How to intensify the individual's feelings of belonging to a social networking site? Contributions from community drivers and post-adoption behaviours

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Abstract

Purpose. Our research tests an interaction effects model including perceived community support, community satisfaction, and post-adoption behaviours by analysing a social networking site called Tuenti. Inclusion of routinisation as a moderator allows, in particular, the overcoming of inconsistencies of relationships among key drivers found in previous studies.

Design/methodology/approach. The research uses Partial Least Squares to estimate the parameters of the interaction effects model.

Findings. Overall, community satisfaction leads Tuenti members to develop community participation and feelings of belonging, and identification with other members. In particular, routinised behaviours predispose members to a higher influence of community satisfaction on community integration –reducing the main effect of perceived support. The higher community satisfaction also results in a lower influence of perceived support on active participation.

Research limitations/implications. The model does not include all the relevant variables. Additional studies are required to validate these results. Likewise, the sample is not drawn randomly and thus is not necessarily representative of the population.

Practical implications. This study serves to enhance the long-term viability of social networking sites. Social networking sites, on the one hand, need to focus on maintaining high levels of perceived support among less routinised members by means of, for instance, affective resources available to the individual, clear instructions on how to browse through it, or manager moderation and mentoring, among others. On the other hand, social networking sites might enhance overall assessment of psychosocial aspects of relationships among routinised members by, for instance, locating specific threads of interest (related to different topics of conversation), hedonic cues for enjoyment and entertainment purposes, and the use of experts in a particular area.

Originality/value. Though previous research provides evidence of the possible effects of perceived community support and satisfaction on social behaviours, a review of the literature reveals that there are still very few published studies that analyse the interaction effects of community satisfaction and routinisation and consequently, improve the explanatory power of the theoretical framework.

Keywords: Social Networking Sites, Perceived Community Support, Community Satisfaction, Routinisation, Interaction Effects

Article Classification: Research paper

1. Introduction

Social networking sites (SNSs) can be regarded as "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (Boyd and Ellison, 2007). For the purpose of this study, our research also defines an SNS as a web-based service that allows people to create/share value and content with expansive groups of *friends*, thereby fostering mutual support and satisfactory participation in community activities as well as an individual's feelings of attachment to the same and, consequently, expectations of continuity (hereinafter, Perceived Community Support, PCS; *cf.* Herrero and Gracia, 2007; Stefanone *et al.*, 2011; see also Sense of Virtual Community, SVC, Blanchard, 2007, 2008; McMillan and Chavis, 1986).

SNSs emphasise both mutually beneficial relationships and feelings of belonging, and identification with the other members. In particular, Vasalou *et al.* (2010, p.725) conclude that the ultimate goal of SNS designers is "to foster a sense of true commitment in their users". In this regard, in 1994 Grönroos (p.9) had already proposed that a relationship can be divided into two parts: "to attract the customer and to build the relationship with that customer so that the economic goals of that relationship are achieved". Nevertheless, despite *dramatic* expansion to millions of people worldwide connected to SNSs (*e.g.*, 960 million active visitors in Facebook; *cf. Doubleclick Adplanner*, December 1, 2011) and the growing importance of affective member-member interactions that affect the scope and success of community strategies, research on identifying the psychological (and relational) process of using SNSs is still in the early stages (*cf.* Kwon and Wen, 2010). As Preece *et al.* (2004, p.221) conclude, "many *lurkers* are not selfish free-riders; there are a host of other reasons why *lurkers lurk*". Research on the one hand, omits essential questions as to why members perceive community support provided by one SNS over a competing SNS. On the other hand, assuming that the success of an SNS 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 scant attention (Sánchez-Franco and Roldán, 2010).

Growing research is thus essential to identify significant relationships between PCS and relationship quality. In particular, as Lin (2008) suggests, both community satisfaction and a sense of belonging and involving others in mutually beneficial activities are determinants of member loyalty in a community. Nevertheless, while not minimising the importance of other relational drivers (*e.g.*, affective trust), the scope of this paper is limited to PCS and community satisfaction -conceptualised herein as a positive affective state resulting from the appraisal of all aspects of the community services and interaction. Mittal *et al.* (2005) find that efficient firms with satisfied customers outperform other firms (*cf.* also Rust *et al.*, 2002). Community satisfaction is indeed considered a necessary condition for an SNS (not always profitable; *cf.* Bontis *et al.*, 2007) to operate successfully and expand (Wu *et al.*, 2010). Satisfaction has been widely explored in management literature. However, to date, the association between PCS and community satisfaction has not been explored to any great extent. There are indeed few studies that use community satisfaction as an indicator for high PCS in SNS realms.

