

# IMPLICATIONS OF INTERNET RETAILERS' SERVICE PERFORMANCE ON THEIR SOCIAL MEDIA USE

## ABSTRACT

The purpose of this research is to investigate the relationship between Internet retailers' service performance and their social media use. Examination of 619 retailer websites and their service performance from online customer reviews reveals that there is a positive relationship between them. Internet retailers that use Facebook, Twitter, and YouTube in higher volumes show higher service performance. However, the significant effect varies by individual social medium and specific service performance. Findings suggest that retailers concern enhanced information transparency by social media. Retail managers should know the implications of using social media when they adopt them and raise customer expectations.

**Keywords** Social media; Internet retailing; Order procurement quality; Order fulfilment quality

## INTRODUCTION

A growing number of companies are using social media marketing as people spend significant amount of personal time on social media such as Facebook, Twitter, and YouTube. Recent statistics show that they occupy more than two hours of personal time a day on average, which is hardly neglected by companies that search for efficient marketing tools. Those companies expect that social media offer an opportunity to promote their goods or services to online communities. In fact, there is plenty of evidence that social media marketing positively influence brand reputation [27] [17] [13] [11].

However, social media use can carry negative effects to the companies. Information exchanged on those communication platforms can target every angle of the companies' behavior. Empowered consumers with the enhanced information about the companies along with the secured privacy in the virtual space take an advantageous position to judge retailers' behavior and deliver their heavy verdicts. Within a very short time, a company can be embroiled by relentless customer anger and antagonism. Previous studies explain this social phenomenon by the negative information effect, as they verified that a negative word-of-mouth travels faster than a positive one online [14] [2] [21] [9].

The purpose of this study is to investigate the effect of Internet retailers' performance on their social media use. This study intends to find evidence that the effect is real as it changes company behavior on social media use. Internet retailers are the ideal research subjects for this study because they have widely used social media marketing. In addition, consumers do not know much about individual Internet retailers, except some reputable ones like amazon.com, unless they study customer reviews online through social media or other retailer review websites. Service quality information will play as a critical factor for online consumers to select a retailer.

This study contributes to our understanding of firm behavior regarding its service performance and social media use. A social medium is not only an efficient communication tool but also a technological tool for a new marketing paradigm. What this study presents is the evidence that use of social media is associated with service performance. We believe finding the evidence is important to better predict future business

practices driven by social media marketing. There are different kinds of social media each with a unique social function. For instance, Facebook fits networking while YouTube is apt for information distribution to the public. Twitter stands in the middle with its distinctive single node network structure. There are many other existing, emerging, or fading social media, but this study focuses on these three social media, Facebook, Twitter, and YouTube, given its popularity and unique functioning.

## LITERATURE REVIEW AND THEORETICAL DEVELOPMENT

Transparency of information will largely influence Internet retailers' service performance. When information about their service performance is available to the public, retailers will do their best to increase their service performance. In that situation, their potential customers can easily monitor their performance and use that information for the selection of transaction partners. In an opposite situation when Internet retailers' service information is not available to their potential customers, retailers may not concern much about their poor service performance. It is because their service performance does not greatly affect customers' buyer selection.

There are abundant previous studies on social media that highlight social media marketing. They focus on implications of information transparency driven by social media to the online customers [29] [11] [30] [12] [15]. Online customers freely express their comments, feelings, and opinions targeting a certain company or individual on social media. Other social media users evaluate the information and use the information for their future transactions. Chen and Lurie [4] offer a plausible explanation about information evaluation by social media users. They found that electronic word-of-mouth (e-WOM) comes from both subjective and objective sources. Subjective e-WOM delivers feelings about a consumer's choice, or about his or her competence concerning the choice, while objective e-WOM captures the experience of using the focal products or services. As expected, objective e-WOM, with less bias, will have a greater effect on information symmetry than subjective e-WOM. In addition to the subjective/objective comments, the negative/positive nature of e-WOM appears to greatly distort information symmetry. Pfeffer et al. [21] find that a negative e-WOM spreads much faster than a positive e-WOM and can easily turn to online firestorms that spur intense indignation without an authentic specific criticism. According to Du et al. [9], customer anger is contagious when they are dissatisfied with a certain service provider. Customer anger exponentially grows because of the contagious effect. In addition to the kind or nature of information on social media, the social media themselves play as a convenient platform that online users can use to express their emotion by receiving, assessing and providing information. The information can reach every corner of this globe online immediately after any critical event through different formats such as text, picture, video, and others.

