User-Loyalty to Online Social Network Sites: A Self-Regulation Perspective

Ives Chacourre Wangninanon GOGAN\(^1,\)*, Folakè Tarz BOCO\(^2\), Gratien BONI\(^1\) and Qi ZHANG\(^1\)

\(^1\)School of Management, Harbin Institute of Technology; Harbin 150001, China
\(^2\)Centre Interfacultaire de Formation et de Recherche en Environnement pour le Développement Durable (CIFRED), Université d'Abomey-Calavi, Benin

*Corresponding author

Keywords: Social network sites, Satisfaction, User-loyalty, Pleasure.

Abstract. Social networks sites (SNS) have increased in number and popularity this last decade. A recent report of China Internet Network and Information Center shown that an average of thirty on percent of users of SNS drop usage after adoption indication a timely concern of SNS providers in sustaining their platform. The current study proposed a research model based on self-regulation theory of Bagozzi to investigate the impact of SNS platform quality and pleasure on user-satisfaction and how the latter influence user-loyalty. The model was tested with survey data from Weibo users. The result shown that are significantly related to user-satisfaction and satisfaction strongly associated with user-loyalty.

Introduction

Social network sites (SNS) have gained popularity among individual users and businesses users over the last decade. SNS has become an operational requirement in many sectors such as health, marketing and politics. This have attracted researchers from different fields. Different aspects of users’ behavior have been investigated including adoption [1], use motivation [2] and continuance use intention [3]. Different theories have been applied in investigating user behavior such as; uses and gratification [4] and self-efficacy theory [5], Stimulus organism response theory [3]. A recent report of China Internet Network Information Center (CNNIC) showed that 31.3% of SNSs users discontinue use after registration, indicating that users’ antecedents for adoption may change over time [6]. Thus, user-retention remain a serious concern for SNS developers and managers in order to achieve the sustainability of their platforms. Previous research on customer behaviour demonstrated that loyal customers are likely to resist competitor offers [6]. Thus, obtaining customers loyalty could help SNS providers in achieving long-term sustainability of their platforms. It is therefore relevant and timely to investigate user-loyalty from the perspective of appraisal, emotional reaction and coping response. Accordingly, the following research questions were formulated: (1) what is the impact of platform quality and user-pleasure on user-satisfaction? and (2) what is the influence of user-satisfaction on the user coping behaviour which is user-loyalty in this study? A conceptual research model was proposed and tested with data obtained from a survey that included two hundred and seventy students.

Theoretical Background and Research Model

To investigate the determinants of user-satisfaction and user-loyalty, Bagozzi’s framework was adapted as a core theory that guide in understanding how some appraisal factors induce emotional reaction that lead to coping behavior. The theory attempts to explain the relationship among cognitive, affective and conative aspects of a consumption experience. The theory posits that desire is the product of attitude which leads to behavioral intention of individuals. People first appraise a situation or a service and then evaluate if it can serve in achieving their goals. This means that the process of appraisal will result in an emotional response that can be positive or negative.
Consequently, people will either continue or avoid the experience presented by a product or service. Hence, in this present study, this process was achieved in three stages including appraisal, emotional responses and coping responses. Prior research applied Bagozzi’s frame work to examine consumer behavior in E-commerce [7, 8]. This present study utilized two variables (platform quality and pleasure) which represent the appraisal aspect of the usage of a SNS platform. Perceived quality and pleasure were part of the appraisal process which elicited emotional responses such as satisfaction. Therefore, satisfaction was included as the emotional response that will in turn lead to the coping behavior, which is user-loyalty in the context of this study. The conceptual research model is presented in Figure 1.

Figure 1. Proposed research model.

