Online Review and Customer Purchase Intention in Social E-Commerce Context; Role of Trust as a Mediator and Source Credibility as Moderator

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Abstract. Previous literature supports the role of online reviews in influencing customer purchase intentions in the online context. However, the research gap exists based on the underlying mechanism of influence of online reviews on customer purchase intentions and the mediating and moderating variables in this relationship. The current study addressed this research gap by developing and testing a model of online reviews and customer purchase intention in the social media-e-commerce context. Additionally, we tested trust as mediator and source credibility as moderator. Data were collected from 360 participants of social media users by using an online survey. The analysis was performed through confirmatory factor analysis using AMOS and consists of two stages. The result indicates that online reviews have positive and significant effects on purchase intentions (β=.352, P<0.05); and customer trust (β=.691, P<0.05). Furthermore, customer trust has positive and significant effects on purchase intention (β=.240, P<0.05). Additionally, we found partial support for the mediating nature of trust between the relationship of online reviews and purchase intention. We also found support that source credibility moderates the mediating relationship of customer trust. Our findings imply that trust and source credibility play significant role in shaping the online reviews and purchase intention relationship.

Key words: Online Reviews, Trust, Source Credibility, Purchase Intentions, Social Media, e-Commerce, Pakistan.

1 Introduction

The trend of online shopping is increasing leading to reduction in in-store shopping (Lee et al., 2017). For individual customers to engage in online shopping over the traditional one, there are diverse reasons but convenience and flexibility of online shopping stand out as the most prominent reasons. A customer only needs a PC/laptop or smartphone and internet connection to browse through different websites for comparing products and making a purchase decision. The traditional stores are mostly closed at night but online shopping continues 24/7, thus giving greater flexibility to customers. Avoidance of parking issues, long ques, and crowds

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is also a reason for customers to prefer online shopping. The online purchase also enables a comparison of a lot of information and surveying feedback of previous customers before making a purchase.

The challenges which are brought by online shopping include security as the customer may have to reveal their sensitive information such as banking details to the merchant which can be risky. The intangible nature of online shopping also makes it difficult to do the shopping for certain products such as clothes or shoes because of fitting or quality issues. To overcome such challenges, customers and online sellers adopt different strategies. For example, customers search for online reviews about products and sellers before deciding about making an online purchase. By reading the reviews of previous customers, a customer can judge the authenticity of the product and the online sellers (Liang, 2016). Online reviews are a type of feedback and are mostly referred to as user-generated content (Bae and Lee, 2011). Online reviews are considered as credible by customers against other information sources due to the neutral nature of online reviews (Fang et al., 2014). The online reviews work like word of mouth referral but the difference is that real word of mouth is done by individuals who are known to a person while electronic word of mouth mostly remains anonymous. The online sellers also use testimonials from previous customers as a strategy to build a reputation among potential customers. Online review provides an important source of product information and enables a business to get an insight into the consumer attitude (Huang et al., 2015). Thus, online reviews are significantly important for both seller and buyers in online context. In the present study, the role of online reviews in shaping an individuals purchase intention is investigated in the context of social media-based online stores. Furthermore, we also investigate the role of trust as a mediator and source credibility as a moderator in this relationship.

1.1   Problem Statement

The main theme of the study is testing the influence of the customer perception on online purchases and the role of online reviews. The problem is that with the rise of electronic commerce, the issue of quality of the product is also becoming prominent. Sometimes customer makes an online purchase but receives defective products or low-quality products or products with different specifications. The result is that there is a lot of suspicions and lack of trust attached to online shopping in Pakistan. For an online seller, it is important to understand how different factors can contribute to building customer trust and influence customer purchase decisions. The present study investigates this issue with the help of factors including online reviews, customer trust, and source credibility. The study is based on the following problem statement:

Investigation of online reviews as an antecedent of online purchase intention, mediating role of trust and moderating role of source credibility in the context of the social media-based online stores

1.2   Objectives of the Study

The objectives of the study include testing the influence of online reviews on customer online purchase intention and mediating role of customer trust. Additionally, the objective is to test if source credibility moderates the mediation relationship of customer trust.

1.3 Significance of the Study

The study is based on social commerce-based marketing in Pakistan for which there is little literature available. The findings can be useful for the management of social media-based online stores (e.g. Facebook, Instagram) in understanding the factors influencing customer intentions to purchase especially in the Pakistani context. The findings may also be useful for academics, students, and future researchers.