Enhanced information transparency driven by social media will influence firm behavior. In Internet retailing, different parts of business operations can be a target of online shoppers who use social media. Indeed, Internet retailing covers vast areas of business marketing and operations both online and offline (Cho, 2014). The online part of retailing is largely implemented by a retailer's website. From the website, customers find the product and service information they want. From a retailer's standpoint, they can appeal high service performance through a well-organized website, product selection and presentation on the website, and presentation of relevant information about the services and products [18] [28] [19]. Under high information symmetry, retailers will want to provide high quality services so that customers enjoy their website and use their website for transaction [26]. Previous studies on e-service quality verified that high service quality provided on the website through amusing web design and unequivocal information about the products and services will increase customer satisfaction and loyalty [25] [28] [19].

An Internet retailer's offline service performance contributes to customer satisfaction and loyalty as well [16] [19] [22] [3]. After receiving a customer order online, an Internet retailer will start the order delivery operations using their supply chains. The goal of these offline order fulfillment operations is to deliver the order on time to the buyer's location. In order to deliver on time, the ordered product should be in storage and ready for delivery. This positive inventory policy is expensive but it is an essential requisite for immediate start of order fulfillment. Internet retailers that use social media should remember that delivery failure may be an easy target for customer complaints. After placing orders on retailers' website, online shoppers can become anxious about item reception. If a wrong item in size or color arrives, they would not hesitate to share the poor service performance with their virtual friends on social media. Therefore, offline service performance for order fulfillment is as important as online service performance for order procurement for Internet retailers particularly who use social media marketing.

Here, there is one question regarding the impact of social media use. Will every retailer that uses social media concern their service performance equally? Probably not because every retailer relies on social media marketing not in the same scale. Then, what will differentiate reliance on social media? We believe that Internet retailers, who use social media more in volume, will concern their service performance more than others. Retailers that have higher number of customers who use the retailers' social media will be more vulnerable to information symmetry and concern their service performance. Any retailer who does not use social media or use social media with small scale, i.e. with small number of users, will less concern information symmetry and their service performance. If retailers use social media such as Facebook, Twitter, or YouTube, they can monitor the use of their social media by potential buyers. In the case of Twitter, retailers can monitor the number of followers, the total number of people who can receive the retailer's tweets, that is, the total number of people who stay connected to the store's Twitter. The number of tweets is another index of the social medium use. Similarly, use of YouTube can be monitored by number of subscribers or views. In the case of Facebook, users participate in positive judging of a certain Internet retailer by clicking "like."

Based on social media's contribution to information symmetry, we contend that an extant to use an Internet retailer's social media will be influenced by the retailer's behavior. High use of social media by online customers will be associated with the retailer's service performance both in online and offline. Many potential future customers using their social media gives high motivation for retailers to improve their service performance. Similarly, retailers who do not use social media or use them in small scale will less concern their service performance. Below are our hypotheses:

- H1: Internet retailers' service performance is positively associated with the volume of their Facebook use.
- H2: Internet retailers' service performance is positively associated with the volume of their Twitter use.
- H3: Internet retailers' service performance is positively associated with the volume of their YouTube use.