Research Hypotheses

Platform Quality and Satisfaction

Platform quality has been the object of several research in information IS and was tested in different context. Previous studies have emphasised the role of platform quality on user-satisfaction as well as the perception users have on the overall success of a virtual community [9, 10]. In this study we argue that the quality of the technological functionalities available to users will enhance user-satisfaction. For instance, if the users experience of the SNS platform is poor this will result in a negative and unpleasant emotional response. However, if the platform offers a good experience in term of navigation and reliability a positive emotional reaction such a satisfaction will occur. Accordingly, the following hypotheses was made:

H1: Platform quality will positively affect user-satisfaction

Pleasure and User-satisfaction

Pleasure is one of the emotions presented by Mehrabian and Russell in their pleasure arousal and dominance (PAD) model.[11] It refers to whether an individual perceives an environment as either as enjoyable or unenjoyable [11]. Pleasure is part of an appraisal process that likely lead to a positive emotional response. Prior studies demonstrated that SNS-user derive pleasure from SNS platform usage [12]. Thus, this study posits that pleasure is an important aspect of users’ perceived value of their use of SNS. Therefore, the following hypothesis was made:

H2: Pleasure positively influence user-satisfaction

Satisfaction and User-loyalty

Satisfaction plays a determinant role in a consumer’s decision to retain or abandon the consumption of a product or service [13]. It has been demonstrated that consumers high level of satisfaction of a product are likely to patronage with the product and even demonstrate loyalty in standing against competitors offers. Satisfaction is an emotional response derived from the experience of a product or service. Previous E-Service studies provided evidence of a positive significant relationship between satisfaction and customer loyalty [14, 15]. Accordingly, it is argued in this study that in the context of SNS, user-satisfaction experience will lead to user loyalty. Therefore, the following hypothesis was made:

H3: Satisfaction will positively influence user-loyalty
Methodology

A survey instrument was developed to measure the construct in the proposed conceptual model. In order to avoid validity concerns, thirteen items (13) were adopted from prior well-established scales. The items were slightly modified when required to fit the context of the current study. All the items were measured on a seven-point Likert scale ranging from (1) Strongly agree to (7) strongly disagree. To avoid potential common method bias (CMB) we ensured in the development of the instrument: (i) the questionnaire was revised by two information science academicians to make sure that the propositions are brief concise and lack no clarity and (ii) the revised questionnaire was administrated to twenty students in information science management to assess if the items were clearly understood without any ambiguity. Based on the observations of these students, necessary improvements were made to the questionnaire and then pilot-tested with thirty students randomly selected. After ensuring reliability and validity of the questionnaire, the survey was then administrated to the targeted population.

The present study included a sample that consisted in total of two hundred and fifty-two students enrolled in various courses at Harbin Institute of Technology in China. Participants range in age from 20 to 45 with a mean age of 22.5. In collecting the data, the questionnaire was loaded on a Chinese popular survey website (www.wjx.cn) and a link and QR code were provide to the participants via their class social media group. No reward was offered to the participants. After screening the responses form incomplete and suspicious data entry a total of two hundred and fifty-two usable responses was obtained.

Data Analysis and Results

Data analysis was conducted using Structural Modeling Equation (SEM) supported by AMOS 23. A two-step approach as recommended by Anderson and Gerbing [16] was followed. Accordingly, the measurement model was first estimated and the hypotheses were tested.

Measurement Model

The model goodness of fit was assessed using the following fit indices: normed chi-square to degree-of-freedom (CMIN/DF), normed-fit index (NFI), comparative fit index (CFI), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), root mean square error of approximation (RMSEA), and root mean squared residual (RMR). As shown in Table 2, all the measurement model fit measures were within the range of the recommended value demonstrating that model fit the data. To assess reliability and validity of the measurement model, three quantitative indicators were used. They include; composite reliability (CR), AVE (Average Variance Extracted) and MSV (Maximum Shared Variance). The requirement to achieve both reliability and validity are summarized in Table 1.

Table 1. Requirements for reliability and validity [17].

| Reliability       | Convergent Validity | Discriminant Validity |
|-------------------|---------------------|-----------------------|
| CR > 0.70         | AVE > 0.50          | MSV < AVE             |
|                   |                     | √AVE > Inter-construct correlations |

As reported in Table 3, all constructs CR were well above the recommended value of 0.7 giving evidence of adequate internal consistency.

Given that all construct AVE were above 0.5 (Table 3), it was concluded that the constructs presented convergence validity concern.