Moreover, the intangibility of SNSs implies that the development of an enduring (or habitual) relationship approach is a strategic imperative, if SNSs (as communities of relations) are to achieve long-term success. Our research analyses, in particular, the association between community satisfaction and PCS by studying the interaction effects of routinised behaviours (related to integration of the SNS into daily activities). Although research calls for the need to gather data on potential moderators (*cf.* Sun and Zhang, 2006), recent studies that model PCS hardly ever include interaction effects. In this regard, inclusion of routinisation as a moderator could increase explanatory power of the relational model of PCS-satisfaction framework, and would thus contribute to this area of study.

In short, a number of questions regarding the impact of SNSs remain unanswered. The main objective of this research is to empirically test the interaction effects model including PCS, community satisfaction, and post-adoption behaviours (*i.e.*, routinisation). This paper addresses two main issues. How to maintain and intensify the individual's feelings of satisfactory attachment to an SNS and posts continues to be a problem. Furthermore, does habitual usage strengthen/weaken the relationships between community satisfaction, exchange of mutual support and feelings of belongingness to an SNS?

These questions are analysed in an intensive study of an SNS called Tuenti. The methodology section provides details of the sampling process, measures, analysis methods, and results. Finally, the discussion section outlines the managerial implications and limitations.

2. Theoretical framework and hypotheses

Our research presents a PCS structure with three dimensions (*cf.* Herrero and Gracia, 2007). Perceived support is, on the one hand, defined as feelings of being supported by an online community (Blanchard and Markus, 2004). SNSs would be a source of satisfaction for individuals and a place where they can easily forget daily problems –by providing ties that constitute social resources available to them and satisfying affective needs as a valuable way of getting to know an SNS (*e.g.*, tools for reading, finding or browsing community information; *cf.* Preece *et al.*, 2004). Community participation is, on the other hand, conceptualised as active involvement in SNS activities or social participation in order to assist other members (Sánchez-Franco and Roldán, 2010); for instance, "accomplishing specific tasks", "deepening salient aspects of one's self through social interactions", "maintaining interpersonal connectivity", and "playing or otherwise interacting with others" (*cf.* Dholakia *et al.*, 2004, p.244). If there is little or no message posting in an SNS, passive participation (or lurking) could be a problem. Community integration is finally defined as members' feelings of membership, identity, and belonging to a group (Blanchard, 2007). Community integration (or true/affective commitment) is mentioned as (a) a requirement for achieving community goals, and (b) a responsible sense of belonging that mobilises one's social capital effectively (Wellman *et al.*, 2001), that is to say, an attitudinal factor emphasised when members acknowledge the value of continuing relationships between their community and themselves (Hur *et al.*, 2011).

In this community context, greater levels of active participation in an SNS will help members to share knowledge and ideas related to mutual interests and, subsequently, foster their individual feelings of belonging to a group (Koh and Kim, 2004). Through active participation members will become embedded in a virtual community (*cf.* Kozinets, 1999) and this often leads to strong community membership. In addition, members will be more highly motivated to contribute to the community if they receive useful (and emotional) assistance in return (*i.e.*, perceived support). The amount and depth of support that members receive from other members will be positively correlated with community participation (*cf.* Turner *et al.*, 2001). Likewise, greater levels of perceived support will lead members to feel that they are being supported by a whole portion of their SNS, reducing the uncertainty of their relationship with it, increasing their integration, and therefore, diminishing its negative side (*i.e.*, social isolation) (*cf.* Casaló *et al.*, 2007). Perceived support will reduce uncertainty and reinforce social relationships with other members at an affective level.

This research thus proposes the following hypotheses: H1. Community participation positively influences integration; H2. Perceived support positively influences participation; and H3. Perceived support positively influences integration. See Figure 1.

Moreover, the growing use of SNSs raises the question of what encourages members to participate enduringly and maintain accumulated social capital –thus creating a sense of belonging for people who are connected (*cf.* Putnam, 2000). In particular, community satisfaction (or satisfaction with member-member interactions) is essential for the

development of mutually beneficial relationships. In fact, community satisfaction is (a) the result of an overall assessment of psychosocial aspects of accumulative/enduring relationships among members (Casaló *et al.*, 2010) and (b) more concerned with maintaining an ongoing system of exchange among members. That is to say, community satisfaction is not confined to one recent exchange, but relates to the evaluation of exchanges over time (*cf.* Anderson *et al.*, 1994), which is especially relevant in the industries of continuously provided services, such as SNSs.

