this purpose, path modelling was conducted for the determination of causality. The hypotheses results are depicted in Table 5. H1(a-d) stated about eWOM source credibility antecedents on perceived risk. The beta values/path coefficients outcomes emerged to be constructive as expertness, trustworthiness, objectivity and homophily effects on perceived risk were 0.127, 0.355, 0.234 and 0.236, respectively. The t-values of these hypothesized relationships were 2.638, 7.598, 4.807 and 5.006, respectively. H2 & H3 argued about perceived risk impact on information usefulness and argument quality. The beta values of these relationships were 0.164 and 0.440, respectively, along with t-values of 3.086 and 3.974 which reveal strong positive relationship. H4 stated about argument quality impact on trust inclination; and H5 argued about information usefulness impact on trust inclination. The beta values emerged to be 0.478 and 0.315, hence indicating strong relationship. H6 hypothesized trust inclination impact on information adoption and the beta value outcome was 0.592. Lastly, for H7, sequential path model was tested in which composite effect of eWOM on information adoption was tested with the mediation role of perceived risk, argument quality, information usefulness and trust inclination. The beta value turned out to be 0.588 and t-value of 10.621, indicating strong positive sequential path.

Hypotheses	Relationships	Path Coefficients	T-Statistics	<i>p</i> -Values	Outcomes		
H1(a)	$Exp \rightarrow PR$	0.127 **	2.638	< 0.01	Accepted		
H1(b)	$TW \rightarrow PR$	0.355 **	7.598	< 0.01	Accepted		
H1(c)	$Obj \rightarrow PR$	0.234 **	4.807	< 0.01	Accepted		
H1(d)	$Homo \rightarrow PR$	0.236 **	5.006	< 0.01	Accepted		
H2	$PR \rightarrow InUse$	0.164 **	3.086	< 0.01	Accepted		
H3	$PR \rightarrow AQ$	0.440 **	3.974	< 0.01	Accepted		
H4	$AQ \rightarrow TRT$	0.478 **	9.101	< 0.01	Accepted		
H5	$InUse \rightarrow TRT$	0.315 **	7.521	< 0.01	Accepted		
H6	$TRT \rightarrow InAdp$	0.592 **	13.626	< 0.01	Accepted		
H7	$eWOM \rightarrow InAdp$	0.588 **	10.621	< 0.01	Accepted		

Table 5. Results of hypotheses (direct and indirect effects).

Notes: ** p < 0.05.

5. Discussion

The current study sought to unfold the prevalent issue of information adoption ludicrousness and was envisioned to provide a theoretical model which would help eventually determine eWOM source credibility effects on information adoption. Instead of jumping on to conclusions like purchase intentions and purchase behaviors, the theoretical model was delineated until the information adoption. Through this process, a holistic information adoption framework was intertwined which provided profound outcomes. Electronic word-of-mouth (eWOM) has been envisioned contrarily by different scholars. As per the theoretical knitting, source credibility of eWOM has the propensity to succinctly examine information adoption. The Pakistani online consumer market is in the evolving stage as the trend towards online buying is increasing. At the same time, it is prudent for the researchers to understand the psyche of buyers in emerging markets. For determining message's credibility, factors like communicators familiarity, power, credibility, attractiveness and physical appearances are indispensable. Consequently, on the online platforms, it is not possible to measure factors like attractiveness and physical appearance. Accordingly, the focus is hence laid upon factors like familiarity, power and credibility. Message sender's credibility is inspected by considering antecedents like homophily, objectivity, expertness and trustworthiness. The results attained through structural equation modelling (SEM) technique were in the permissible range. The challenge for users remains to configure the credibility of information. Users as per their expertise tend to adopt that information which is passed on by credible sources.