2 Literature Review

2.1 Online Reviews

Online reviews refer to customer-generated information and recommendations presented online by customers about a product and related to customers experiences, evaluation, and opinion (Bae and Lee, 2011). Different platforms exist which can be categorized as generic such as epinions.com; retailers websites such as amazon.com; websites of brands such as forums.us.dell.com; and blogs such as twitter exist for a customer to leave online reviews or read reviews of other users. Customers use these online reviews as a key source of information for determining whether to make an online purchase or not (Kostyra et al., 2016). These online reviews provide the potential customer guidance about product use, specifications, and feedback. While searching for online reviews, a customer may encounter positive, negative, or both reviews. However, research in this domain suggests that negative reviews produce greater effects on an individuals purchase intentions (Cui et al., 2012). The popularity of online reviews is increasing as research by KPMG (2017) showed that online reviews are given top priority by Asian consumers. Similar are the findings of the study by ONeil and Eisenmann (2017) which indicated that among the various information channels, (such as paid, earned, and shared channel), customers considered the shared channels such as online reviews as the most credible one. Online reviews are given high value by the potential customers mainly because of the neutrality of these reviews (Fang et al., 2014).

2.2 Online Purchase Intention

In an online context, purchase intention is about customer intention to buy from an online source (Chen and Barnes, 2007). Different factors such as familiarity with the e-commerce platform and nature of product being purchased inlfunece purchase intentions of a cusotmer. The intentions instead of actual purchase behaivor is often used as a proxy variable in marketing literature due to its easier measurement and higher predictive power of actual purchase behavior (**?**). Therefore, in the present study, online purchase intention is used instead of the actual online purchase behavior of customers.

2.3 Role of Trust in E-Commerce

In a business relationship, trust plays an important role as without trust, important negotiations and dealings cannot be finalized. In the online business context, trust is about belief that e-business will not adopt an opportunistic behavior and will not exploit customer (Hong and Cha, 2013). Higher trust in online business means customers believe that the online business will not deceive or cheat them. Because of the very nature of the online business, especially in

Pakistan, trust is becoming a crucial factor in online transactions. Several studies recognized the importance of trust in social commerce such as **?**. Thus, it can be argued that in an online context, trust plays a key factor that can make an online business successful or fail.

2.4   Online Review and Purchase Intention

In a social media e-commerce context, potential customers mostly search for reviews from existing customers before deciding on purchase from a particular online social media store. Thus, online reviews significantly predict purchase decision. Several studies recognized such relationship. For example, a study by Beneke et al. (2016) showed that purchase intention of South African consumer electronic customers is influenced by online reviews. A study by Hsu et al. (2017) reported that purchase intention is predicted by online reviews, while the product type playing a moderating role in this relationship. Other studies also reported similar findings (**?**). We propose the following hypothesis based on the above discussion:

H_1: *Online reviews have significant and positive effect on customer purchase intention.*

2.5   Mediating role of Customer Trust

The mediating nature of customer trust is based on online reviews and customer trust relationship and subsequently influence of trust on purchase intention. Accordingly, if a potential customer comes across many positive reviews about a particular seller or product so he/she will likely develop a higher trust in such a seller or product leading to higher probability of engaging in purchase process. While, an unfavorable feedback will negatively influence a potential customer trust towards an online seller, and the chances of online purchases will be decreased. Previous studies acknowledge such relationships. For example, a study by Sparks et al. (2016) showed that peer customer reviews influence customer trust levels. Other studies also found similar results including **?**.

Subsequently, customer trust is also found to be influencing the customer purchase intention thus supporting its mediating nature. If a customer has higher trust developed on the online seller, so he/she is more likely to engage in purchase intention. This is because trust significantly predicts purchase decisions in the online environment. Available literature supports the predictor nature of trust for purchase intentions as cited in different studies. For example, a study by Oghazi et al. (2018) highlighted the influence of trust on customers purchase intention. Other studies also found similar results including **?**. Accordingly, we propose the following hypotheses:

H_2: *Online reviews have significant effect on customer trust.*
H_3: *Trust has a postive effect on a customer purchase intention.*
H_4: *Trust functions as a mediator between the relationship of online reviews and purchase intention.*