Figure 1. Theoretical model
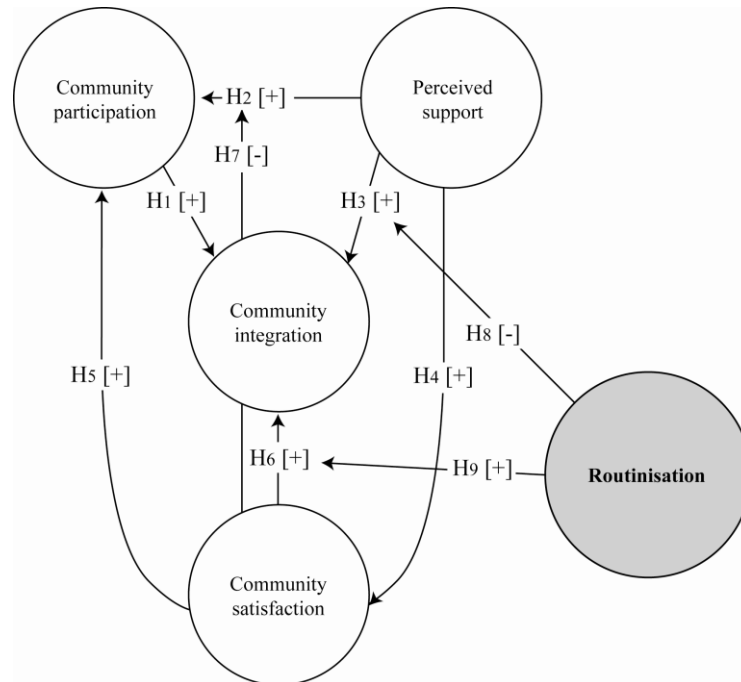
Accordingly, the consideration of SNSs as social utilities that *connect* users emotionally to their offline social networks, creating stronger feelings of being supported by the other members will, on the one hand, be associated with higher community satisfaction. Likewise, if members are not satisfied, there will not be any incentive to accomplish specific tasks to foster interpersonal connectivity in an SNS (*e.g.*, by creating value and content, involving others, and staying active and loyal). Community satisfaction will finally lead to desirable outcomes such as cooperation, long-term orientation, and consequently, community integration (*cf.* Ganesan, 1994; Lam *et al.*, 2004). The positive experiences from community interactions can strengthen the members' relationship with the SNS. To sum up, SNSs that elicit satisfaction are likely to be those where members want to participate and maintain a relationship in the future. Secondly, community satisfaction precedes community engagement. Thirdly, when members are satisfied with their SNS, they are likely to participate actively in community events.

This research therefore proposes the following hypotheses: H4. Perceived support positively influences satisfaction; H5. Community satisfaction positively influences participation; and H6. Community satisfaction positively influences integration. See Figure 1.

Despite the influence of perceived support on active participation (*cf.* H2), when members progressively accumulate satisfactory experiences with the SNS, the leading favourable effects of perceived support on members' participation will decrease. Satisfied

members are more likely to become accustomed to the SNS norms, language, and the identities of other members. Compared to users who have accumulated less service encounters, more (satisfied) experienced users will reduce the uncertainty of their relationship with the SNS and consider the perceived support and community resources available to them as less essential. The balance between these community drivers (related to active participation) will be tilted here towards community satisfaction. Hence, it will not be the degree of support members perceive from other members, but rather the overall evaluations based on the cumulative experience with an SNS over time that will be the key-performance indicator of active involvement in SNS activities. Therefore, H7. Overall, community satisfaction weakens the relationship between perceived support and community participation.

According to H7, following their initial interactions, community members may develop into long-time experienced members (Langerak *et al.*, 2003). As Sánchez-Franco and Roldán (2010) suggest, the success of an SNS lies particularly in the development of a habitual source of mutual support and a sense of true belonging. Our research, therefore, manifests the appropriateness of including routinisation as a moderating driver. Routinisation is associated with habitual usage, that is to say, integration of the technology into daily routines (Cooper and Zmud, 1990; Saga and Zmud, 1994; Schwarz and Chin, 2007), and provides members with a different PCS-satisfaction framework of reference for community evaluations. Despite its importance, routinisation continues to be an understudied area in the SNS domain. Though previous research provides evidence of the possible effects of PCS and satisfaction on social behaviours, we are unaware of any research that empirically examines the relationships between PCS and satisfaction being moderated by post-adoption behaviours.

