POST-ADOPTION BEHAVIOUR, COMMUNITY SATISFACTION AND PCS

An Analysis of Interaction Effects in the Tuenti Community

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Abstract: Our research contributes to the existing literature by examining the community drivers (i.e., participation, organisation and satisfaction) and their effects on the sense of belongingness to a social networking site. Our analysis also emphasises the importance of continuance over initial acceptance; indeed, post-adoption phenomena have traditionally received scarce attention. In particular, our study will consider the interaction effects of routinisation on the research model. A survey is conducted for data collection. Partial Least Square (PLS) is proposed to assess the relationships between the constructs together with the predictive power of the research model. Overall, the results reveal that members' attachment to an online community is determined by community satisfaction, participation and organisation. Moreover, higher routinisation reduces the impact of community organisation on integration, and in turn increases the impact of satisfaction on integration. The model and results can consequently be used to assess different strategic proposals related to participation, organisation and satisfaction during the implementation process.

1 INTRODUCTION

Social networking sites (SNSs) are conceptualised as online environments that foster mutual support and participation in community activities, individual's feelings of attachment to them and expectations of continuity (cf. Herrero and Gracia, 2007, see also Blanchard, 2007, Blanchard and Markus, 2004, 2007, McMillan and Chavis, 1986, Sánchez-Franco and Roldán, 2010). Perceived community support (hereinafter, PCS) will be conceived as an appropriate means of explaining the success of the accumulative/enduring relationships between the SNS and its members, based on community satisfaction. Community satisfaction reinforces the members' decision to participate in the delivery of the service. However, assuming that the success of a community derives from the development and sustainability of its members, post-adoption analysis has, compared to the established research stream of SNS adoption and initial usage, received less attention. Particularly, routinisation behaviours moderate the purpose of social communicating at a specific SNS, and provide scholars with a growing understanding of their interaction effects on the relationships between the community drivers and the sense of attachment to their SNS.

The purpose of this research will, therefore, expand previous research of what contributes to integration. This study will describe routinisation as a moderating driver for modifying feelings of attachment with an SNS in a larger effort to reduce loneliness (as opposed to social integration).

2 THEORY AND RESEARCH HYPOTHESES

This research presents a PCS structure that includes three dimensions (cf. Herrero and Gracia, 2007). Community organisation will, on the one hand, be defined as feelings of being supported by the online community -while also supporting other users (cf. Blanchard and Markus, 2004). On the other hand, community participation will be conceptualised as community involvement, active participation in SNS activities, or social participation in order to help other virtual community members–which includes expressions of encouragement related to members' concerns. The exchange of mutual support will be an essential motive for the developing of virtual communities (Baym, 1997, Rothaermel and Sugiyama, 2001, Wellman and Guilia, 1999).

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Furthermore, community integration will be defined as "members' feelings of membership, identity, belonging, and attachment to a group that interacts primarily through electronic communication" (Blanchard, 2007, p.827, cf. also Blanchard, 2008, McMillan and Chavis, 1986).

In this social context, "community participation provides members with numerous opportunities for supportive communication" (Welbourne, 2009, p.32). Firstly, greater levels of community participation in an SNS (such as posting and responding to messages) help to share knowledge and ideas related to mutual interest, and, subsequently, foster their attachment to it (cf. Koh and Kim, 2004, Sánchez-Franco and Roldán, 2010). Secondly, a member will be more highly motivated to contribute to community if one receives useful (and/or emotional) help in return (i.e., community organisation) –or future reciprocity. Greater levels of community organisation will lead members to feel that they are being supported by a whole portion of their community, reducing the uncertainty of the relationship with it and fostering their social participation and commitment. Thirdly, community organisation will increase feelings of attachment to their SNS, and expectations of continuity -so that members will continue obtaining affective benefits from mutual relationships (cf. Casaló et al., 2007). Community participation and organisation will, therefore, be associated with an increase in the opportunity for the members to become involved in a community and a reduction in their feeling of community loneliness. Based on the previous arguments, this research proposes the following hypotheses: H1. Community participation positively influences community integration, H2. Community organisation positively influences community participation, and H3. Community organisation positively influences community integration. See Figure 1.

