

ANALYSIS OF THE EFFECT OF QUALITY COMPONENTS OF WEB 2.0 ENABLED E-COMMERCE WEBSITES ON ELECTRONIC WORD-OF-MOUTH MARKETING (EWOM) AND ON CUSTOMER LOYALTY

Harun Gümüş¹, Vedat Bal²

¹Department of Management and Organization, Ahmetli VHS, Celal Bayar University, Manisa, Turkey

²School of Applied Sciences, Celal Bayar University, Manisa, Turkey

harun.gumus@cbu.edu.tr

vedatbal@hotmail.com

Abstract: : *Electronic Word-of-Mouth Marketing (eWOM) has begun to play a more important role in customers' purchasing decisions (Cheung and Thadani, 2012, Jones and Taylor, 2007). Previous studies reveal that eWOM increases the purchasing behavior of customers (Chevalier and Mayzlin, 2006). Nevertheless, despite its increasing importance, having limited literature on eWOM makes this subject attractive. Businesses want to bring customer behaviors under control by trying to give the meaning of eWOM messages. In this regard, businesses should observe the eWOM relationship by developing factors such as; aesthetics, content, orientability, system quality, information and content quality and service quality of websites. The aim of this study is to offer a model analyzing the relationship among the quality aspects of website, website loyalty and electronic word-of-mouth communication (eWOM) and to test this model*

Key Words: eWOM, Web 2.0, Website Quality, Customer Loyalty

JEL classification: M15, M30, M31, L80, L84, L86,

1. INTRODUCTION

Today, the digital world has evolved to different dimensions as individually and socially alongside of business life due to the rapid development of internet infrastructure and internet technology. The advancing social media environment and its subsystems enabled consumers to form several new opportunities such as, creating, editing, sharing and displaying online information with the development of Web 2.0 technologies (Cormode and Krishnamurthy, 2008). Different sharing platforms (as is eWOM) were formed with usage of these innovations in e-commerce. WOM concept evolved to e-WOM concept, which is a new structure, via sharing platforms which were developed by dynamic encoding internet infrastructure and Web 2.0 accompanied by Web 2.0 innovations. "amazon.com", world's first e-commerce website enhanced the qualifications of design, information, system and service with the innovations coming alongside of Web 2.0 technologies and set up online consumer comment system on this structure. This situation helped "amazon.com" to stand out among the rival e-commerce websites in terms of quality customer satisfaction.

Harrison-Walker (2001) define eWOM as "the informal communication about a brand, a product, an organization or a service, set on non-commercial communicator serving as a message receptor among individuals". The number of people sharing opinions and experiences or searching for information about the product to be purchased on internet by using Web 2.0 technologies (such as; online forums, websites for consumer comments, blogs, and social network websites) has increased day by day (Gupta and Harris, 2010, Parameswaran and Whinston, 2007). Pervious researches has shown that the customers trust the comments made by people sharing experiences online whom they do not know more and that the comments made by users especially with the title of customer reviews have an effect on customers in terms of the intention and decision of purchasing the product (Cheung and Thadani, 2012). In the light of enhancing internet usage and growing in importance of e-commerce websites, Lee et al. (2008) emphasize that the

phenomenon of eWOM has become a significant element that affects human behaviors and decisions. The researchers underline that customers share comments and information about products, brands and services online because they are continuously online due to the popularity of smart phones, tablets and internet usage (Allsop et al., 2007). The importance of loyalty in creating customer equity has been certified in the literature (Tek, 1999) and especially, today, electronic commercial enterprises are laying importance on this concept. Chen and Cheng (2009) lay stress on the effect of website quality on the success of website in the electronic commercial websites. Several complex and practical applications developed in day-to-day basis for Web 2.0 technologies that are used in e-commerce websites provide companies with competitive capacity. These infrastructures play an important role in providing with user satisfaction and customer loyalty by increasing quality of e-commerce websites.