Routinisation occurs when use is no longer novel and becomes part and parcel of an individual's daily life. It does not necessarily mean that a member uses the full degree of potential offered by an SNS (*cf.* infusion; Sundaram *et al.*, 2007). Users could, on the one hand, make considerable use of an SNS without taking part fully in its activities. On the other hand, users could position themselves in the *true commitment phase*, for example, creating value and content, remaining active and loyal, and involving others (Vasalou *et al.*, 2010). Routinised members (1) incorporate the SNS into their daily social-pattern, (2) simplify relationships with others by generating spontaneous usage, (3) make better decisions (on average) because of their efficient behaviours, and consequently, (4) adopt higher targeted behaviours -underestimating members' feelings of being assisted by others in terms of resources available (*i.e.*, perceived support). Contrariwise, less routinised members opt for general exploration and tend to engage in community participation in a limited way, preferring to be readers rather than writers, and being reticent -or very seldom posting. This initial lack of social ties among members prevents novice members from actively participating in social interactions within an SNS. According to the behaviour chain model, "users are initially guided to enter a phase of discovery, for instance, during which they learn about the site" (Vasalou *et al.*, 2010, p.720; *cf.* also Fogg and Eckles, 2007; Fogg and Iizawa, 2008).

Integration of the SNS into daily routines will, therefore, increase the possibility of familiarity and expertise. Community integration will be influenced mainly by the routinised members' overall evaluation based on their experiences rather than by mere expectations of what members receive from others. As mentioned earlier herein, when an individual is familiar with an SNS, "he/she knows the specific characteristics of the virtual community, the particular language used in the community and the tools employed to interact and share files" (Casaló *et al.* 2010, p.30; *cf.* also Kozinets, 2002). As Dholakia *et al.* (2004, p.246) suggest, "once the member has learnt and accepted the virtual community's norms, he or she will identify with the community more" –thus social resources available to him/her to *cheer them up and get them into a better mood* are not of vital importance. Firstly, when members infer from their feelings that they are being supported by the online community and that it is safe, the sense of receiving assistance from their SNS will become less relevant. Secondly, efficient (or satisfactory) access to

community features will, therefore, reinforce the tendency to go back to a preferred SNS and attachment to it. Overall satisfaction with daily/habitual interactions could be one type of switching cost (a) fostering feelings of membership, identity, and belonging to an SNS and (b) becoming essential if a routinised member questions the relationship (Sánchez-Franco, 2009).

This research proposes the following hypotheses: H8. Overall, routinised behaviour weakens the relationship between perceived support and integration; and H9. Overall, routinised behaviour strengthens the relationship between community satisfaction and integration. See Figure 1.

3. Method

3.1. Participants

Although increasingly younger adolescents are joining SNSs, little is known about SNS use among very early teens (Espinoza and Juvonen, 2011). The research model is thus analysed in an intensive study of an SNS called Tuenti - the most popular computer-mediated SNS among the Spanish college student population, and characterised as a community of relations (*cf.* Carballar, 2011; Hagel and Armstrong, 1997).

Tuenti is also purposefully selected because of its high penetration in Spain. Recent statistics show that 9.9 million active visitors have joined the site, 99% of which are located in Spain (*cf. Doubleclick Adplanner 2011*). Likewise, affective and social motivations (for social searching - seeking out offline contacts, or for social browsing -seeking out new contacts) are more relevant in explaining the usage of Tuenti in lieu of more professional SNSs (*e.g.*, LinkedIn, among others; *cf.* Carballar, 2011).

The theoretical model and the hypotheses discussed above were validated through non-probabilistic sampling. A survey technique was used to gather data from a sample of undergraduate students (University of Seville, Spain). Respondents consisted of 119 males (43%) and 159 females (57%). The average age was 21.04 (*SD*: 2.403). Most of the respondents had used online services heavily: 88.2% of the respondents had used online services (*e.g.*, instant messaging, playing games with others, and participating on SNS) for more than 3 years. Hence, following Kwon and Wen's (2010) research, the responses were deemed to be qualified to allow analysis of the factors affecting the actual use of SNSs. Likewise, following the suggestion by Chin and Newsted (1999), a sample size of 150-200 is needed to attain reliable coefficient values when using Partial Least Squares (PLS) analysis (*cf. 3.2 Data analysis*).

3.2. Measures

Fourteen items were used to assess PCS -taken from Herrero and Gracia (2007), Geyskens *et al.* (1996) and Sánchez-Franco (2009). On the other hand, a total of three items were employed to measure community satisfaction (*cf.* Flavián *et al.*, 2006; Janda *et al.*, 2002; Severt, 2002; Smith and Barclay, 1997). The measures of PCS and community satisfaction used in the survey are provided in Table 1. The instrument for measuring the degree of routinised behaviour is operationalised by Sundaram *et al.* (2007); *e.g. My use of Tuenti has been incorporated into my regular life schedule; My use of Tuenti is pretty much integrated as part of my normal life routine; My use of Tuenti is a normal part of my life* .

All scale items for assessing the construct were obtained through a seven-point Likert scale for respondents to indicate the extent to which they disagreed or agreed with the items. To ensure face validity and content validity of the questionnaire, the draft version was reviewed by experts (*i.e.* four e-business professors). The e-business professors

assessed the suitability of the wording and format, and the extent to which measures represented all facets of constructs.