All construct MSV were less than their AVE and the square root of the AVE was superior to all inter construct correlations. This indicate that all construct in this research are different from one another. Therefore, we concluded this research demonstrate a discriminant validity.
Table 2. Fit indices for model measurement and structural model.

| Fit Index       | Threshold | Measurement Model | Structural Model |
|-----------------|-----------|-------------------|------------------|
| CMIN/DF         | ≤3.0      | 1.80              | 2.2              |
| GFI             | ≥0.90     | 0.95              | 0.94             |
| AGFI            | ≥0.80     | 0.94              | 0.87             |
| NFI             | ≥0.90     | 0.95              | 0.96             |
| CFI             | ≥0.90     | 0.94              | 0.97             |
| RMR             | ≤0.05     | 0.05              | 0.05             |
| RMSEA           | ≤0.08     | 0.07              | 0.06             |

Table 3. Reliability and validity.

| Latent Constructs | CR>0.7 | MSV <AVE | AVE >0.5 | √AVE | (1) | (2) | (3) | (4) |
|-------------------|--------|----------|----------|------|-----|-----|-----|-----|
| Platform quality  | 0.942  | 0.614    | 0.820    | 0.905|     |     |     |     |
| Pleasure          | 0.940  | 0.502    | 0.812    | 0.901| 0.548|     |     | 0.901|
| User-satisfaction | 0.921  | 0.738    | 0.772    | 0.878| 0.767| 0.716|     | 0.878|
| User-loyalty      | 0.957  | 0.738    | 0.853    | 0.923| 0.791| 0.625| 0.868| 0.923|

Note: Bold values in diagonal are the square root of the Average Variance Extracted (AVE) of each construct. Off-diagonal correlation coefficients between constructs.

Structural Model

First, the structural model was assessed for a goodness of fit using the same fit indices that employed to assess the goodness of fit of the measurement model. As reported in Table 2, the structural model demonstrated a good fit as all the observed indices fell within the range of the recommended value. With this observation the hypotheses were tested. The standardized estimates are reported in Table 4. The model explained 69% and 75% of the total variation in user-satisfaction and user-loyalty, respectively, indicating a satisfactory level of R Square (Figure 2).

![Figure 2. Structural model.](image_url)

Table 4. Standardized estimates.

| H#   | Conceptualized Path                      | Standardized Estimate | P-Value | Remarks |
|------|-----------------------------------------|-----------------------|---------|---------|
| H1   | Platform quality → user-satisfaction     | 0.55                  | <0.001  | Supported|
| H2   | Pleasure → user-satisfaction             | 0.62                  | <0.001  | Supported|
| H3   | User-satisfaction → user-loyalty         | 0.95                  | <0.001  | Supported|

Discussion

The purpose of this study was to investigate factors that influence user-loyalty in the context of SNS. Basing the conceptual model on the Bagozzi’s framework two constructs (platform quality and pleasure) were selected as appraisal factors that will induce an emotional response which was represented as user-satisfaction. In addition, it was predicted that user-satisfaction will positively influence user-loyalty which represent the cooping response according to Bagozzi’s framework. The result indicated that user-satisfaction plays an important role in predicting user-loyalty. Furthermore, platform quality and pleasure have a significant positive relationship with user-satisfaction (Figure 2). These findings give evidence that users assess platform quality and pleasure and these factors contribute to the formation of user-satisfaction which subsequently impact user-
loyalty. The findings of this study are consistent with previous studies [18]. The implications of this study are of many folds. First, it contributes to literature on social media usage by providing insights on user-loyalty to a SNS platform. To the best of our knowledge, no study has applied Bagozzi’s framework to investigate user-loyalty in the context of online SNS. The results demonstrated that Bagozzi’s framework is suitable to this research. Second, it was found that platform quality is significantly related to user satisfaction, indicating the important role adequate technological functionalities play in forming user-satisfaction. This suggests that when the SNS platform is perceived as easy to navigate with handful functionalities and features that facilitate interaction among users it results in user-satisfaction. Third, pleasure which is a part of appraisal process was found to be positively related to user-satisfaction. As prior research reported, SNS-users gain pleasure from their use of these platform [12], the findings of this study provide evidence that SNS providers can capitalized of this to achieve user-satisfaction. Fourth, user-satisfaction has a significant impact on user-loyalty. This means that satisfied users are likely to be loyal to the platform. Prior research reported that loyal customers have tendency to resist competitors offers. This is important because with the growth in number of SNS the major challenge SNS providers face is the sustainability of their platform.