2. CONCEPTUAL FRAMEWORK

It is accepted in the consumer literature that word-of-mouth is highly influential among individuals (Herr et al., 1991). Previous research shows that WOM is more confidential and persuasive when compared to traditional media, flyers, personal selling and Radio-TV commercials. WOM, which has a positive effect on purchasing intention and decision, evolved to eWOM on which Web 2.0 technologies have catalyst effect with the internet's becoming widespread and it had the chance to reach out a wider consumer group. The consumers can share their ideas, comments and reviews about product, brand and services on forums (donanimhaber), social network sites (twitter and facebook), commentary websites (şikayetvar) and internet newsgroups. The eWOM communication has become a significant source for many consumers. Realizing the importance of the situations, the companies start to think that websites should provide with enough and high-class content (Chan and Ngai, 2011) and that the loyalty to the websites will increase with the widespread and strategic usage of Web 2.0 technologies. Customers play the crucial role in brand equity. Jones and Taylor (2007) accept WOM as a component of loyalty factor in their study. Gruen et al. (2006) emphasize that WOM and loyalty are different structures and WOM is used as a pioneer in forming customer loyalty in their study.

H1: Loyalty has a positive effect on eWOM

In this study, the relationship between eWOM and website quality dimensions' components (Information Quality, System Quality and Service Quality), which were used by Delone and McLean (2003) in their study and emphasized as effective in the success of an information system, are revealed. It is revealed that not only perception of service quality in websites affects attitudes of consumers towards the company, but also perceived service quality directly affects the loyalty factor (Carrillat et al., 2009). In their study, Ho and Lee (2007) revealed that perceived website quality directly affects the intention of online client retention. Accordingly;

H2: Loyalty affects the relationship between website quality and eWOM in a positive direction.

3. RESEARCH METHODOLOGY

3.1. Universe and Sample

The researches show that majority of social network sites and e-commerce sites active users consists of educated, young and university students (Ellison et al., 2007). Thus, the groundmass of the study is formed by university students who have habits of being online during the day and have a lot of experiences in social networks. Also, these students prefer to make researches on internet about the product that they want to buy. The groundmass of the study consists of the 1857 students (the total number of formal, evening and distant education) from Celal Bayar University, Vocational School of Higher Education in 2015-2016 academic year (Anonim, 2015). 48,03% of these students are from formal education, 44,16% of them are from evening education and 7,8% of them are

from distant education. The departments in the Vocational School of Higher Education are Office Management and Executive Assistance, Accounting and Tax Application, Banking and Insurance, and Human Resources Management. Simple Random Sampling method is used for the sample choice. Simple random sampling assumes that both the probability of each element consisting groundmass to get into the sample, and the weight to be given to the each element in the statistical calculation are equal (Arıkan, 2004). The equation below is used for the sample to be surveyed (Baş, 2008)

$$n = \frac{N * t^2 * p * q}{d^2 * (N - 1) + t^2 * p * q}$$

In the equation, n= the number of individuals to participate in the sample (the number of persons surveyed), N= the number of individuals in the target audience (1857 students), p= the accrual probability of analyzed event (0,50), q= the probability of nonoccurrence of analyzed event (0,50), t= the value of standard normal distribution (1,65) and d= sampling error (0,05).

As a result of the calculation of sampling equation, the number of students participating in the sample is found 237.

3.2. Data Collection Method

The data were collected via online survey method in the research. Randomly chosen 1300 students were sent e-mails containing online survey forms designed via Google Drive®. The e-mail addresses of the students were obtained from the enrolled student e-mails in the database of Vocational School of Higher Education with the permission of Management of Higher Education. The online survey questions were answered in the frame of shopping site “n11.com” which is one of the pioneers of electronic commercial websites in Turkey. In the first question, the students were asked if they have ever visited the website of “n11.com” and about their shopping experiences. The study applies to the 252 people who experienced shopping on the shopping website “n11.com” at least once in the last two years. As a result of elimination of missing and wrong filled surveys, 242 surveys were evaluated.