3.3. Data analysis

The hypothesis testing was done using a variance-based PLS approach that places minimal restrictions on sample size and residual distribution. Furthermore, taking into account that hypotheses 7, 8 and 9 are based on interaction effects, a well-known technique had to be applied to test these moderated relationships: product-indicator approach. While other methods of structural equation modelling (SEM) – such as the covariance-based LISREL – are indeed more widespread, PLS was finally chosen because there are a number of advantages to it in terms of estimation of interaction effects (Chin *et al.*, 2003; Gefen *et al.*, 2000; Henseler and Chin, 2010, and Henseler and Fassot, 2010, for a detailed analysis).

4. Results

4.1. Measurement model

On the one hand, individual reflective-item reliability was assessed by examining the standardised loadings of the items with their respective construct. Individual reflective-item reliabilities are over the recommended acceptable cut-off level of 0.7 (Carmines and Zeller, 1979). Moreover, we checked the significance of the loadings with a bootstrap procedure (500 sub-samples) to obtain t-statistic values. They are all significant. See Table 1.

TABLE 1. INDIVIDUAL ITEM RELIABILITY-INDIVIDUAL ITEM LOADINGS

Latent Dimension	Loadings[a]
Perceived support (PS)	
PS1. I could find people that helped me feel better	0.812
PS2. I could find someone to listen to me when I felt down	0.863
PS3. I could find a source of satisfaction for myself	0.871
PS4. I was able to cheer up and get into a better mood	0.873
PS5. I could relax and easily forget my problems	0.791
Community integration (CI)	
CI1. My affective bonds with my Tuenti community are the main reason why I continue to use its service	0.886
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
Community participation (CP)	
CP1. I participate in order to stimulate my Tuenti community	0.879
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
Community Satisfaction (CS)	
CS1. In general terms, I am satisfied with my experience in my Tuenti community	0.907
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)*

In addition, the composite reliability (ρc) assesses construct reliability (Werts *et al.*, 1974). Nunnally (1978) suggests 0.7 as a benchmark for a modest reliability applicable in initial stages of research. The composite reliabilities for the multiple reflective indicators are well over the recommended acceptable 0.7 level, thus demonstrating high internal consistency (*cf.* also Fornell and Larcker, 1981). See Figure 2.

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 same construct's correlation with other constructs (ϕ) (Barclay *et al.*, 1995; Chin, 1998; Fornell and Larcker, 1981). All latent constructs satisfy these conditions. See Figure 2.

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^2 values (Falk and Miller, 1992). Secondly, the Q^2 test is a measure of the predictive relevance of the dependent variables in the model proposed (Stone, 1974; Geiser, 1975). The Q^2 values of 0.02, 0.15, and 0.35 signify small, medium, and large predictive relevance of certain latent variables. The results of our study confirm that the main model offers satisfactory predictive relevance. See Figure 2.
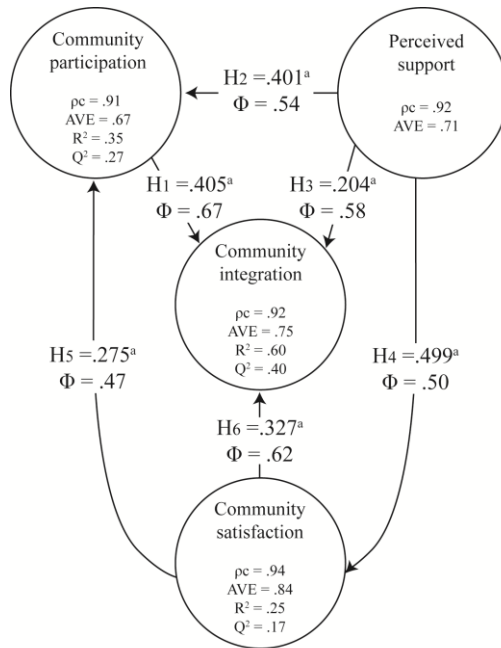
All hypotheses are supported on the basis of empirical data. As indicated in the main effects model, community participation and perceived support have a significant impact on integration with path coefficients of 0.405 ($p<0.001$) and 0.204 ($p<0.001$), respectively. Perceived support also has a significant effect on participation ($\beta=0.401$; $p<0.001$). Furthermore, community satisfaction shows a relevant impact on integration ($\beta=0.327$; $p<0.001$) and participation ($\beta=0.275$; $p<0.001$). Finally, perceived support has a significant impact on satisfaction ($\beta=0.499$; $p<0.001$). See Figure 2.

