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The Multiple Linear Regression Model for the Quality of Word-of-Mouth on Facebook

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Abstract:
The current study explores the simultaneous impact of personality traits and Facebook usage on the quality of Word-of-mouth (QWM). The numbers of positive and negative feedbacks commented upon a product/service-related status on Facebook are utilized to measure the QWM. The big five personality traits are employed to account for different characters of participants in the study. The selection of variables relating to Facebook usage are based on criteria of previous studies, comprising the average time to use Facebook weekly, the experience of Facebook account, the number of friends, the gender, and the age of Facebook users. The study results show that there are a simultaneous impact of personality traits and Facebook usage on QWM. Finally, a multiple linear regression model was constructed for the estimation of QWM.

Keywords: *Social Networks, Quality of WOM, Facebook, The big five traits, Facebook Marketing*

1. Introduction

Founded by Mark Zuckerberg in February 2004, Facebook has rapidly become one of the biggest social network sites in the World. Its speedy development in America and other countries has resulted in the big impacts on both personality and sociality aspects. Of the about 728 million Facebook active users and about 350 million uploaded Facebook photos everyday (Smith, 2013), there are several status updates talking about the Facebook users' purchase experiences(Wang and Chang, 2013, Pöyry et al., 2013).Consequently, scholar community has been increasingly engaged with Facebook's problems relating to empirical and theoretical perspectives and calls the contributions of scholars for "more research into the nature and extent of its role in social behavior and interpersonal competency"(Jenkins-Guarnieri et al., 2012).

One of the favorite trends of research into Facebook and its users is to concentrate on the relationships between Facebook usage or Facebook functions and characteristics of Facebook users such as personality or interpersonal relationships. One of several major components of researches into Facebook is the employment of personality to measure the influence of Facebook users on Facebook applications or on online interaction behavior. There have been many different methods used for personality measures of online community, the most fascinated feature that has been frequently employed by researchers is the Five Factor Model(e.g. Yoon and Barker Steege, 2013, Karim et al., 2009).

On the other hand, Electronic (i.e. Online) Word-Of-Mouth (e-WOM) has become a fondness for many studies conducted to analyze the information interactions among cyber-world members because of its strong influence on pre-buying decision making (Gupta and Harris, 2010), and its role as a "powerful marketing force" (Cheung and Thadani, 2012). In recent years, some studies have been conducted to investigate the impact of e-WOM generated on Social Network Sites (e.g., Facebook, QQ, Google+, LinkedIn, Twitter) on consumer behavior. The discussions from these studies revealed the strong influence of e-WOM on the members of Social Network Sites. Otherwise, Mowen et al.(2007)found that the trait predictors including the big five factors in their study had presented the impacts on the research's outcomes consisting of the sending and the receiving of market information.

Although there are several scientific proofs of the effects of Facebook, e-WOM, and personality on both sociality and scholarly aspects, there is a lack of integrated method to investigate the relationships among the three factors. Our research is aimed at constructing an empirical investigation model for the study of this gap. We strived for the construction of a multiple linear regression model for the estimation of QWM. The final model is believed to help the Marketing policy makers a tool for measuring consumer behavior of customers who are having Facebook accounts.

2. Literature Background and Hypotheses

Insisting on the suggestion of introduction section above in discovering a collection of best linear regression models for the investigation of the integration among personality, e-WOM, and Facebook usage, numerous related articles of each aspect have been consciously analyzed to locate the most suitable guideline as a benchmark for our research.

2.1. Personality and the Big Five Factors

Since the broad revelation of the personality influence on human behavior and on the use of mass media, several studies have been conducted to investigate the personality traits. One of the most favorite models typically employed to analyze personality is the Big Five Factors(Back et al., 2010). The big five model classifies the personality as five specific characteristics including Extraversion, Neuroticism, Openness to Experience, Agreeableness, and Conscientiousness. Of the big five traits, Extraversion reflects how much a personis oriented towards things outside one-self and derives satisfaction from interacting with other people; Conscientiousness reflects how careful and orderly an individual is; Neuroticism is the tendency to experience negative emotions; Agreeableness reflects how much one likes and tries please others; whereas Openness reflects how much a person seeks out new experiences. The big five model was named by Goldberg (1990) and derived from the lexical approach of Allport and Odberg and many other supporters since 1940s(Pervin and John, 1999). In recent years, there have been many articles subjected to the relationships between the big five factors and Internet usage(e.g. Karim et al., 2009, Ryan and Xenos, 2011).The followers have continued their narrative to insist on these personality criteria. Yet many other studies conducted at the same time or earlier suggested similarly that the Big Five Model was the most established instrument for personality research. In this study, we keep employing the big five factors as the criteria of our personality research in honor of previous intellectual contributions. The five factors are encoded as follows: Extraversion=EVS, Neuroticism=NRT, Openness to Experience = OPS, Agreeableness=AGB, and Conscientiousness=CSN.