Conclusion

This study proposed a theoretical model that examined the impact of two appraisal factors (platform quality and pleasure) on user emotional response (user-satisfaction) and the role of user-satisfaction in predicting user-loyalty from the perspective of Bagozzi’s self-regulated framework. The study demonstrated that Bagozzi’s framework is appropriate to investigate user-loyalty in the context of SNS usage as the model showed a good explanatory power. The results provide evidence that platform quality and pleasure are strongly and significantly related to user-satisfaction. Moreover, the study demonstrated that emotional response which is user-satisfaction has a strong impact on user-loyalty.

Reference

[1] Coursaris, C.K., et al., Disentangling Twitter’s adoption and use (dis) continuance: A theoretical and empirical amalgamation of uses and gratifications and diffusion of innovations. AIS Transactions on Human-Computer Interaction, 2013. 5(1): pp. 57-83.

[2] Ross, C., et al., Personality and motivations associated with Facebook use. Computers in human behavior, 2009. 25(2): pp. 578-586.

[3] Gogan, I., Z. Zhang, and E. Matemba, Impacts of gratifications on consumers’ emotions and continuance use intention: An empirical study of Weibo in China. Sustainability, 2018. 10(9): pp. 3162.

[4] Gan, C. and H. Li, Understanding the effects of gratifications on the continuance intention to use WeChat in China: A perspective on uses and gratifications. Computers in Human Behavior, 2018. 78: pp. 306-315.

[5] Wang, D., L. Xu, and H.C. Chan, Understanding the continuance use of social network sites: a computer self-efficacy perspective. Behaviour & Information Technology, 2015. 34(2): pp. 204-216.

[6] Chang, Y.P. and D.H. Zhu, Understanding social networking sites adoption in China: A comparison of pre-adoption and post-adoption. Computers in Human behavior, 2011. 27(5): pp. 1840-1848.

[7] Anderson, E.W., C. Fornell, and S.K.J.J.o.m. Mazvancheryl, Customer satisfaction and shareholder value. 2004. 68(4): pp. 172-185.
[8] Lin, H., et al., Determinants of users’ continuance of social networking sites: A self-regulation perspective. 2014. 51(5): pp. 595-603.

[9] Lin, H., W. Fan, and L.J.I.J.o.e.-C. Wallace, The effects of social and technical factors on user satisfaction, sense of belonging and knowledge community usage. 2013. 9(3): pp. 13-30.

[10] Lin, H., W. Fan, and Z.J.I.J.o.e.-C. Zhang, A qualitative study of web-based knowledge communities: Examining success factors. 2009. 5(3): pp. 39-57.

[11] Mehrabian, A. and J.A. Russell, An approach to environmental psychology. 1974: the MIT Press.

[12] Lin, K.-Y. and H.-P. Lu, Why people use social networking sites: An empirical study integrating network externalities and motivation theory. Computers in human behavior, 2011. 27(3): pp. 1152-1161.

[13] Lemon, K.N., T.B. White, and R.S. Winer, Dynamic customer relationship management: Incorporating future considerations into the service retention decision. Journal of marketing, 2002. 66(1): pp. 1-14.

[14] Gu, R., L.-B. Oh, and K. Wang, Developing user loyalty for social networking sites: a relational perspective. Journal of Electronic Commerce Research, 2016. 17(1): pp. 1.

[15] Chiou, J.-S., The antecedents of consumers’ loyalty toward Internet service providers. Information & Management, 2004. 41(6): pp. 685-695.

[16] Anderson, J.C. and D.W. Gerbing, Structural equation modeling in practice: A review and recommended two-step approach. Psychological bulletin, 1988. 103(3): pp. 411.

[17] Hair, J., et al., Multivariate data analysis: A global perspective (Vol. 7): Pearson Upper Saddle River. 2010, NJ.

[18] Lin, H.-H. and Y.-S. Wang, An examination of the determinants of customer loyalty in mobile commerce contexts. Information & management, 2006. 43(3): pp. 271-282.