Moreover, community satisfaction will be the positive result of an overall assessment of psychosocial aspects of a relationship between the member and the other community members. Stronger feelings of being supported by the online community will, on the one hand, be associated with higher community satisfaction. On the other hand, "if the community members were not satisfied, there would not be any incentive to participate in the community" (Casaló et al., 2010). Satisfaction will finally lead to desirable outcomes such as cooperation, long-term orientation, loyalty, and relationship integration (Ganesan 1994, Lam et al. 2004). It may, therefore, be argued that community

satisfaction precedes community integration (e.g., Sánchez-Franco and Rondán, 2010). Based on the previous arguments, this research proposes the following hypotheses: H4. Community organisation positively influences community satisfaction, H5. Community satisfaction positively influences community participation; and H6. Community satisfaction positively influences community integration. See Figure 1.
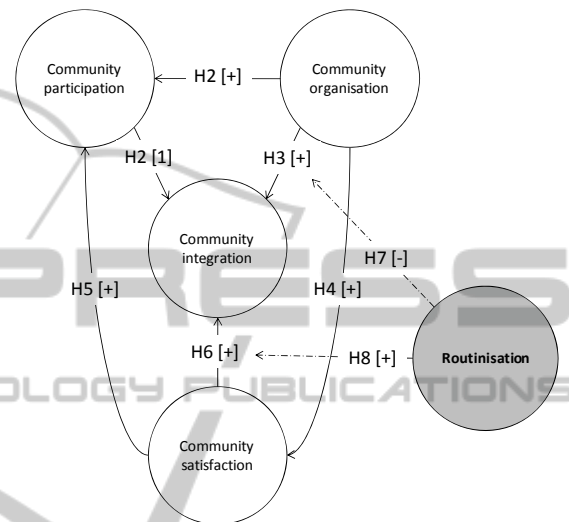

Figure 1: Theoretical model.

Finally, as members use an SNS routinely, they will simplify relationships with others by generating a knowledge structure. In particular, routinisation is associated with "habitual usage–that is, to integrate the technology into daily routines" (Schwarz and Chin, 2007, p. 240, cf. also Cooper and Zmud, 1990, Saga and Zmud, 1994). Routinised members will progressively underestimate members' feelings of being assisted by the online community "in terms of support needs and resources available to the individual" (Herrero and Gracia, 2007, p. 210). Moreover, because the SNS is an important part of the member's life, highly- routinised members have strong motivations to avoid dissatisfaction. Fulfilling, gratifying, and easy access to community features (among highly-routinised behaviour) will indeed reinforce the spontaneous tendency to go back to a preferred SNS. Satisfaction -with daily procedures for dealing with SNSs- could then constitute one type of switching costs because it will become essential if the members question the relationship (cf. Sánchez-Franco, 2009). Based on the previous arguments, this research proposes the following hypotheses: H7. Overall, routinised behaviour moderates (weakens) the relationship

between community organisation and community integration; and H8. Overall, routinised behaviour moderates (strengthens) the relationship between community satisfaction and community integration. See Figure 1.

3 METHOD

3.1 Participants

The structural model was validated empirically using data from a field survey of the most popular computer-mediated SNS among the Spanish college student population, *Tuenti*. Particularly, participants were recruited from social studies at a public University in Seville (Spain). The exclusion of invalid questionnaires due to duplicate submissions or extensive empty data fields resulted in a final convenience sample of 278 users. 42.8% were male respondents. The average age was 21.04 (*SD*: 2.403).

3.2 Measures

Fourteen items were used to assess community participation, organisation and integration (or identification with an SNS) -taken from Herrero and Gracia (2007), Geyskens et al. (1996), Loewenfeld (2006), and Sánchez-Franco (2009). On the other hand, a total of three items were employed to measure community satisfaction (Gustafsson et al., 2005). Finally, the instrument for measuring the degree of routinised behaviour has been operationalised by Sundaram et al. (2007) in the form of a three-item scale.

A pretest assessed the suitability of the wording and format, and the extent to which measures represented all facets of constructs. All items are seven-point Likert-type, ranging from «strongly disagree», 1, to «strongly agree», 7.

3.3 Data Analysis

The hypotheses testing is conducted using Partial Least Squares (PLS), specifically, SmartPLS 2.0.M3 software (Ringle et al., 2008).

Taking into account that hypotheses 7 and 8 are based on interaction effects, one well-known technique has had to be applied to test these moderated relationships: product-indicator approach (Henseler and Fassott, 2010).

4 RESULTS

4.1 Measurement Model

The measurement model was evaluated using the full sample (278 individuals) -all items and dimensions- and then the PLS results were used to eliminate possible problematic items.

On the one hand, individual reflective-item reliability was assessed by examining the loadings of the items with their respective construct. Individual reflective-item reliabilities –in terms of standardised loadings– were over the recommended acceptable cut-off level of 0.7. See Appendix.