2.2. E-WOM

Word of Mouth (i.e. WOM)was defined by Arndt and Foundation(1967) as "oral, person to person communication between a receiver and a communicator whom the receiver perceives as non-commercial, concerning a brand, a product ora service" and has been widely employed by the theoretical researchers and practitioners (East et al., 2007) in the last four decades to illustrate the consumers' recommendations because of its potent influence on buying probability of other consumers.

Otherwise, since Internet made its way in the World, the e-Commerce has gradually held the floor of many consumer products and largely contributed toward the World trade revolution. As a result, buying online has become a good choice for consumer, especially in the last ten years, as the convenience of information exposure and assembly. In recent years, the speed growths of social media and computer-mediated network have consequently changed the e-Commerce in product-oriented context to a social commerce perspective, whereas social commerce has been described as WOM in e-Commerce transaction (Huang and Benyoucef, 2013). The collecting and sharing information among the consumers as a WOM produced online has subsequently raised the e-WOM paradigm. E-WOM was described as a recommendation generated online by a consumer and capable of affecting the attitudes or behaviors of the others positively or negatively(Hennig-Thurau et al., 2004). Involving the similar features to WOM, e-WOM has almost immediately magnetized the attentions of researchers as its accessibility. In platform of cyber-world, e-WOM somehow predominates in the higher ranks of the influence on consumer behavior because it has been created in writing language and stored in electronic sites(Sun et al., 2006) such as Blogs, Forums, Websites of manufacturers, Social Network Sites (SNSs) and so on. Among above computer-mediated platforms, SNSs seem to provide the most plentiful supplies of e-WOMs, especially in Facebook environment, of which the number of users have increased unprecedentedly and led Facebook to become the most outstanding social network site in the world.

E-WOM can be either negative or positive comments generated by satisfied or dissatisfied consumers. The result of the study of Bickart and Schindler's (2001)revealed that the effect of WOM in Internet social networks on consumer is bigger than the information published in websites of manufacturers. After reviewing many prior studies of e-WOM effects, Li and Wang (2013)concluded by saying that e-WOM could present the prediction of buyer decisions. Cheung and Thadani(2012) also suggest that e-WOM is a very strong computer-mediated instrument for e-marketers. There have been some fundamental literature models for the investigation of WOM such as the Attribution theory, the Elaboration Likelihood mod of Persuasion, and Yale Approach(Chang and Wu, 2014). After carefully considering theoretical approaches, we followed the Yale Attitude method for estimation of e-WOM in our research. Yale Approach identifies the variables that influence the acceptance of argument named *the Lasswellian formula* "*Who say What to Whom with What Effect"*(Riley, 1954). The method utilized the Source (i.e. the speaker or Message Originator), the Communication (i.e. the Message characteristics), the Audience (i.e. the Receiver), and the Audience Reaction as the criteria for the evaluation(Hovland et al., 1953). In our study's context, a Facebook member who wrote an update about a product or service is an audience; the comments of Facebook friends are the messages; Facebook friends who wrote their comments are the speakers; and the actions are the responses from the audiences to the services or products that they have bought or planned to buy. Number of negative comments and positive comments is used to evaluate the quality Word-of-Mouth (QWM) from Facebook friend.

2.3. The Facebook Friends and their Characteristic

Only some years after the establishment of Facebook network, many studies have been conducted to investigate the literature and practice of Facebook and its users in various areas. During the nearly last ten years, hundreds of scientific articles and research that report on many aspects of Facebook have been conducted and published. The main streams of these studies are individual presentation and privacy problem; the online relationships among the Facebook friends having similar interests or similar personality traits(e.g.