2.6   Source Credibility as a Moderator

In social media, a user may expose to variety of online reviews which pose a challenge to select credible reviews and discard the non-realistic and fake reviews (Hlee et al., 2019). If an individual considers the source of the information as credible, then individuals will more likely be influenced by such reviews. On the other hand, reviews from an incredible source will have

little influence on individuals. By credible source it means provision of accurate information or informatin which can be trusted (Visentin et al., 2019). Previous studies show that the credibility of the source as perceived by the individual influences their attitude towards the review (**?**). Based on its very nature, we propose that source credibility can moderate the mediating relationship of customer trust between online reviews and purchase intentions. This is because if an online review source is perceived to be lacking credibility, a customer will less likely develop trust and involve in online purchase intention. On the other hand, an online review source with higher credibility will more likely influence customer trust and purchase intention. Therefore, we develop the following hypothesis:

H_5:*Source credibility moderates the mediating nature of customer trust between the relationship of online reviews and purchase intention.*

3 Research Method

3.1 Research Design

The quantitative research method is adopted in the study as it allows empirical testing and suits with the explanatory nature. The study is cross-sectional and employs survey method for primary data collection.

3.2 Population and Sampling

The population of the study is online shoppers who have made an online purchase through social commerce websites. For data collection, we used the convenience non-random sampling approach. The criteria for inclusion are all individuals who have made social commerce based online purchase during the last 6 months. The data were collected through Google online form which was circulated using social media sites including Facebook and Twitter. Individuals were first briefed about the objective of the study and if agreed, they were forwarded a link to an online questionnaire. The survey generated a usable sample of 360 participants.

3.3 Measures

Measure for online reviews is adapted from Kim et al. (2009) consisting of 4 items. Trust is adapted from Chen et al. (2016) which consists of 3 items. Purchase intention is measured by 3 items and based on measure of Chen and Barnes (2007). Source credibility is adapted from Cheung et al. (2009) consisting 3 items. Five-point Likert scale is used for measurement.

3.4 Reliability and Validity

Reliability is the consistency of results over time (Zikmund et al., 2013). The reliability of constructs was tested using the Cronbachs alpha and Composite Reliability (CR) and the cut of value is 0.60 as suggested by Hair Jr et al. (2017). Convergent and discriminant validity is evaluated as part of the assessment of the content validity.

3.5   Data Analysis

Data once collected were screened for any errors and discrepancies. We utilzied AMOS version 20 for conducting confirmatory factor analysis (CFA) for data analysis. The analysis is based on two stages. The reliability and validity is tested through analysis of measurement model in the first stage. The hypotheses are tested by analysis of structural model in the second stage.

4   Results

4.1   Demographic Profile of the Survey Participants

Table 4.1: Demographic Profile

	Frequency	Percentage
Gender		
Male	284	78.9%
Female	76	21.1%
Age		
18 to 30	202	56.1%
30 to 40	99	27.5%
40 to 50	56	15.6%
Above 50	3	.8%
Qualification		
Intermediate	198	55.0%
Bachelor	123	34.2%
Master	36	10.0%
Others	3	.8%
Marital Status		
Single	219	60.8%
Married	133	36.9%
Divorced	8	2.2%

There were 284 males (78.9%) and 76 females (21.1%) who participated in the survey. In terms of age, 202 respondents belonged to 18 to 30 years (56.1%); 99 respondents belonged to 30 to 40 years (27.5%); 56 participants belonged to 40 to 50 years (15.6%); and 3 participants were in the age category of above 50 years (.8%). 198 participants had qualification level of intermediate

(55%); 123 had qualification level of bachelor (34.2%); 36 had qualification level of master (10%); and 3 had other level qualifications (.8%). 219 participants were single (60.8%); 133 were married (36.9%); and 8 were in divorced category (2.2%).