On the other hand, construct reliability was assessed using the composite reliability (ρ_c). The composite reliabilities for the multiple reflective indicators were well over the recommended acceptable 0.7 level, demonstrating high internal consistency. Moreover, we checked the significance of the loadings with a bootstrap procedure (500 sub-samples) for obtaining t-statistic values. They all are significant. See Appendix.

Finally, convergent and discriminant validities were assessed by stipulating that the square root of the average variance extracted (AVE) by a construct from its indicators should be at least 0.7 (i.e., AVE > 0.5) and should be greater than that construct's correlation with other constructs. All latent constructs satisfied these conditions. See Appendix. [i]

4.2 Structural Model

The bootstrap re-sampling procedure (500 sub-samples) is used to generate the standard errors and the t-values. Firstly, the research model appears to have an appropriate predictive power for endogenous constructs to exceed the required amount of 0.10 –R-square values. A measure of the predictive relevance of dependent variables in the proposed model is the Q^2 test. A Q^2 value (i.e., only applicable in dependent and reflective constructs) greater than 0 implies that the model offers predictive relevance. The results of our study confirm that the main model offers very satisfactory predictive relevance: community integration (Q^2= 0.404 > 0), community participation (Q^2= 0.272 > 0) and community satisfaction (Q^2= 0.172 > 0).

The data fully supported the models (i.e., the main effects model and the interaction effects model) and all hypotheses are supported on the basis of empirical data. As indicated in the main effects model, community participation and organisation have a significant impact on integration, with path

coefficients of 0.405 (t=8.231, p<0.001) and 0.204 (t=3,612, p<0.001) respectively. Community organisation also has a significant effect on community participation (β=0.401; t=6.884, p<0.001).

Furthermore, community satisfaction shows a relevant impact on community integration (β=0.327; t=5.906, p<0.001) and community participate (β=0.275; t=4.966, p<0.001). Finally, community organisation have a significant impact on satisfaction (β=0.499; t=10.910, p<0.001). See Figure 2.
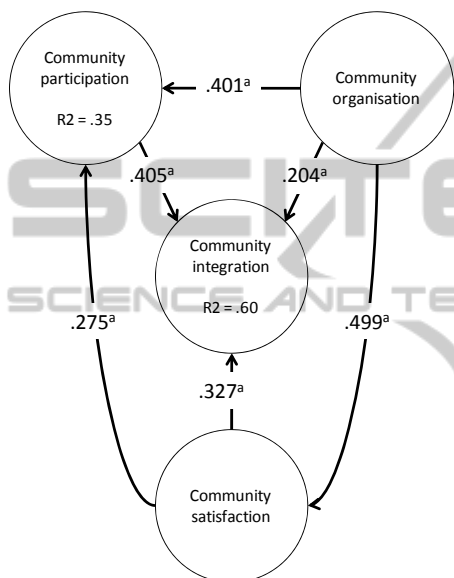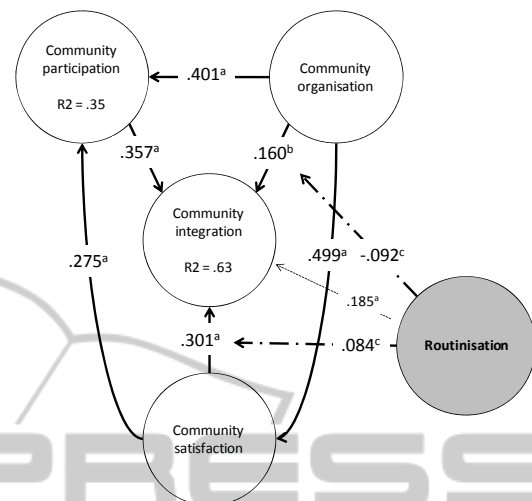

a $p < 0.001$, *b* $p < 0.01$, *c* $p < 0.05$, ns = not significant (based on t(499), one-tailed test)

Figure 2: Main effects model. Results.

The interaction effects were also included, in addition to the main effects model - see Figure 3. As in regression analysis, the predictor and moderator variables are multiplied to obtain the interaction terms. According to Chin et al. (2003), product indicators are developed by creating all possible products from the two sets of indicators and the standardising of the product indicators is recommended. However, in the presence of significant interaction terms involving any of the main effects, no direct conclusion can be drawn from these main effects alone (Aiken and West 1991). In particular, the interaction effects were of -0.092 -community organisation * routinisation → community integration- (t=1.909, p<0.05), and 0.084 -satisfaction * routinisation → community integration- (t=1.911, p<0.05).