Amichai-Hamburger and Vinitzky, 2010, Ross et al., 2009); the need to belong and other factors (e.g. Nadkarni and Hofmann, 2012, Kwon and Wen, 2010, Kirschner and Karpinski, 2010).

Furthermore, the increase of significant amount of research interests in Facebook does not seem to match the development of Facebook users, Facebook's impacts on socialization, and of Facebook's functions and its applications. On the one hand, Facebook accounts support their owners for common Facebook usage, self-esteem, privacy issues, and socialization. Furthermore, Facebook users are substantially more likely to find or share their consumer experience of products or services that they have bought or planned to buy with other people in their generated statuses. In fact, several companies set up Facebook fan pages to represent product or service information and to collect the feedbacks from customers who are quite willing to spread their messages (i.e. Facebook WOM) via their Facebook accounts. Customers are more likely to post their satisfactions as well as complaints about products or services in their Facebook walls where friends and fans can comment upon to spread out their thoughts, views or criticisms that everyone from Facebook community can see(Pöyry et al., 2013).When a new status update is rolled out, it may soon receive encouragement in the terms of many positive or negative comments that present the impact on status topic. In this case, the positive or negative e-WOM has been generated. It is time to challenge the notion of business criticisms from the comments in response to new feeds that are updated in Facebook wall pages(Kisekka et al., 2013, Hollenbeck and Kaikati, 2012).

Many studies also pointed out the relationship between the characteristics such as gender, age, number of friends, time-consuming to use Facebook every week, duration of Facebook usage, and the behaviors in this social network(e.g. Chen, 2014, Hall and Pennington, 2013). The present study collected these characteristics from a survey and from the Facebook users' profiles. The codes of variables are GED for gender, AGE for age, NOF for number of friends, ATW for average time-consuming per week, DFU for duration of Facebook usage.

2.4. The existence of e-WOM in Facebook Cyber-World and the Hypotheses

According to the suggestion of Cheung and Thadani(2012), the marvelous developments of Internet and online community spontaneously generate the strong effects on e-WOM. Amichai and his partners (2010)mentioned that the prior friendships established offline could be transformed into online relationships among friends in Internet-based environment; Ross et al. (2009)also provided in their research with a stimulating recommendation that "Facebook was not used as a tool to meet new people online", and so we would say, in summary, that there has been an existence of influence of online friends on buying behavior through the comments to the published status updates relating to a product or service, because friends can share a common interest, pleasure, knowledge, and buying experience.

To fulfill the need of finding suitable model to estimate the QWM, we respectively made assumptions about the relationship between two variables in pairs, and then rated their correlation capacity to predict the quality of WOM variable. Finally, we used a multiple linear regression model to five the best variables for a QWM estimation function.

Thus, the hypotheses are proposed in accordance with the Figure 1.