4.2 Reliability and Validity Analysis

Structural equation modeling (SEM) through AMOS version 18 has been used for analysis. The analysis included confirmatory factor analysis (CFA) for assessing the reliability, validity, and fitness of proposed measurement model. The second part of the analysis is based on structural model assessment for hypotheses testing including direct effects, mediation, and moderation.
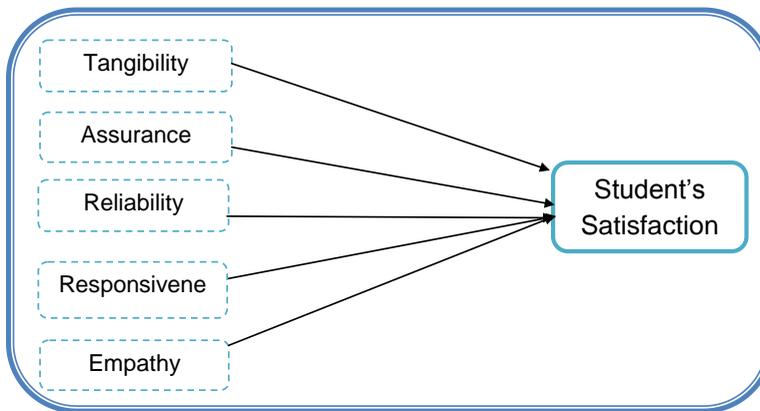

Figure 1: Measurement Model

The results for convergent validity and reliability are provided in the following table.

The average variance extracted (AVE¿0.05) and standardized regression weight (SRW¿0.05) are used for testing the convergent validity. The values are based on the guideline by Hair, et al., (2017). All individual item's standardized loading is above 0.50 and all variables AVE is above 0.50, so it is an indication of convergent validity (Hair, et al., 2017). The model also shows acceptable goodness of fit (2/df = 2.530, RMR = 0.031, GFI = 0.905, AGFI = 0.902, CFI = 0.931, RMSEA = 0.056). The internal consistency is assessed using the CR and Cronbachs alpha. The CR and Cronbachs alpha of all constructs is above 0.70 indicating that our scales are reliable. For discriminant validity, we used the Fornell and Larcker (1981) criteria of comparison of the squared root of AVE with variables correlation. The results are provided in the table 4.3.

The square root of AVE is in diagonal bold and other values are inter-variable correlation. The criteria for discriminant validity is fulfilled as all bold values are greater than other values in its respective column and rows.

4.3 Hypotheses Testing

Before testing the hypotheses, we performed the multi-group measurement invariance test. This test compares the different groups result in a study which in our moderated mediation model was relevant to the high versus low perceived sourced credibility. The invariance test

Table 4.2: Reliability and Convergent Validity

Factor	Item	Standardized Factor Loading	Cronbach Alpha	Composite Reliability	AVE
Online Reviews (OR)	OR1	.607	.808	.850	.535
	OR2	.732			
	OR3	.789			
	OR4	.674			
	OR5	.835			
Trust (T)	T1	.883	.754	.847	.651
	T2	.745			
	T3	.787			
Purchase Intentions (PI)	PI1	.840	.687	.812	.591
	PI2	.754			
	PI3	.708			
Source Credibility (SC)	SC1	.757	.781	.787	.557
	SC2	.608			
	SC3	.854			

$\chi 2/df$ = 2.530, RMR = 0.031, GFI = 0.905, AGFI = 0.902, CFI = 0.931, RMSEA = 0.056

Table 4.3: Discriminant Validity

	1	2	3	4
Online Reviews	**.731**	.514	.392	.544
Trust	.514	**.807**	.362	.570
Purchase Intentions	.392	.362	**.769**	.422
Source Credibility	.544	.570	.422	**.746**

is used when there is a need to test the structural relationship differences in a model (Hair Jr et al., 2017). Gaskin et al. (2012) suggested procedure is utilized for conducting multi-group invariance test. The procedure consists of splitting a sample into two separate sets based on average value. An MS Excel statistical tool is used for examining the differences of both groups unstandardized regression weights and critical ratios. We instecpted the resulting z-score and concluded that our sample is invariant as all z-score were within the acceptable range of 2.

Next, for testing the common method bias, we utilized the method proposed by Podsakoff

et al. (2003). The common latent factor (CLF) method is based on adding a latent factor to a common latent factor model and making connection with all observed items. Next, comparison is made between the standardized regression weight from this new model with the model without such CLF. Our result indicated no item with a difference of greater than 0.2, so it indicates that common method bias do not create much problem in our study. Next, we assessed the individual coefficients based on path analysis for hypotheses testing. The result is provided in table 4.4.