The conducted online survey is formed by two parts:

- In the first part, there are five close-ended questions aiming to determine the demographic features of the individuals
- In the second part, there 18 questions about the quality and components of “n11.com” shopping website in the style of five point Likert scale (5: Totally Agree, 1: Totally Disagree) in the frame of loyalty and eWOM

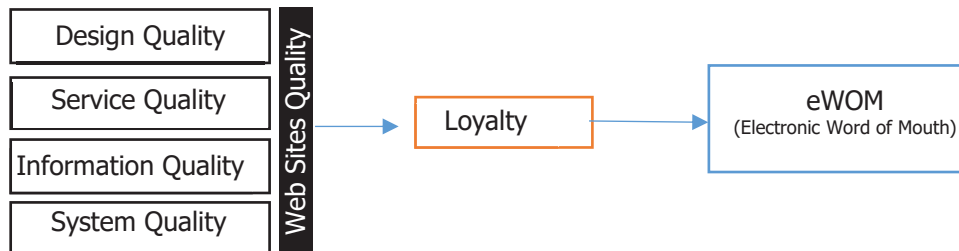
In this study, the effect of the loyalty factor in “n11.com” e-commerce website on eWOM factor is analyzed. The research model formed in Figure 1 is tested by using online survey data. In this study, the scale questions used in measuring loyalty factor were formed by adopting from Anderson and Srinivasan (2003), Roy et al. (2014). The questions forming system quality, information quality and service quality, which take place in the scope of website quality dimensions, [from Chang and Chen (2009), Roy et al. (2014)] and design quality factor questions (Roy et al., 2014) were adapted. The scales used in order to measure eWOM factor were formed with the help of the scales of Roy et al. (2014) and Yang et al. (2012). The details of the scales are shown in Table 1.

Table 1 Scale Questions

Design Quality	D1	I like the overall design of this website
	D2	All in all, I find this website very attractive
	D3	I like the profile and the system of this website
eWOM	eW1	I often share my positive ideas about this website

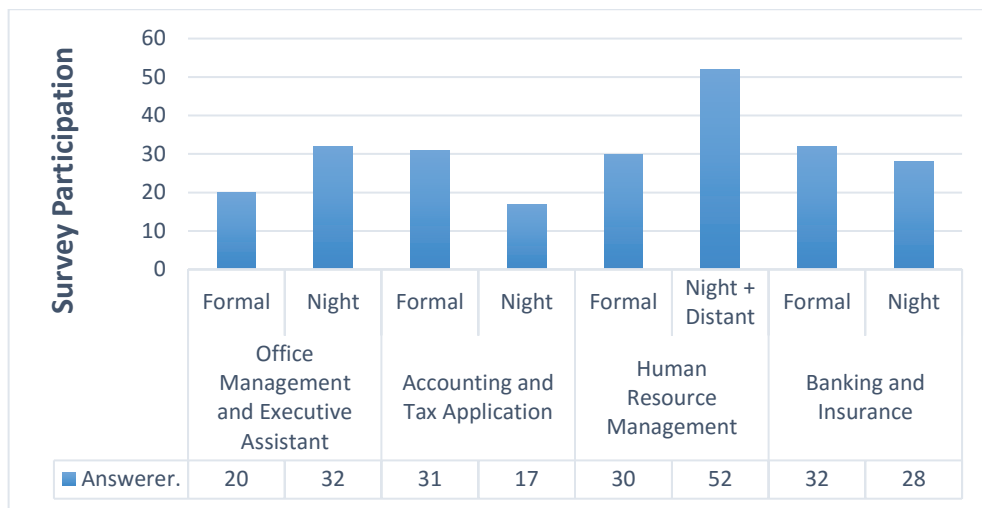
		with my friends and relatives
	eW2	I often recommend this website to the others
	eW3	I will continue to recommend this website to the other people
Information Quality	I1	This website has the latest information in the product descriptions
	I2	The information of the product description in this website are true
	I3	This website generally provides me with high-quality product information
Loyalty	L1	I will prefer this website when I want to buy something
	L2	I prefer purchasing from this website rather than looking for a new website
	L3	I continue using this website even if more attractive offers are sent from other websites
Service Quality	Se1	This website answers quickly when I query a product
	Se2	This website provides with real-time customer support
	Se3	The service quality given in this website is very high
System Quality	S1	This website executes transactions without an error
	S2	This website provides with a simple and fast way when I want to buy the product
	S3	This website has a very sensible infrastructure in meeting my various needs

Figure 1 Research Model



4. DATA ANALYSIS AND FINDINGS

There are basically six variables used in the research. They are Design Quality, Information Quality, System Quality, Service Quality, Loyalty and eWOM. The agreeability degree to the statements in the survey have been measured with five points Likert scale (5= Totally Agree, 1=Totally Disagree). IBM SPSS 20 pack statistics program has been used in the analysis of the data. Descriptive statistics, frequency distribution, factor analysis and t-test have been used in the research. The distribution in terms of departments of 242 students participating in the online survey is given in Graphic 1. Graphic 1. Distribution of Students Participating in Online Survey



The factor load of each item and the AVE and Cronbach Alpha values belonging to each factor are shown in detail in Table 2. These values reveal the reliability of the model.