## **METHODOLOGY**

This study collected empirical data from customer reviews of Internet retailers. To test the hypotheses, we needed Internet retailers' service performance data. In the service industry, service performance is

typically measured by service quality performance based on customer perception [24] [28] [19], and we refined service quality performance of Internet retailing into order procurement quality and order fulfillment quality. As Internet retailing covers both online order procurement and offline order fulfillment, these two different quality performance measures were required for this study. Order procurement quality refers to Internet retailers' service performance online using their website while order fulfillment quality refers to Internet retailers' service performance offline using their supply chains. Online customer reviews were ideal for this study because they included customer evaluation of a retailer's service quality at two different times during customer online shopping. From the experiences with Internet retailers' websites, online customers provided their comments on the retailers' order procurement performance. Similarly, from the experiences with retailers' order delivery services, customers provided their reviews on the retailers' order fulfillment performance. We collected those information to evaluate retailers' service performance.

We selected a total of 619 retailers whose customer reviews were available and had more than 50 customer reviews. After determining the sampling frame, we visited individual retailer websites to check their social media use. Many of them showed their social media use by presenting the unique individual social media icons on their websites. Among 619 retailers in the sample, 529 used Facebook (85.6%), 479 used Twitter (77.4%), and 239 used YouTube (38.6%). 45 retailers used only one of the three social media (7.3%), 256 retailers used two of them (41.4%), and 230 retailers used all three (37.2%). Further examination of social media that the retailers used was conducted to monitor the volume of social media use. We visited each retailer's Facebook page and recorded the number of "likes" as it reflects the number of active participants in the Facebook community. We also visited their Twitter and checked the number of followers and the number of tweets. In the case of YouTube, the number of subscribers and the number of total views were recorded to measure YouTube use.

After collecting 619 retailers' service performance data, we used exploratory factor analysis to verify item reliability. From the factor analysis, we confirmed two latent factors. We called the first factor as *order fulfillment quality* because all three items within the factor were about order fulfillment quality offline such as "on-time delivery", "order tracking", and "product availability". We called the second factor as *order procurement quality* because all three items within the factor were about retailers' website characteristics such as "easy finding on the website", "website design", "information clarity".

Hypothesis testing was conducted by using regression analysis [20] [1] [10]. Individual social media use was the dependent variable, and order procurement quality and order fulfillment quality were the two independent variables. There were a high number of retailers that use more than one social medium. As explained, Facebook users were highly likely to be Twitter or YouTube users. Given the issue, separate regression analysis models were constructed for individual social media. For all models, retailer reputation was added as an independent variable to control the reputation effect. The previous study found that reputable retailers use social media more given their high resource levels [23]. Reputation was measured by the information presence method by Cho [5].

## RESULTS

Results of the regression analyses are summarized in Table 1. Reputation is a significant control variable for all five models at  $p=0.01$  level which confirms the finding by Rapp et al. [23] that reputable retailers use social media more than non-reputable retailers do. Order procurement quality is significantly associated with social media use in all five models indicating that retailers with high order procurement

quality have high usage of all three social media. However, the strengths of the relationship differ by individual indices of social media use. In the two models with Twitter use, the relationships are significant at  $p=0.05$  while others are all significant at  $p=0.01$ . The result suggests that retailers' order procurement quality is a good predictor of the number of "likes" in Facebook and the number of subscribers or total views in YouTube. Associations between order fulfillment quality and social media use has more dramatic differences. Only the two indices of YouTube use, the number of subscribers and the number of total views, are significantly associated with order fulfillment quality at  $p=0.01$  level. Use of Facebook or Twitter are not associated with order fulfillment quality at all. Overall, only the two YouTube models support relationships with all three predictor variables for Hypothesis 3, and only the order procurement quality is significantly associated with all three social media in all five models for all three hypotheses.