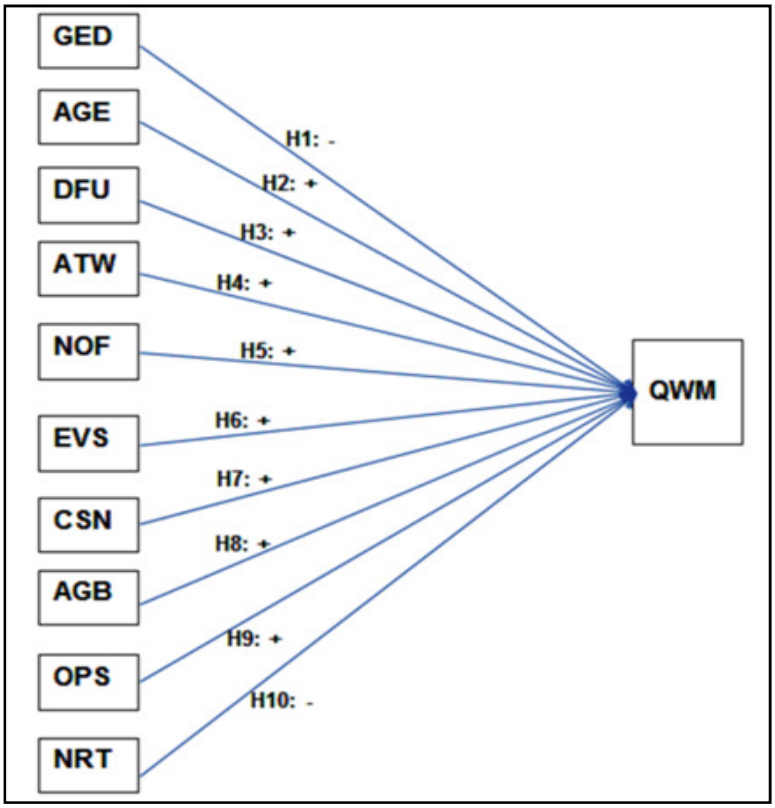

Figure 1: Hypotheses and relationships of factors

Quality of WOM has a negative relationship with gender (H1) of Facebook user, positive relationship with age (H2), positive relationship with duration of Facebook usage (H3), positive relationship with average time-consuming per week (H4), and positive relationship with number of friends (H5).In access to the effects of personality traits on WOM we supposed that Quality of WOM has positive relationships in pairs with higher-grade individuals on the trait of Extraversion (H6), Conscientiousness (H7), Agreeableness (H8), and Openness (H9); and has negative relationships with Neuroticism (H10).

3. Methodology

3.1. Participants

Participants in this study are 278 Facebook users in Vietnam, where more than 35 million Facebook accounts have been activated. There are 163 women and 115men, having the description as below:

	vars	mean	sd	se
QWM	1	2.37	6.00	0.36
GED	2	0.41	0.49	0.03
AGE	3	3.04	1.61	0.10
DFU	4	3.39	0.86	0.05
ATW	5	14.38	10.85	0.65
NOF	6	502	555	33
EVS	7	3.03	0.63	0.04
CSN	8	3.40	0.70	0.04
NRT	9	3.45	0.74	0.04
AGB	10	3.75	0.43	0.03
OPS	11	3.36	0.49	0.03

Table 1: Description of variables

3.2. Instrumentation

The research was based on two phases.

At the first stage, we send a message to all of the friends in the Facebook friend list of each member in research group. We aimed our effort to collect the data of Facebook friends who ever wrote a status talking about a product or service. The message accordingly comprised one question and one request:

1. Have you ever written a status update relating to a product or service that you or someone you know have consumed or planned to buy before?
2. (If yes) Could you please send the link(s) of the mentioned status(es) back to the person who sent you this message.

The following step was adopted with a questionnaire to collect the information of Facebook usages and personality traits. A form of 58 questions was stored in a Google Docs account (Nguyen, 2013) to get ready for an online survey. The 58 questions in include two parts. The first section of the survey consists of 50 questions constructed to evaluate the personality traits following the steps of previous research for the big five traits. The test uses the Big-Five Factor Markers from the International Personality Item Pool (IPIP), developed by Goldberg (1992),modeled by R. Goldberg(2006). Eachstatement of 50 items is rated on how much you agree that on a five-point scale: (1) disagree, (2) slightly disagree, (3) neutral, (4) slightly agree, and (5) agree. It normally takes most people three to eight minutes to complete the test. Every question has five options to indicate for each statement whether it is 1:Very Inaccurate; 2: Moderately Inaccurate; 3:Neither Accurate Nor Inaccurate; 4: Moderately Accurate; or 5: Very Accurate as a description 1,After the collection of all answer sheets, IPIP item that responses to scale scores was utilized as follows: For (+) keyed items, the response "Very Inaccurate" is assigned a value of 1, "Moderately Inaccurate" a value of 2, "Neither Inaccurate nor Accurate" a value of 3, "Moderately Accurate" a value of 4, and "Very Accurate" a value of 5;For (-) keyed items, the response "Very Inaccurate" is assigned a value of 5, "Moderately Inaccurate" a value of 4, "Neither Inaccurate nor Accurate" a value of 3, "Moderately Accurate" a value of 2, and "Very Accurate" a value of 1.Once numbers are assigned for all of the items in the scale, the sum of all the values show a total scale score.