Table 2. The Scale Results of the Model

Definitions	Scale Items	Factor	AVE	Cronbach Alpha
Design Quality	D1	0,82	0,72	0,84
	D2	0,76		
	D3	0,83		
Information Quality	I1	0,71	0,64	0,76
	I2	0,74		
	I3	0,79		
System Quality	S1	0,77	0,63	0,73
	S2	0,82		
	S3	0,84		
Service Quality	Se1	0,67	0,74	0,85
	Se2	0,81		
	Se3	0,87		
Loyalty	Ld1	0,76	0,71	
	Ld2	0,88		
	Ld3	0,72		
eWOM	eW1	0,9	0,62	
	eW2	0,91		
	eW3	0,77		

In the Table 3, each factor's correlation within each other and their declared average variance have been observed. The results reliability has been supported by the values higher than 0,607 and by having a correlation above the average.

Table 3. Factors and Declared Average Variance Values

	1	2	3	4	5	6
Design Quality	0,72					

Information Quality	0,22	0,64				
System Quality	0,09	0,26	0,63			
Service Quality	0,17	0,21	0,13	0,74		
Loyalty	0,32	0,14	0,37	0,21	0,71	
eWOM	0,21	0,06	0,06	0,35	0,32	0,62

The hypotheses and findings tested as a result of statistic measurements are given in Table 4.

Table 4. Hypothesis Test and Findings

				<i>t-values</i>	<i>Hypothesis</i>
<i>Direct Effect: Loyalty-eWOM</i>					
H1	Loyalty	→	eWOM	6.18	Accepted
<i>Indirect Effect: Website Quality via Loyalty - eWOM</i>					
H2	Website Quality	→	eWOM	5,43	Accepted
	Design Quality	→	eWOM	3.76	With Indirect Effect
	Service Quality	→	eWOM	3.97	With Indirect Effect
	System Quality	→	eWOM	2.25	With Partial Indirect Effect
	Information Quality	→	eWOM	1.19	No Indirect Effect

According to Table 4., loyalty factor directly affects eWOM. Design quality, service quality and system quality, which are the components of website quality, affect eWOM indirectly through loyalty. Information quality, which is another component of website quality, does not have any effect on eWOM indirectly through loyalty.

5. RESULTS AND SUGGESTIONS

The fundamental aim of this study is to reveal the relationship among website quality dimensions, loyalty and eWOM concepts in the e-commerce websites from the perspective of university students. As a result of the statistical measurements that are made, it is revealed that loyalty factor affect eWOM directly; besides, design quality, service quality and system quality affect eWOM indirectly through loyalty; and, information quality does not have any effect on eWOM indirectly. The literature reviews show that the findings of the research are also supported by previous studies (Roy et al., 2014, Harrison-Walker, 2001, Harris and Goode, 2010). de Matos and Rossi (2008) suggest in their study on an e-retailer website that the quality of website directly affects eWOM. In the light of these information, e-commerce businesses should be able to develop permanent strategies with the support of various interactive tools by understanding the website quality dimensions properly with the eWOM messages of visitors. One of the best e-commerce websites, "amazon.com", has also integrated design quality, information quality, system quality and service quality successfully with Web 2.0 technologies. It is revealed that eWOM platform in the "n11.com" website and e-commerce design components are influential in customer loyalty. This study can be extended with a different customer group of "n11.com". At the same time, the same factors can be studied in other websites having eWOM platform or it can be repeated with different perspectives.