On the one hand, our research conducts a Goodness of Fit (GoF) index for PLS path modeling which is defined as the geometric mean of the average communality and average R^2 for all endogenous constructs (Tenenhaus *et al.*, 2005). GoF is normed between 0 and 1, where a higher value represents better path model estimations ($GoF_{small}=0.1$; $GoF_{medium}=0.25$; $GoF_{large}=0.36$). Our empirical research obtains a GoF value of 0.546 for the main effects model. This allows us to conclude that our model has a high (large) prediction power.

On the other hand, effect sizes of single predictors are obtained by comparing the explained amount of variance when a predictor is either included in, or omitted from, the model, that is, $f^2 = (R^2_{incl} - R^2_{excl})/ (1 - R^2_{includ})$. The overall variance explained by the model in terms of R_{CI}^2 is 0.600 (hereinafter, community integration, CI). According to Cohen (1988), these effects can be classified as (a) small effect size, $0.02 < f^2 \leq 0.15$; (b) medium effect size, $0.15 < f^2 \leq 0.35$; (c) large effect size, $f^2 > 0.35$. Our result shows that the inclusion of perceived support as a driver of CI increases the overall variance explained for CI ($\Delta R^2=0.03$, $f^2=0.06$). Furthermore, the inclusion of community participation also increases the overall variance explained for CI ($\Delta R^2=0.11$, $f^2=0.265$). Likewise, community satisfaction increases the overall variance explained for CI ($\Delta R^2=0.07$, $f^2=0.172$).

Finally, the interaction effects are also included, in addition to the main effects model. As in regression analysis, the predictor and moderator variables are multiplied to obtain the interaction terms (*i.e.*, product-indicator approach). Standardising of product indicators is recommended in the presence of significant interaction terms involving any of the main effects: no direct conclusion can thus be drawn from these main effects alone (Aiken and West, 1991).
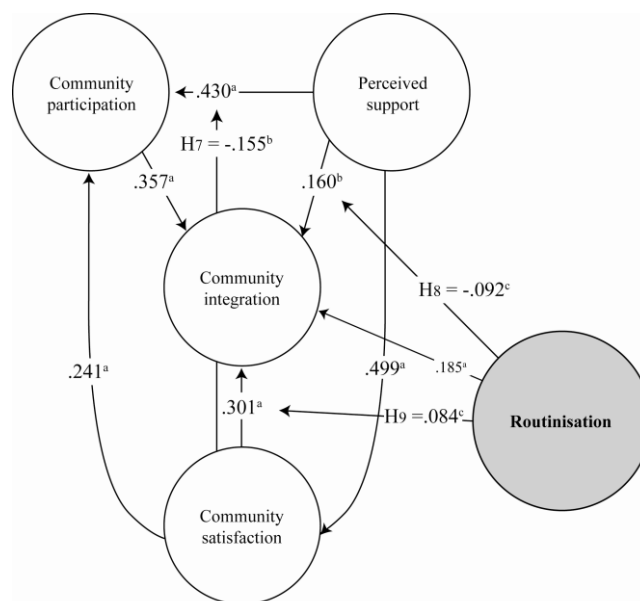
Figure 2. Results. Main effects model

Community participation
ρc = .91
AVE = .67
R² = .35
Q² = .27

Perceived support
ρc = .92
AVE = .71

H2 =.401ᵃ
Φ = .54

H1 =.405ᵃ
Φ = .67

H3 =.204ᵃ
Φ = .58

Community integration
ρc = .92
AVE = .75
R² = .60
Q² = .40

H5 =.275ᵃ
Φ = .47

H4 =.499ᵃ
Φ = .50

H6 =.327ᵃ
Φ = .62

Community satisfaction
ρc = .94
AVE = .84
R² = .25
Q² = .17

ᵃ p < .001 (based on t(499), one-tailed test)

In particular, our research finds support for H7; *i.e.* community satisfaction weakens the relationship between perceived support and community participation (β = -0.155; p<0.001). Likewise, the other interaction effects are -0.092 (perceived support * routinisation→community integration; p<0.05), and 0.084 (satisfaction * routinisation→community integration; p<0.05). See Figure 3. Hypotheses H8 and H9 are thus supported. Higher routinisation reduces the impact of perceived support on integration, whereas routinisation increases the impact of satisfaction on integration. Finally, our result shows that the inclusion of routinisation and its interaction effects increases the overall variance explained for CI (ΔR²=0.035, f²=0.10).