Electronic word-of-mouth has led to considerable customer open innovation. Customer inclination towards open innovation has been boosted due to the spread of eWOM on social media platforms. Using digital platforms, companies are making strong connections between technology and markets [48]. Results suggest innovative measures to be deployed by marketers for achieving effective and efficient outcomes [61]. The study would be beneficial for the upcoming entrepreneurs too. The aspects of industry, society, science and policy have been precisely taken into consideration [49]. The narrative and viewpoint have been theoretically and contextually weaved accordingly. While designing their marketing strategies, they can make effective utility of cyclical dynamics of open innovation (i.e., deploying eWOM and narrative advertising simultaneously) [58]. The understanding of open innovation dynamics is important for the marketers as confining to single approaches of targeting customers is no longer impactful [61]. The deployment of diverse means and methods is essential and mandatory.

Profound meta-analysis studies like of Ismagilova et al. [62] and Babic et al. [54] unfolded the sphere of eWOM and determined its effects on consumer purchase intentions. The current study precisely determined eWOM source credibility effects on information adoption. The sequential mediating effects configuration gave conceivable results. The study emphasized how information adoption is of critical worth and value, and why it is essential to measure it before purchase intentions. Prior studies extensively focused upon configuring purchase intentions and purchase behaviors specifically. Minimal studies have made use of discussing the role of information adoption. The research study hence ensured that this critical protocol would be estimated by incorporating multiple mediators. This remains one contribution of this study as well. Multiple factors in the mediation have given significant worth to the body of knowledge. Further exploration of this study in different contexts would enrich the respective domain of study.

6. Conclusion

6.1. Implications

Marketing policy makers would be attaining considerable insights from the study. The understanding of information adoption paradigm is of considerable importance and significance. Hence, future policies may be designed by considering the aforementioned results of the study. Further, theoretical and practical implications are discussed in the section below.

6.2. Theoretical and Practical Contribution

The study unfolded different antecedents of electronic word-of-mouth (eWOM) and their individual impact on the information adoption process of customers. The sequential effect of multiple mediators ensured the strength of theoretical associations and it remained prudent to measure the overall impact. Considering the theoretical aspects, the study has provided enriched concrete empirical insight about the information adoption process. On the theoretical grounds, theory of reasoned action has been reaffirmed through an extensive empirical examination. The body of knowledge is also contributed through the sequential mediation effect of trust inclination. On the practical aspect, the study provides a path to marketers about eWOM execution on the online platforms. Considering aforementioned factors can help them shaping their future marketing strategies [63]. The psychological developments prevalent in the customers brain due to eWOM are clearly indicated in the theoretical model. Moreover, emerging entrepreneurs would be getting an insight into how effective utilization of eWOM can lead to consumer information adoption, and consequently purchase intentions.

6.3. Future Research Directions

There are some limitations of the study which should be taken into consideration with regards to generalizability of the study. The study was conducted in Pakistan, which is an emerging market [64]. The outcomes manifestly indicated strong association of eWOM antecedents with perceived risk. Future research studies must be of longitudinal nature as attaining of data in different time periods may provide a different outcome. Future studies may also use gender as a control variable and examine how gender influences information adoption. The study should be further extended from information adoption as an outcome to purchase intentions and consumer decision making. In that sphere, the underpinning theory of the study would be also changed to theory of planned behavior. The inclusion of e-service quality as one of the variables would be interesting to examine. Moreover, taking age, gender and socio-economic backgrounds as control variables would further refine the theoretical model. Future studies can also make use of multi-level modelling in which data would be collected from companies and customers.

Author Contributions: Conceptualization, M.G.K. and U.Z.; methodology, M.G.K., U.Z.; software, M.G.K.; validation, M.G.K.; formal analysis, M.G.K.; investigation, M.G.K.; resources, U.Z.; data curation, M.G.K., and U.Z.; writing—original draft preparation, M.G.K. and U.Z.; writing—review and editing, M.G.K. and U.Z.; project administration, M.G.K., and U.Z. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