The next section contains the questions targeting to collect the users' information of gender, age, experience of Facebook usage, average time-consuming per week, total number of friends at the time of survey, a box for suggestions (if any), and a box to fill in the email addresses of respondents. The measure utilized the Likert scale of 1-6 to determine the age of a user (1:<20; 2: 21-25; 3: 26-30; 4: 41-35; 5: 36-40; 6>40). The same scale of 1-4 to measure the duration of Facebook usage (1: <6 months; 2: 6 months to 1 year; 3: 1-2 years; 4: over 2 years). The average time-consuming per week is the continuous variables. We employed the R software which provides with a large suite of data analysis and statistical functions and the ability to run programs stored in script files to carry out all the data analysis.

In addition, the quality of WOM was calculated by subtracting the number of negative comments from the number of positive comments because the research of East et al. (2008) stated a view that the effect of positive WOM was bigger than that of negative WOM on brand purchase probability. The authors also suggested "they (positive and negative WOMs) are likely to have similar measurement biases". Thus, we utilized this subtraction for the measure of quality WOM.

3.3. Procedure

The study was carried out in Vietnam, where there are more than 25 million active Facebook users, almost 70% of Vietnam's 36 million internet users(Epinion, 2014). The incentive for the participants is a free eBook about personal psychology and a bonus for English study.

4. Results

4.1. Evaluation of Correlation

We utilized the Psych package in R software environment to analyze the correlation in pairs among the variables. To avoid the presence of co-linear variables, we tested for multicollinearity before running the analysis. We carried out variance inflation factor (VIF) checking method to examine and got good results (VIF of GED=1.07, AGE=1.09, DFU=1.12, ATW=1.09, NOF=1.19, EVS=1.5, CSN=1.22, NRT=1.4, AGB=1.2, and OPS=1.5), no VIF of any variables are bigger than 5 then multicollinearity is assumed to be very low (Rogerson, 2010).

To assess the relationships performing the impact of each variable on quality of WOM (QWM), we weigh up the correlation of QWM with the remaining variables. The results are performed in Figure 2. The consideration of the relationship of variable QWM with the other dependent variables is shown in the scatter plot matrix (SPLOM) in Figure 2.

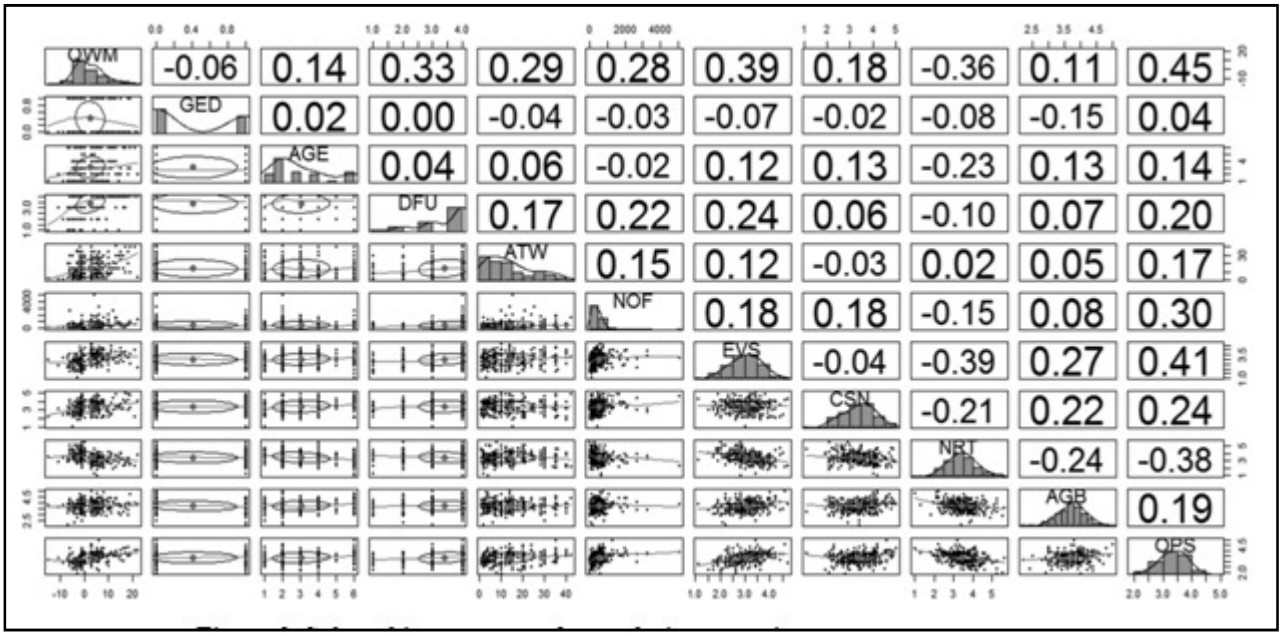

Figure 2: SPLOM, histograms and correlations for a data matrix of QWM and other variables