Figure 3. Results. Interaction effects model

Community participation

Perceived support

.430ᵃ

H7 = -.155ᵇ

.357ᵃ

.160ᵇ

Community integration

H8 = -.092ᶜ

.241ᵃ

.499ᵃ

.185ᵃ

.301ᵃ

H9 =.084ᶜ

Routinisation

Community satisfaction

ᵃ p < .001, ᵇ p < .01, ᶜ p < .05 (based on t(499), one-tailed test)

5. Conclusions

Our research focuses mainly on the association between community satisfaction and PCS by studying the interaction effects of post-adoption behaviours. Our results provide strong support for the arguments that overall satisfaction leads Tuenti members to develop growing community participation and integration. It may be argued that not only community satisfaction or perceived support, but active (social) participation is also a key performance indicator of community integration. In this regard, as the behaviour chain model suggests, "creating value and content and involving others led users to stay active and loyal" (Vasalou *et al.*, 2010, p.721).

Firstly, perceived support with member-member interactions is evidenced as the most significant antecedent of participation in an SNS (*cf.* total effects). Brockner and Wiesenfeld (1996, p. 190) however, noted that "conceptual models based on main effects alone may have been mis-specified. That is to say, the significance of main effects may have been due to the (omitted) interaction". In this respect, our research manifested the appropriateness of including routinised behaviour –as interaction drivers. On the one hand, routinised behaviours predispose members to a higher influence of community satisfaction on community integration - resulting in stronger bonds to close members and an active exchange of mutual support. Higher routinised behaviour on the other hand, results in a lower influence of perceived support on integration. Therefore, different members' segments and their post-adoption behaviours (in particular, routinisation) play an interaction role in affecting the influence of satisfaction and perceived support on integration. In addition, by integrating the interaction effects of community satisfaction into our research model, our research shows that perceived support reduces its influence on (community) participation and integration once interactions with the SNS are progressively accumulated. When users evaluate SNSs through gratifying/cumulative interactions and likewise infer from their feelings that they are being supported by the online community and that the SNS is benign and safe, the sense of receiving assistance from an SNS the individuals perceive will become less relevant. Contrariwise, novel members tend to engage in an SNS in a limited way, perceiving the uncertainty of the relationship with it and therefore, preferring to feel that they are being supported by their SNS.

Special attention to acknowledging and responding to new members is thus important (Preece *et al.*, 2004; *cf.* Nonnecke, 2000). The exchange of mutual support is a significant motive here for (a) creating and intensifying initial service encounters among members and (b) promoting a sense of a virtual community among them. New members limit their active interactions, and devote considerable resources to monitoring one another and protecting themselves against exploitation by SNSs. Perceived support acts as an initial defence-based mechanism (and as an economising tool) to reduce perceived uncertainty and complexity. An SNS therefore needs to focus on maintaining high levels of perceived support, in terms of support needs and resources available to the individual, for instance, "FAQs lists, organization of past responses from community members in transparent and easily accessible hierarchies, and query-tools to match information-seekers to information providers" (Dholakia *et al.*, 2004, p.259). Novel members will also tend to pay even more attention to clear and usable cues that lead to more systematic processing with a focus on specific cues (*e.g.*, providing clear instructions about how to register or log into an SNS, among other cues). Peer or manager moderation and mentoring for novel members may also be helpful for nurturing initial public participation (Nonnecke *et al.*, 2006). As Preece *et al.* (2004, p.221) conclude, "moderation and better interaction support are also critical to the overall success of online communities".

Secondly, enhancing overall satisfaction can be seen as an essential initiative that, on the whole, promotes higher active participation, and particularly emphasises levels of engagement with the SNS among routinised members –avoiding the consideration of competitive SNSs. Likewise, higher satisfaction does not only increase the members' tendency to recommend their SNS to other members (*i.e.*, to actively recruit others to the SNS), it also simplifies further social decisions and consequently, reduces the influence of

perceived support on participation. As the member crosses the line from initial spectator to enduring user, the SNS might include locating specific threads of interest (related to different topics of conversation), other affective cues for enjoyment and entertainment purposes, and the use of experts in a particular area to interact with other/compatible members. In this regard, "compatible customers may be perceived as having both help-seekers and helpers so their intrinsic desires can be fulfilled while also leading to a fulfilling experience" (Verhoef *et al.*, 2009, p.35).

Future research will, therefore, analyse the formation and maintenance of social capital among members. If not gratified properly, members will lose interest and eventually reduce their level of social interaction and daily usage. No one wants to be part of an SNS where no one comments anything. It will investigate, in particular, the roles of individual differences in building PCS and members' satisfaction. Furthermore, the members' perception can change over time. Consequently, future research will measure the constructs analysed at several points of time, taking the dynamics in user patronage behaviour into account.