References

- 1. Bronner, F.; De Hoog, R. Consumer-generated versus marketer-generated websites in consumer decision making. *Int. J. Mark. Res.* **2010**, *52*, 231–248. [CrossRef]
- 2. Keisidou, E.; Sarigiannidis, L.; Maditinos, D. Consumer characteristics and their effect on accepting online shopping, in the context of different product types. *Int. J. Bus. Sci. Appl. Manag.* (*IJBSAM*) **2011**, *6*, 31–51.
- 3. Lee, M.; Youn, S. Electronic word of mouth (eWOM): How eWOM platforms influence consumer product judgement. *Int. J. Adv.* **2009**, *28*, 473–499. [CrossRef]
- 4. Lopez, M.; Sicilia, M. eWOM as source of influence: The impact of participation in eWOM and perceived source trustworthiness on decision making. *J. Interact. Advert.* **2014**, *14*, 86–97. [CrossRef]
- 5. Lever, M.W.; Mulvey, M.S.; Elliot, S. From Hashtags to Shopping Bags: Measuring the Rise of eWOM through Social Media and its Impact on Travelers' Shopping Patterns. In Proceedings of the International Arctic Change 2017 Conference, Quebec City, QC, Canada, 11–15 December 2017.
- Mahmood, S.; Khwaja, M.G.; Jusoh, A. Electronic word of mouth on social media websites: Role of social capital theory, self-determination theory, and altruism. *Int. J. Space Based Situated Comput.* 2019, 9, 74–89. [CrossRef]