BIBLIOGRAPHY

- ALLSOP, D. T., BASSETT, B. R. & HOSKINS, J. A. 2007. Word-of-mouth research: principles and applications. *Journal of Advertising Research*, 47, 398.
- ANDERSON, R. E. & SRINIVASAN, S. S. 2003. E-satisfaction and e-loyalty: a contingency framework. *Psychology & marketing*, 20, 123-138.
- ANONIM 2015. Öğrenci Kayıt İstatistikleri, Yıllık Faaliyet Raporu. *Celal Bayar Üniversitesi Ahmetli Meslek Yüksekokulu*. Manisa.
- ARIKAN, R. 2004. *Araştırma teknikleri ve rapor hazırlama*, Ankara, Asil Yayın Dağıtım.
- BAŞ, T. 2008. *Araştırma Yöntemleri Dizisi*, Ankara, Seçkin Yayıncılık.
- CARRILLAT, F. A., JARAMILLO, F. & MULKI, J. P. 2009. Examining the impact of service quality: a meta-analysis of empirical evidence. *The Journal of Marketing Theory and Practice*, 17, 95-110.
- CHAN, Y. Y. Y. & NGAI, E. W. T. 2011. Conceptualising electronic word of mouth activity. *Marketing Intelligence & Planning*, 29, 488-516.
- CHANG, H. H. & CHEN, S. W. 2009. Consumer perception of interface quality, security, and loyalty in electronic commerce. *Information & Management*, 46, 411-417.
- CHEN, C.-W. D. & CHENG, C.-Y. J. 2009. Understanding consumer intention in online shopping: a respecification and validation of the DeLone and McLean model. *Behaviour & Information Technology*, 28, 335-345.
- 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.
- CHEVALIER, J. A. & MAYZLIN, D. 2006. The effect of word of mouth on sales: Online book reviews. *Journal of marketing research*, 43, 345-354.
- CORMODE, G. & KRISHNAMURTHY, B. 2008. Key differences between Web 1.0 and Web 2.0. *First Monday*, 13.
- DE MATOS, C. A. & ROSSI, C. A. V. 2008. Word-of-mouth communications in marketing: a meta-analytic review of the antecedents and moderators. *Journal of the Academy of Marketing Science*, 36, 578-596.
- DELONE, W. H. & MCLEAN, E. R. 2003. The DeLone and McLean model of information systems success: a ten-year update. *Journal of management information systems*, 19, 9-30.
- ELLISON, N. B., STEINFELD, C. & LAMPE, C. 2007. The Benefits of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication*, 12, 1143-1168.
- GRUEN, T. W., OSMONBEKOV, T. & CZAPLEWSKI, A. J. 2006. eWOM: The impact of customer-to-customer online know-how exchange on customer value and loyalty. *Journal of Business research*, 59, 449-456.
- 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.
- HARRIS, L. C. & GOODE, M. M. H. 2010. Online servicescapes, trust, and purchase intentions. *Journal of Services Marketing*, 24, 230-243.
- HARRISON-WALKER, L. J. 2001. The measurement of word-of-mouth communication and an investigation of service quality and customer commitment as potential antecedents. *Journal of service research*, 4, 60-75.
- HERR, P. M., KARDES, F. R. & KIM, J. 1991. Effects of word-of-mouth and product-attribute information on persuasion: An accessibility-diagnostics perspective. *Journal of consumer research*, 454-462.
- HO, C.-I. & LEE, Y.-L. 2007. The development of an e-travel service quality scale. *Tourism Management*, 28, 1434-1449.
- JONES, T. & TAYLOR, S. F. 2007. The conceptual domain of service loyalty: how many dimensions? *Journal of Services Marketing*, 21, 36-51.

- LEE, J., PARK, D.-H. & HAN, I. 2008. The effect of negative online consumer reviews on product attitude: An information processing view. *Electronic Commerce Research and Applications*, 7, 341-352.
- PARAMESWARAN, M. & WHINSTON, A. B. 2007. Research issues in social computing. *Journal of the Association for Information Systems*, 8, 22.
- ROY, S. K., LASSAR, W. M. & BUTANEY, G. T. 2014. The mediating impact of stickiness and loyalty on word-of-mouth promotion of retail websites. *European Journal of Marketing*, 48, 1828-1849.
- TEK, Ö. B. 1999. *Pazarlama İlkeleri: Global Yönetimsel Yaklaşım-Türkiye Uygulamaları*, İstanbul, Beta Basım Yayım.
- YANG, J., MAI, E. & BEN-UR, J. 2012. The influence of online community on eWOM. *International Journal of Market Research*, 54, 369-389.