Table 1. Results of regression analyses

Social media	Facebook (# likes)		Twitter (# followers)		Twitter (# tweets)		YouTube (# subscribers)		YouTube (# views)	
	B <sup>a</sup>	Sig. <sup>b</sup>	B <sup>a</sup>	Sig. <sup>b</sup>	B <sup>a</sup>	Sig. <sup>b</sup>	B <sup>a</sup>	Sig. <sup>b</sup>	B <sup>a</sup>	Sig. <sup>b</sup>
Constant	4.02	.000**	3.05	.000**	3.07	.000**	2.54	.000**	5.29	.000**
Reputation	1.33	.000**	1.20	.000**	.624	.000**	.900	.000**	.905	.000**
Order procurement quality	.137	.001**	.094	.022*	.060	.050*	.220	.002**	.252	.001**
Order fulfilment quality	-.023	.593	.008	.845	.019	.534	.241	.000**	.197	.005**
F(df=3)	67.498**		56.946**		28.151**		19.676**		18.409**	
Adj. R <sup>2</sup>	0.284		0.270		0.154		0.198		0.186	

<sup>a</sup> unstandardized; <sup>b</sup> \*\* $p<0.01$ ; \* $p<0.05$

## DISCUSSION AND IMPLICATIONS

This study provides critical evidence that Internet retailers' service performance is associated with their social media use. Findings demonstrate that Internet retailers concern their service performance when they use social media. This is one step advance from the previous understandings about firms' use of a technology. The technology acceptance model explains firms' use of a certain technology by two factors, ease of use and usefulness [8]. This study introduces another plausible theory about technology use, which is information transparency.

Findings in this study clarify how Internet retailers judge the value of social media which is based on the technology's impact on information transparency. If retailers deliver high quality services, particularly in order procurement phase, they consider social media valuable given that they can market their high service quality performance using social media. If they do not, or are unable to, deliver high quality services, they consider social media less valuable or even dangerous. Overall, findings in this study

implies that Internet retailers understand the impact of social media marketing when they use social media. To a certain sense, social media marketing can be interpreted as manipulation of information transparency for selective information that the firms want to promote. However, control of information can be disastrous because any information other than the selected one can be the target of an online firestorm. Internet retailers appear aware of this risk factor.

Information symmetry will continue to grow in the future as information technology advances in the exponential speed as we witnessed in the recent decades. Findings in this study allow us to imagine the business environment in the future when online customers are empowered by information. Social media will have a critical role in fostering the information-intensive business environment. They play as a platform for new information, but also work for information processing and evaluation. Raw and immature information becomes refined and its ambiguity is clarified by social media [6] [7]. As a result, customer voice will grow on the online communities so will their bargaining power.

## REFERENCES

- [1] Abraham, B. & Ledolter, J. *Introduction to Regression Modeling*, Thomson Brooks/Cole Belmont, CA, 2006.
- [2] Bradley, G. L., Sparks, B. A. & Weber, K. (2016). Perceived prevalence and personal impact of negative online reviews. *Journal of Service Management*, 27 (4), 507-533.
- [3] Cao, Y. & Zhao, H. (2004). Evaluation of e-tailers' delivery fulfillment: Implications of firm characteristics and buyer heterogeneity. *Journal of Service Research*, 6 (4), 347-360.
- [4] Chen, Z. & Lurie, N.H. (2013). Temporal contiguity and negativity bias in the impact of online word-of-mouth. *Journal of Marketing Research*, 50 (4), 463-476.
- [5] Cho, Y. K. (2014). Service quality and price perceptions by Internet retail customers: Linking the three stages of service interaction. *Journal of Service Research*, 17 (4), 432-445.
- [6] Daft, R. L. & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science*, 32 (5), 554-571.
- [7] Daft, R. L., Lengel, R. H. & Trevino, L. K. (1987). Message equivocality, media selection, and manager performance: Implications for information systems. *MIS Quarterly*, 11 (3), 355-366.
- [8] Davis, F. D., Bagozzi, R. P. & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35 (8), 982-1003.
- [9] Du, J., Fan, X. & Feng, T. (2014). Group emotional contagion and complaint intentions in group service failure: The role of group size and group familiarity. *Journal of Service Research*, 17 (3) 326-338.
- [10] Hair, J. F., Black, W. C., Babin, B. J., Anderson, R.E. & Tatham, R.I. *Multivariate data analysis*, (6<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Prentice Hall, 2005.