- 7. Bilal, M.; Jianqiu, Z.; Akram, U.; Tanveer, Y.; Sohaib, M.; Raza, M.A.A. The Role of Motivational Factors for Determining Attitude Towards eWOM in Social Media Context. *Int. J. Enterp. Inf. Syst.* **2020**, *16*, 73–91. [CrossRef]
- 8. Hu, Y.; Kim, H.J. Positive and negative eWOM motivations and hotel customers' eWOM behavior: Does personality matter? *Int. J. Hosp. Manag.* **2018**, *75*, 27–37. [CrossRef]
- 9. Khwaja, M.G.; Jusoh, A.; Nor, K.M. Does online social presence lead to purchase intentions? *Int. J. Econ. Policy Emerg. Econ.* **2019**, 12, 198–206. [CrossRef]
- 10. Roy, G.; Datta, B.; Mukherjee, S.; Basu, R. Effect of eWOM stimuli and eWOM response on perceived service quality and online recommendation. *Tour. Recreat. Res.* **2020**, 1–16. [CrossRef]
- 11. Prantl, D.; Micik, M. Analysis of the significance of eWOM on social media for companies. *Eco. Manag.* **2019**, 22, 182–194. [CrossRef]
- 12. Zhang, T.; Abound Omran, B.; Cobanoglu, C. Generation Y's positive and negative eWOM: Use of social media and mobile technology. *Int. J. Contemp. Hosp. Manag.* **2017**, *29*, 732–761. [CrossRef]
- 13. Erkan, I.; Evans, C. The influence of eWOM in social media on consumers' purchase intentions: An extended approach to information adoption. *Comput. Hum. Behav.* **2016**, *61*, 47–55. [CrossRef]
- 14. Wu, T.Y.; Lin, C.A. Predicting the effects of eWOM and online brand messaging: Source trust, bandwagon effect and innovation adoption factors. *Telemat. Inform.* **2017**, *34*, 470–480. [CrossRef]
- 15. Matute, J.; Polo-Redondo, Y.; Utrillas, A. The influence of EWOM characteristics on online repurchase intention: Mediating roles of trust and perceived usefulness. *Online Inf. Rev.* **2016**, *40*, 1090–1110. [CrossRef]
- 16. Choi, Y.; Kim, J. Influence of Cultural Orientations on Electronic Word-of-Mouth (eWOM) in Social Media. *J. Intercult. Commun. Res.* **2019**, *48*, 292–313. [CrossRef]
- 17. Fatma, M.; Ruiz, A.P.; Khan, I.; Rahman, Z. The effect of CSR engagement on eWOM on social media. *Int. J. Organ. Anal.* **2020**, *28*, 941–956. [CrossRef]
- 18. Gurney, L.; Eveland, J.J.; Guzman, I.R. "What you say, I buy!" Information Diagnosticity and the Impact of Electronic Word-of-Mouth (eWOM) Consumer Reviews on Purchase Intention. In Proceedings of the 2019 on Computers and People Research Conference, Nashville, TN, USA, 20–22 June 2019; pp. 183–189.
- 19. Khwaja, M.G.; Mahmood, S.; Zaman, U. Examining the Effects of eWOM, Trust Inclination, and Information Adoption on Purchase Intentions in an Accelerated Digital Marketing Context. *Information* **2020**, *11*, 478. [CrossRef]
- 20. Bashir, S.; Khwaja, M.G.; Rashid, Y.; Turi, J.A.; Waheed, T. Green Brand Benefits and Brand Outcomes: The Mediating Role of Green Brand Image. *SAGE Open* **2020**, *10*, 1–11. [CrossRef]
- 21. Ananda, A.S.; Hernandez-Garcia, Á.; Acquila-Natale, E.; Lamberti, L. What makes fashion consumers "click"? Generation of eWoM engagement in social media. *Asia Pac. J. Mark. Logist.* **2019**, 31, 398–418. [CrossRef]
- 22. Suwandee, S.; Surachartkumtonkun, J.; Lertwannawit, A. EWOM firestorm: Young consumers and online community. *Young Consum.* **2019**, *21*, 1–15. [CrossRef]
- 23. Bashir, S.; Khwaja, M.G.; Mahmood, A.; Turi, J.A.; Latif, K.F. Refining e-shoppers' perceived risks: Development and validation of new measurement scale. *J. Retail. Consum. Serv.* **2021**, *58*, 102285. [CrossRef]
- 24. Hall, M.C.; Prayag, G.; Fieger, P.; Dyason, D. Beyond panic buying: Consumption displacement and COVID-19. *J. Serv. Manag.* **2020**. [CrossRef]
- 25. Laato, S.; Islam, A.N.; Farooq, A.; Dhir, A. Unusual purchasing behavior during the early stages of the COVID-19 pandemic: The stimulus-organism-response approach. *J. Retail. Consum. Serv.* **2020**, *57*, 102224. [CrossRef]
- 26. Al-Maghrabi, T.; Dennis, C.; Halliday, S.V.; BinAli, A. Determinants of customer continuance intention of online shopping. *Int. J. Bus. Sci. Appl. Manag.* **2011**, *6*, 41–66.
- 27. Bernon, M.; Bastl, M.; Zhang, W.; Johnson, M. Product recalls: The effects of industry, recall strategy and hazard, on shareholder wealth. *Int. J. Bus. Sci. Appl. Manag.* **2018**, *13*, 1–14.
- 28. Le-Hoang, P.V. The effects of Electronic Word of Mouth (eWOM) on the adoption of consumer eWOM information. *Indep. J. Manag. Prod.* **2020**, *6*, 1760–1777. [CrossRef]
- 29. Hussain, S.; Guangju, W.; Jafar, R.M.S.; Ilyas, Z.; Mustafa, G.; Yang, J. Consumers' online information adoption behavior: Motives and antecedents of electronic word of mouth communications. *Comput. Hum. Behav.* 2018, 80, 22–32. [CrossRef]