Therefore, Hypotheses H7 and H8 were supported. Higher routinisation reduces the impact

of community organisation on integration, whereas routinisation increases the impact of satisfaction on integration.

a $p < 0.001$, *b* $p < 0.01$, *c* $p < 0.05$, ns = not significant (based on t(499), one-tailed test)

Figure 3: Interaction effects model. Results.

5 CONCLUSIONS

Our research focused on the association between community satisfaction and PCS by studying the moderating effects of routinised behaviours –i.e., the interaction effects model. Our results provided strong support for the arguments that community satisfaction leads the Tuenti member into developing a growing community participation and integration. In particular, routinised behaviours predispose members to a higher influence of community satisfaction on community integration, whereas the higher routinised behaviour results in less influence of community organisation on integration. Different members' segments and their post-adoption behaviours will, therefore, play an interaction role in affecting the influence of satisfaction (in terms of an overall assessment of psychosocial aspects of a relationship between the member and the other community members) and community organisation (in terms of support needs and resources available to the individual) on affective commitment.

Hence, community organisation reduces its influence on integration once interactions with the SNS are habitual and, consequently, fulfilling and easy. On the contrary, less routinised members tend to engage in an SNS but in a limited way, preferring to feel that they are being supported by their community, thus reducing the uncertainty of the

relationship with it. Furthermore, enhancing customer satisfaction can be seen as important initiatives that promote routinised members' integration and avoid consideration of competitive SNS. Higher satisfaction will not only increase members' tendency to recommend their SNS to other members but also repeat patronising their SNS (cf. Lam et al. 2004, Sánchez-Franco, 2009). In this regard, future research will analyse the formation and maintenance of social capital. How to maintain and intensify the number of members and posts remains a problem. If not gratified and involved properly, members lose interest and eventually reduce their level of interaction. That is to say, identifying main determinants of PCS will be the goals of our future research. In particular, we will investigate the roles of individual differences in building PCS.

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APPENDIX

Table 2: Measurement model. Main effects model.

a. Individual item reliability-individual item loadings. Construct reliability and convergent validity coefficients			
Latent Dimension	Loadings[a]	ρ_c	AVE
CO. Community organisation			
CO1. I could find people that would help me feel better	0.812	0.924	0.710
CO2. I could find someone to listen to me when I feel down	0.863		
CO3. I could find a source of satisfaction for myself	0.871		
CO4. I could be able to cheer up and get into a better mood	0.873		
CO5. I could relax and easily forget my problems	0.791		
CI. Identification with virtual community (i.e., community integration)			
CI1. My affective bonds with my Tuenti community are the main reason why I continue to use its service	0.886	0.923	0.750
CI2. I enjoy being a member of my Tuenti community	0.918		
CI3. I have strong feelings for my Tuenti community	0.827		
CI4. In general, I relate very well to the members of my Tuenti community	0.831		
CP. Community participation			
CP1. I participate in order to stimulate my Tuenti community	0.879	0.911	0.672
CP2. I take part actively in activities in my Tuenti community	0.783		
CP3. I take part in social groups in my Tuenti community	0.767		
CP4. I respond to calls to support my Tuenti community	0.779		
CP5. I take part actively in socio-recreational activities in my Tuenti community	0.883		
CS. Satisfaction			
CS1. In general terms, I am satisfied with my experience in my Tuenti community	0.907	0.940	0.839
CS2. I think that I made the correct decision to use my Tuenti community	0.917		
CS3. I have obtained several benefits derived from my participation in my Tuenti community	0.924		
[a] All loadings are significant at $p < 0.001$- (based on $t_{(499)}$, two-tailed test)			

Table 2: Measurement model. Main effects model. (cont.)

b. Discriminant validity coefficients				
	CO	CI	CP	CS
CO	0.843			
CI	0.585	0.866		
CP	0.538	0.669	0.820	
CS	0.499	0.621	0.475	0.916

Note: Diagonal elements are the square root of average variance extracted (AVE) between the constructs and their measures. Off-diagonal elements are correlations between constructs

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[i] Our theoretical background manifested the appropriateness of incorporating routinised behaviour into our main research model to identify interaction effects. The main effects model was thus re-evaluated, including routinisation-based indicators. The individual reflective-item reliability, the composite reliabilities for the multiple reflective indicators, and convergent and discriminant validities were well over the recommended acceptable level.