- [11] Jakic, A., Wagner, M. O. & Meyer, A. (2017). The impact of language style accommodation during social media interactions on brand trust. *Journal of Service Management*, 28 (3), 418-441.
- [12] Jung N. Y., Kim, S. & Kim, S. (2014). Influence of consumer attitude toward online brand community on revisit intention and brand trust. *Journal of Retailing and Consumer Services*, 21 (4), 581-589.
- [13] Kaplan, A. M. & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizon*, 53 (1), 59-68.
- [14] Keiningham, T. L., Rust, R. T., Lariviere, B., Aksoy, L. & Williams, L. (2018). A roadmap for driving customer word-of-mouth. *Journal of Service Management*, 29 (1), 2-38.
- [15] Kim, A. J. & Ko, E. (2012). Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand. *Journal of Business Research*, 65 (10), 1480-1486.
- [16] Kumar, A. & Anjaly, B. (2017). How to measure post-purchase customer experience in online retailing? A scale development study. *International Journal of Retail & Distribution Management*, 45 (12), 1277-1297.
- [17] Kumar, V. & Mirchandani, R. (2012). Increasing the ROI of social media marketing. *MIT Sloan Management Review*, 54 (1), 54-61.
- [18] Pandey, S. & Chawla, D. (2018). Online customer experience (OCE) in clothing e-retail: Exploring OCE dimensions and their impact on satisfaction and loyalty: Does gender matter? *International Journal of Retail & Distribution Management*, 46 (3), 323-346.
- [19] Parasuraman, A., Zeithaml, V. A. & Malhotra, A. (2005). E-S-QUAL: A multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3), 213-233.
- [20] Pedhazur, E. J. & Schmelkin, L. P. *Measurement, design, and analysis, an integrated approach*, New Jersey: Lawrence Erlbaum Associates, 1991.
- [21] Pfeffer, J., Zorbach, T. & Carley, K. M. (2014). Understanding online firestorms: Negative word-of-mouth dynamics in social media networks. *Journal of Marketing Communications*, 20 (1-2), 117-128.
- [22] Rao, S., Griffis, S. E. & Goldsby, T. J. (2011). Failure to deliver? Linking online order fulfillment glitches with future purchase behavior”, *Journal of Operations Management*, 29 (7), 692-703.
- [23] Rapp, A., Beitelspacher, L. S., Grewal, D. & Hughes, D. E. (2013). Understanding social media effects across seller, retailer, and consumer interactions. *Journal of the Academy of Marketing Science*, 41 (5), 547-566.
- [24] Rowley, J. (2006). An analysis of the e-service literature: Toward a research agenda. *Internet Research*, 16 (3), 339-359.

- [25] Savelli, E., Cioppi, M. & Tombari, F. (2017). Web atmospherics as drivers of shopping centres' customer loyalty. *International Journal of Retail & Distribution Management*, 45 (11), 1213-1240.
- [26] Sinha, I. (2000). Cost Transparency: the net's real threat to prices and brands. *Harvard Business Review*, 78 (2), 43-50.
- [27] So, K. K. F., King, C., Sparks, B.A. & Wang, Y. (2016). Enhancing customer relationships with retail service brands: The role of customer engagement. *Journal of Service Management*, 27 (2), 170-193.
- [28] Szymanski, D. M. & Hise, R. T. (2000). E-satisfaction: An initial examination. *Journal of Retailing*, 76 (3), 309-322.
- [29] Weiger, W. H., Wetzel, H. A. & Hammerschmidt, M. (2017). Leveraging marketer-generated appeals in online brand communities: An individual user-level analysis. *Journal of Service Management*, 28 (1), 133-156.
- [30] Yang, K., Li, X., Kim, H. & Kim, Y. H. (2015). Social shopping website quality attributions increasing consumer participation, positive eWOM, and coshopping: The reciprocating role of participation. *Journal of Retailing and Consumer Services*, 24 (1), 1-9.