The lower off diagonal draws scatter plots and histograms of the diagonal, the upper off diagonal reports the Pearson correlation. No value of coefficient of correlation (r) between QWM and each variable is 0, indicating the existence of the correlation relationships between QWM and these variables although these relationships are not very strong linear. Among them, the relationship between QWM and OPS is strongest (r = 0.45) and the relationships between QWM and gender or and age are very week (r = 0.06 and 0.14). Linear relationships between QWM and the usage of Facebook shows the correlations of: QWM ~ DFU: 0.33, QWM ~ ATW: 0.29; QWM ~ NOF: 0.28. The relationship between AGE and NRT reveals that the higher the age of a person is, the less sensitive that person becomes (r=-0.23), and the more sensitive a person is, the less QWM that person receives (QWM~NRT: -0.36).

Although SPLOM of R presents a clear correlation between the variables in each pair by Pearson method, but it could not infer from it the statistical significance of correlation. We continue using linear regression analysis to assess the statistical significance of the relationships and construct the estimation function for QWM. The results are presented in Section 4.2

4.2. Results of Linear Regression

The result of investigation into the linear regression analysis of QWM and other predictors is performed in table 2.

Residuals:				
Min	1Q	Median	3Q	Max
-11.2864	-3.0061	-0.8029	2.2474	18.7142
Coefficients:				
	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	-9.9485795	4.4268618	-2.247	**0.025439***
GED	-0.8890224	0.599865	-1.482	0.139514
AGE	0.1075827	0.186143	0.578	0.563782
DFU	1.2359163	0.3536798	3.494	**0.000556*****
ATW	0.1110618	0.0276071	4.023	**7.5e-05*****
NOF	0.0008399	0.0005648	1.487	0.138135
EVS	1.6095883	0.5606094	2.871	**0.004419****
CSN	0.8305112	0.4542148	1.828	**0.068601**.
NRT	-1.5588865	0.4563704	-3.416	**0.000735*****
AGB	-1.2753127	0.7270865	-1.754	**0.080581**.
OPS	2.5605375	0.7100483	3.606	**0.000371*****
Signif. codes:0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				
Residual standard error: 4.788 on 266 degrees of freedom				
(1 observation deleted due to missingness)				
Multiple R-squared:0.3871,Adjusted R-squared:0.364				
F-statistic:16.8 on 10 and 266 DF, p-value: < 2.2e-16				

Table 2: Linear regression analysis results

From the results, the fit independent variables for the construction of a model are DFU, ATW, EVS, CSN, NRT, AGB và OPS. Then the general model as follow:

→ QWM=-9.95+1.24DFU+0.11ATW+1.61EVS+0.83CSN-1.56NRT-1.28AGB+2.56OPS

On the other hand, the results support the hypothesesH3, H4, H6, and H7 (remarkably supported, p=.07), H8 (remarkably supported, p=.08), and H9. Unexpectedly, H1, H2, and H5 are not supported. The results give R^2=0.39, Adjusted R^2=0.36, F value=16.8 on 10 variables and 266 degrees of freedom with very small p-value.

5. Discussion and Recommendation

Almost of previous studies explore the individual relationship between personal characteristics and the use of Facebook, between WOM and personality traits, or WOM on social network sites. The single investigation in pairs incompletely explores the relationship of all the factors affecting the eWOM on social networking sites, especially on Facebook, one of the most visited pages in the world today. In addition, previous studies have only limited to individually assess the impact on negative or positive WOM without considering the quality of this oral communication. Our research explored the overall relationship of all three factors (Facebook usage, WOM, and character traits) and resulted in the better R^2 compared to earlier research. Moreover, we proposed a new concept for the quality of WOM.As presented, positive WOM has bigger impact on purchase behavior of customers than negative WOM. Therefore, the derivation from mentioned argument is that the more positive comments customers receive the more positive attitude to the product they get. Our study results display that there is an existence of the influence of personality traits and factors of using Facebook upon the quality of WOM.