Table 4.4: Hypotheses Testing- Path Analysis

H. No.	Relationship	Estimate	Remarks
H1	Online Reviews>Purchase Intention	.363*	Supported
H2	Online Reviews>Trust	.691***	Supported
H3	Trust>Purchase Intention	.240*	Supported

*<.05, **<.01, ***<.001

The result indicates that online reviews exert a significant positive influence on purchase intention of customers (β=.352, P<0.05) and customer trust (β=.691, P<0.05). Furthermore, trust exerts a significant positive influence on purchase intention (β=.240, P<0.05). Thus, we found support for H_1, H_2, and H_3. Next, we assessed mediation effects. The results are shown in table 4.5.

Table 4.5: Hypothesis Testing Indirect Effects

H. No.	Path	Direct Effect	Indirect Effects	Remarks
H4	Online Reviews>Trust>Purchase Intention	.363*	.171*	Partial Mediation

*<.05, **<.01, ***<.001

The mediation is tested using the analysis of indirect effects. The result indicates a reduction in beta size but the significance level remains the same so it is an indication of only partial mediation. Thus, we found partial support for the H4. Next, we assessed the moderated-mediation analysis.

Source credibility is evaluated as a moderating variable in the study moderating the mediating nature of trust between the online reviews and purchase intentions. We tested moderated-mediation by testing the moderated-mediation paths significance, and the difference in mediation effects at a high and low level of source credibility. The results are calculated for both groups and presented above. The difference for high and low groups of source credibility for indirect effect is statistically significant (.035, P¡.05). The significant difference indicates that source credibility is moderating the online reviews and purchase intention relationship while mediated by trust. Thus, we accept the H_5.

Table 4.6: Hypothesis Testing- Moderated-Mediation Effect

	Online Reviews > Purchase Intentions (Direct Effects)	Online Reviews> Trust> Purchase Intentions (Indirect Effects)	Total Effects
Source Credibility (H5)			
Source Credibility-High	.352	.166	.518
Source Credibility- Low	.307	.131	438
Difference	.045*	.035*	.080*

*<.05, **<.01, ***<.001*

4.4 Discussion

The study tested the effect of online reviews on customer purchase intention and trust. Additionally, we tested the mediating nature of trust in this relationship and source credibility as moderating this mediation relationship. The study is based on a quantitative approach and we collected data from 360 participants through the survey method. Our key results are that online reviews exert positive and significant effects on customer purchase intention and trust, thus highlighting the role of the online reviews in the context of social media-based e-commerce. Similar results are reported in earlier studies including **?**. Other notable findings are that customer trust mediates the online reviews and purchase intentions relationship. Even though we only found support for the partial mediation, still it highlights the role of trust in online shopping context as reported in earlier studies, including **?**. Furthermore, our findings indicate that source credibility moderates the mediating nature of customer trust. In other words, if source credibility is low, then online reviews are less likely to influence customer purchase intention while mediated by customer trust. Thus, it shows the significance of the source credibility in the hypothesized relationships. Source credibility is also found to be an important factor in online context as found in previous studies including **?**. Overall, our results are supported by the literature.

5 Conclusion

The study concludes that online reviews are highly important in social media e-commerce context. These online reviews are found to be influencing the purchase intention of individuals as well as their trust level. It can be concluded that online reviews are gaining increased popularity in Pakistani context. The role of trust is further highlighted in the study based on the nature of Pakistani society and the e-commerce maturity level. Furthermore, source credibility also plays its significant role in shaping the mediating relationship of customer trust between online reviews and customer purchase intentions.

5.1 Implications

The implications of the study findings for the social media-based e-store owners are that they should develop a positive relationship with customers based on trust. These store owners should not compromise the quality of products for short term gains as it will have negative effects on business in the long term. Having such a relationship will make customers leave positive feedback on social media and thus enable a business to attract new customers. Genuine and fair online reviews will enable a customer to perceive the source as credible and thus will positively influence the customers' trust and purchase intentions. On the other hand, if fake reviews are added so potential customers will soon recognize the pattern and put doubt on the quality of reviews leading to discouraging purchase intentions.

5.2 Limitations and Directions for Future Research

The study limitations include perceptual measures, cross-sectional design, and small sample size based on convenience non-random sampling. A future researcher can work with a larger sample with a mixed or qualitative research design. Demographic variables such as gender, age, and variables like product type also influence online reviews and customer purchase intention relation, so these can be used as moderators in the future studies.

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