- 30. Khwaja, M.G.; Jusoh, A.; Nor, K.M.; Mahmood, S. Determining the role of Quality Management Practices on Organizational Performance using Balanced Scorecard Approach with the moderating effects of Culture: An Empirical Investigation. In Proceedings of the Gsom Emerging Markets Conference, St. Petersburg, Russia, 4–6 October 2018; pp. 237–239.
- 31. Bashir, S.; Khwaja, M.G.; Turi, J.A.; Toheed, H. Extension of planned behavioral theory to consumer behaviors in green hotel. *Heliyon* **2019**, *5*, 29–74. [CrossRef]
- 32. Danniswara, R.; Sandhyaduhita, P.; Munajat, Q. The impact of EWOM referral, celebrity endorsement, and information quality on purchase decision: A case of Instagram. In *Global Branding: Breakthroughs in Research and Practice*; IGI Global: Hershey, PA, USA, 2020; pp. 882–905.
- 33. Evgeniy, Y.; Lee, K.; Roh, T.W. The Effect of eWOM on Purchase Intention for Korean-brand Cars in Russia: The Mediating Role of Brand Image and Perceived Quality. *J. Korea Trade* **2019**, 23, 102–117. [CrossRef]
- 34. Tien, D.H.; Rivas, A.A.A.; Liao, Y.K. Examining the influence of customer-to-customer electronic word-of-mouth on purchase intention in social networking sites. *Asia Pac. Manag. Rev.* **2019**, 24, 238–249. [CrossRef]
- 35. Bashir, S.; Khwaja, M.G. Pakistani Hotels Industry: A New Paradigm to Investigate Visitors Decision-Making Process. *Asia Proc. Soc. Sci.* **2018**, *2*, 219–223. [CrossRef]
- 36. Statista. eCommerce. Available online: https://www.statista.com/outlook/243/294/ecommerce/pakistan# market-age (accessed on 30 September 2020).
- 37. Zeb, Y. Pakistan's Ecommerce Market Is over Rs.50 Billion. Research Snipers. Available online: https://www.researchsnipers.com/pakistans-ecommerce-market-is-over-rs-50-billion/ (accessed on 30 September 2020).
- 38. Hussain, S.; Ahmed, W.; Jafar, R.M.S.; Rabnawaz, A.; Yang, J. eWOM source credibility, perceived risk and food product customer's information adoption. *Comput. Hum. Behav.* **2017**, *66*, 96–102. [CrossRef]
- 39. Saleem, A.; Ellahi, A. Influence of Electronic Word of Mouth on Purchase Intention of Fashion Products on Social Networking Websites. *Pak. J. Comm. Soc. Sci.* **2017**, *11*, 597–622.
- 40. Chu, S.C.; Kim, Y. Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites. *Int. J. Advert.* **2011**, *30*, 47–75. [CrossRef]
- 41. Ngarmwongnoi, C.; Oliveira, J.S.; AbedRabbo, M.; Mousavi, S. The implications of eWOM adoption on the customer journey. *J. Consum. Mark.* **2020**, *37*, 749–759. [CrossRef]
- 42. Luo, C.; Luo, X.R.; Schatzberg, L.; Sia, C.L. Impact of informational factors on online recommendation credibility: The moderating role of source credibility. *Decis. Support Syst.* **2013**, *56*, 92–102. [CrossRef]
- 43. Khwaja, M.G.; Jusoh, A.; Nor, K.M. Does Electronic word-of-mouth (eWOM) on Social Media leads to Information Adoption? Empirical Evidence from the Emerging Markets! *Int. J. Recent Technol. Eng.* **2019**, *8*, 3281–3288
- 44. Yun, J.J.; Kim, D.; Yan, M.R. Open Innovation Engineering—Preliminary Study on New Entrance of Technology to Market. *Electronics* **2020**, *9*, 791. [CrossRef]
- 45. Khwaja, M.G.; Mahmood, S.; Jusoh, A. Online information bombardment! How does eWOM on social media lead to consumer purchase intentions? *Int. J. Grid Util. Comput.* **2020**, *11*, 857–867.
- 46. Hwangbo, H.; Kim, J. A text mining approach for sustainable performance in the film industry. *Sustainability* **2019**, *11*, 3207. [CrossRef]
- 47. Melancon, J.P.; Dalakas, V. Consumer social voice in the age of social media: Segmentation profiles and relationship marketing strategies. *Bus. Horiz.* **2018**, *61*, 157–167. [CrossRef]
- 48. Behrens, J. The Effects of Familiarity and Online Consumer Reviews, on Consumers' Trust, Risk Perception, and Behavioral Intentions. Master's Thesis, University of Twente, Enschede, The Netherlands, 2014.
- 49. Walsh, G.; Schaarschmidt, M.; Ivens, S. Effects of customer-based corporate reputation on perceived risk and relational outcomes: Empirical evidence from gender moderation in fashion retailing. *J. Prod. Brand Manag.* **2017**, *26*, 227–238. [CrossRef]
- 50. Pitta, D.A.; Fowler, D. Online consumer communities and their value to new product developers. *J. Prod. Brand Manag.* **2005**, *14*, 283–291. [CrossRef]
- 51. Gunawan, D.D.; Huarng, K.H. Viral effects of social network and media on consumers' purchase intention. *J. Bus. Res.* **2015**, *68*, 2237–2241. [CrossRef]
- 52. Sussman, S.W.; Siegal, W.S. Informational influence in organizations: An integrated approach to knowledge adoption. *Inf. Syst. Res.* **2003**, *14*, 47–65. [CrossRef]
- 53. Davis, F.D. Technology acceptance model. J. Manag. Sci. 1989, 35, 982–1003.