All studies have limitations and this study is not an exception as a result. The first downside of this study is that this research process is not appropriate to study the model with the output variable of which is a categorical variable (e.g. gender) because the linear regression model is only appropriate when the dependent variable is not a limited dependent variable (Cohen et al., 2013).In case the output variable is a categorical variable which cannot be converted into a continuous variable, the future studies should use more appropriate models, such as logistic regression model, before considering the most efficient ones. On the other hand, our research has not assessed all the factors of the Yale model as proposed because of our limited resources for a cumbersome study. We suggest that future studies should evaluate all the factors of WOM introduced in the Yalemodel. In addition, our research has indicated that the personal characteristics affect the quality of WOM of receiver. Therefore, the character traits undoubtedly affect the WOM values of the comments in response to the status updates related to products or services on friends' Facebook walls. We suggest that future research should also pay attention to the personal traits of the senders of messages.

6. References

i. AMICHAI-HAMBURGER, Y. & VINITZKY, G. 2010. Social network use and personality. Computers in Human Behavior, 26**,** 1289-1295.
ii. ARNDT, J. & FOUNDATION, A. R. 1967. Word of mouth advertising: a review of the literature, Advertising Research Foundation.
iii. BACK, M. D., STOPFER, J. M., VAZIRE, S., GADDIS, S., SCHMUKLE, S. C., EGLOFF, B. & GOSLING, S. D. 2010. Facebook profiles reflect actual personality, not self-idealization. Psychological science.
iv. BICKART, B. & SCHINDLER, R. M. 2001. Internet forums as influential sources of consumer information. Journal of Interactive Marketing, 15**,** 31-40.
v. CHANG, H. H. & WU, L. H. 2014. An Examination of Negative e-WOM Adoption: Brand Commitment as a Moderator. Decision Support Systems.
vi. CHEN, G. M. 2014. Revisiting the social enhancement hypothesis: Extroversion indirectly predicts number of Facebook friends operating through Facebook usage. Computers in Human Behavior, 39**,** 263-269.
vii. CHEUNG, C. M. K. & THADANI, D. R. 2012. The impact of electronic word-of-mouth communication: A literature analysis and integrative model. Decision Support Systems, 54**,** 461-470.
viii. COHEN, J., COHEN, P., WEST, S. G. & AIKEN, L. S. 2013. Applied multiple regression/correlation analysis for the behavioral sciences, Routledge.
ix. EAST, R., HAMMOND, K. & LOMAX, W. 2008. Measuring the impact of positive and negative word of mouth on brand purchase probability. International Journal of Research in Marketing, 25**,** 215-224.
x. EAST, R., HAMMOND, K. & WRIGHT, M. 2007. The relative incidence of positive and negative word of mouth: A multi-category study. International Journal of Research in Marketing, 24**,** 175-184.
xi. EPINION, D. M. R. A. 2014. Facebook reaches 25 million users in Vietnam [Online]. AsiaLIFE. Available: http://www.asialifemagazine.com/vietnam/facebook-reaches-25-million-users-vietnam/ [Accessed 2014].
xii. GOLDBERG, L. R. 1990. An alternative "description of personality": The Big-Five factor structure. Journal of Personality and Social Psychology, 59**,** 1216-1229.
xiii. GOLDBERG, L. R. 1992. The development of markers for the Big-Five factor structure. Psychological assessment, 4**,** 26.
xiv. GOLDBERG, L. R., JOHNSON, J. A., EBER, H. W., HOGAN, R., ASHTON, M. C., CLONINGER, C. R. & GOUGH, H. G. 2006. The international personality item pool and the future of public-domain personality measures. Journal of Research in Personality, 40**,** 84-96.
xv. GUPTA, P. & HARRIS, J. 2010. How e-WOM recommendations influence product consideration and quality of choice: A motivation to process information perspective. Journal of Business Research, 63**,** 1041-1049.
xvi. HALL, J. A. & PENNINGTON, N. 2013. Self-monitoring, honesty, and cue use on Facebook: The relationship with user extraversion and conscientiousness. Computers in Human Behavior, 29**,** 1556-1564.
xvii. HENNIG-THURAU, T., GWINNER, K. P., WALSH, G. & GREMLER, D. D. 2004. Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? Journal of Interactive Marketing, 18**,** 38-52.
xviii. HOLLENBECK, C. R. & KAIKATI, A. M. 2012. Consumers' use of brands to reflect their actual and ideal selves on Facebook. International Journal of Research in Marketing, 29**,** 395-405.
xix. HOVLAND, C. I., JANIS, I. L. & KELLEY, H. H. 1953. Communication and persuasion; psychological studies of opinion change.
xx. HUANG, Z. & BENYOUCEF, M. 2013. From e-commerce to social commerce: A close look at design features. Electronic Commerce Research and Applications, 12**,** 246-259.
xxi. JENKINS-GUARNIERI, M. A., WRIGHT, S. L. & HUDIBURGH, L. M. 2012. The relationships among attachment style, personality traits, interpersonal competency, and Facebook use. Journal of Applied Developmental Psychology, 33**,** 294-301.
xxii. KARIM, N. S. A., ZAMZURI, N. H. A. & NOR, Y. M. 2009. Exploring the relationship between Internet ethics in university students and the big five model of personality. Computers & Education, 53**,** 86-93.
xxiii. KIRSCHNER, P. A. & KARPINSKI, A. C. 2010. Facebook® and academic performance. Computers in Human Behavior, 26**,** 1237-1245.
xxiv. KISEKKA, V., BAGCHI-SEN, S. & RAGHAV RAO, H. 2013. Extent of private information disclosure on online social networks: An exploration of Facebook mobile phone users. Computers in Human Behavior, 29**,** 2722-2729.
xxv. KWON, O. & WEN, Y. 2010. An empirical study of the factors affecting social network service use. Computers in Human Behavior, 26**,** 254-263.
xxvi. LI, C. & WANG, X. 2013. The power of eWOM: A re-examination of online student evaluations of their professors. Computers in Human Behavior, 29**,** 1350-1357.
xxvii. 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**,** 590-596.
xxviii. NADKARNI, A. & HOFMANN, S. G. 2012. Why do people use Facebook? Personality and Individual Differences, 52**,** 243-249.
xxix. NGUYEN, L. 2013. https://docs.google.com/forms/d/1MfiJfu9OQl0Y4Ej1B_SdbPJ6nu49pcDB4vAyg9bVc7g/viewform In: BEHAVIOR, E. O. T. E. O. B. (ed.).