- 54. Babic, A.; Sotgiu, F.; De Valck, K.; Bijmolt, T.H. The effect of electronic word of mouth on sales: A meta-analytic review of platform, product, and metric factors. *J. Mark. Res.* **2016**, *53*, 297–318. [CrossRef]
- 55. Bhandari, M.; Rodgers, S. What does the brand say? Effects of brand feedback to negative eWOM on brand trust and purchase intentions. *Int. J. Advert.* **2018**, *37*, 125–141.
- 56. Hair, J.F., Jr.; Hult, G.T.M.; Ringle, C.; Sarstedt, M. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*; Sage Publications: Thousand Oaks, CA, USA, 2016.
- 57. Lowry, P.B.; Gaskin, J. Partial least squares (PLS) structural equation modeling (SEM) for building and testing behavioral causal theory: When to choose it and how to use it. *IEEE Trans. Prof. Comm.* **2014**, 57, 123–146. [CrossRef]
- 58. Zaman, U.; Jabbar, Z.; Nawaz, S.; Abbas, M. Understanding the soft side of software projects: An empirical study on the interactive effects of social skills and political skills on complexity–performance relationship. *Int. J. Proj. Manag.* **2019**, *37*, 444–460. [CrossRef]
- 59. Zaman, U.; Nawaz, S.; Tariq, S.; Humayoun, A.A. Linking transformational leadership and "multi-dimensions" of project success: Moderating effects of project flexibility and project visibility using PLS-SEM. *Int. J. Manag. Proj. Bus.* **2019**, *13*, 103–127. [CrossRef]
- 60. Zaman, U. Examining the effect of xenophobia on "transnational" mega construction project (MCP) success: Moderating role of transformational leadership and high-performance work (HPW) practices. *Eng. Constr. Archit. Manag.* 2020, 27, 1119–1143. [CrossRef]
- 61. Yun, J.J.; Cooke, P.; Park, J. Evolution and variety in complex geographies and enterprise policies. *Eur. Plan. Stud.* **2017**, 25, 729–738. [CrossRef]
- 62. Ismagilova, E.; Slade, E.L.; Rana, N.P.; Dwivedi, Y.K. The effect of electronic word of mouth communications on intention to buy: A meta-analysis. *Inf. Syst. Front.* **2020**, 22, 1203–1226. [CrossRef]
- 63. Yun, J.J.; Won, D.; Park, K. Entrepreneurial cyclical dynamics of open innovation. *J. Evol. Econ.* **2018**, 28, 1151–1174. [CrossRef]
- 64. Zaman, U.; Nadeem, R.D.; Nawaz, S. Cross-country evidence on project portfolio success in the Asia-Pacific region: Role of CEO transformational leadership, portfolio governance and strategic innovation orientation. *Cogent Bus. Manag.* 2020, 7, 1–26. [CrossRef]

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).