xxx. PERVIN, L. & JOHN, O. 1999. Handbook of personality: theory and research, Guilford Press.
xxxi. PÖYRY, E., PARVINEN, P. & MALMIVAARA, T. 2013. Can we get from liking to buying? Behavioral differences in hedonic and utilitarian Facebook usage. Electronic Commerce Research and Applications, 12**,** 224-235.
xxxii. RILEY, M. W. 1954. American Sociological Review, 19**,** 355-357.
xxxiii. ROGERSON, P. A. 2010. Statistical methods for geography: a student's guide, Sage Publications.
xxxiv. ROSS, C., ORR, E. S., SISIC, M., ARSENEAULT, J. M., SIMMERING, M. G. & ORR, R. R. 2009. Personality and motivations associated with Facebook use. Computers in Human Behavior, 25**,** 578-586.
xxxv. RYAN, T. & XENOS, S. 2011. Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. Computers in Human Behavior, 27**,** 1658-1664.
xxxvi. SMITH, C. 2013. You Won't Believe These 104 Amazing Facebook States! (Updated November 2013) [Online]. Degital Marketing Rambling (DMR). Available: http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/#.UqwJvEE35uQ [Accessed December 5th 2013].
xxxvii. 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**,** 1104-1127.
xxxviii. WANG, J.-C. & CHANG, C.-H. 2013. How online social ties and product-related risks influence purchase intentions: A Facebook experiment. Electronic Commerce Research and Applications, 12**,** 337-346.
xxxix. YOON, H. S. & BARKER STEEGE, L. M. 2013. Development of a quantitative model of the impact of customers' personality and perceptions on Internet banking use. Computers in Human Behavior, 29**,** 1133-1141.