Likewise, the study has some weaknesses. One is its non-probabilistic sampling strategy. The sample is not drawn randomly and thus is not necessarily representative of the population. Moreover, the survey only includes Spanish-speaking individuals. To generalise the results of this research, the study would have to be repeated using a wider sample of users and SNSs (*e.g.*, social relationship-oriented SNSs or sites for establishing their own tasks). Despite their similarities, social networking sites vary in nuanced ways.

In addition, even though community satisfaction has been a long-standing antecedent of social integration in previous research, other drivers, such as mutual trust (Svensson, 2001), should also be analysed in the relationships between community drivers and their effects on PCS.

Finally, this research treats community integration as a single variable. However, integration could be a complex phenomenon, for instance, affective, continuance, and normative commitment (*cf.* Meyer *et al.*, 1993).

References

Aiken, Leona S, West, SG (1991). *Multiple regression: Testing and interpreting Interactions*, Sage Publications, Newbury Park, CA

Anderson, E.W., Fornell, C. and Lehmann, D.R. (1994), "Customer satisfaction, market share and profitability: findings from Sweden", *Journal of Marketing*, Vol. 58 (July), pp. 53-66

Barclay, D.W., Thompson, R. and Higgins, C. (1995), "The partial least squares (PLS) approach to causal modeling: Personal computer adoption and use an illustration", *Technology Studies*, Vol. 2 No 2, pp. 285-309

Blanchard, A.L. (2007), "Developing a sense of virtual community measure", *CyberPsychology & Behavior*, Vol. 10 No 6, pp. 827-830

Blanchard, A.L. (2008), "Testing a model of sense of virtual community", *Computers in Human Behavior*, Vol. 24 No 5, pp. 2107-2123

Blanchard, A.L. and Markus, M.L. (2004), "The experienced sense of a virtual community: Characteristics and processes", *The DATA BASE for Advances in Information Systems*, Vol. 35 No 1, pp. 65-79

Bontis, N., Booker, L.D. and Serenko, A. (2007), "The mediating effect of organizational reputation on customer loyalty and service recommendation in the banking industry", Management Decision, Vol. 45 No 9, pp. 1426 - 1445

Boyd, D.M. and Ellison, N.B. (2007), "Social network sites: Definition, history, and scholarship", *Journal of Computer-Mediated Communication*, Vol. 13 No 1 (article 1)

Brockner, J. and Wiesenfeld, B.M. (1996), "An integrative framework for explaining reactions to a decision: The interactive effects of outcomes and procedures", *Psychological Bulletin*, Vol. 120, pp. 189-208

Carballar, J.A. (2011), *Apoyo Comunitario Percibido y Calidad Relacional en las Redes Sociales Online*, Doctoral Thesis, University of Seville, Seville, Spain.

Carmines, E.G. and Zeller, R.A. (1979), *Reliability and Validity Assessment*, Sage Publications, London

Casaló, L., Flavián, C. and Guinalíu, M. (2007), "The impact of participation in virtual brand communities on consumer trust and loyalty: The case of free software", *Online Information Review*, Vol. 31 No 6, pp. 775–792

Casaló, L., Flavián, C. and Guinalíu, M. (2010), "Some antecedents and effects of participation in Spanish virtual brand communities", *Journal International Journal of Web Based Communities*, Vol. 6 No 1, pp. 25-42

Chin, W.W. (1998), "The Partial Least Squares approach for Structural Equation Modeling" in Marcoulides, G.A. (Ed.), *Modern Methods for Business Research*, Hillsdale, Lawrence Erlbaum Associates, NJ, pp. 295-336

Chin, W.W. and Newsted, P.R. (1999), "Structural Equation Modeling analysis with small samples using Partial Least Squares," in Hoyle, R. (Ed.), *Statistical Strategies for Small Sample Research*, Sage Publications, Thousand Oaks, CA, pp. 307-341

Chin, W.W., Marcolin, B.L. and Newsted, P.R. (2003), "A Partial Least Squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study", *Information Systems Research*, Vol. 14 No 2, pp. 189-217

Cohen, J. (1988), *Statistical Power Analysis for the Behavioral Sciences*, Lawrence Erlbaum, Hillsdale, NJ

Cooper, R.B. and Zmud, R.W. (1990), "Information Technology Implementation Research: A Technological Diffusion Approach", *Management Science*, Vol. 36 No 2, pp. 123-139

Dholakia, U.M., Bagozzi, R.P. and Pearo, L.K. (2004), "A social influence model of consumer participation in network-and small-group-based virtual communities", *International Journal of Research in Marketing*, Vol. 21 No 3, pp. 241-263

Espinoza, G. and Juvonen, J. (2011), "The pervasiveness, connectedness, and intrusiveness of social network site use among young adolescents". *CyberPsychology, Behavior, and Social Networking*. In press

Falk, R.F. and Miller; N.B. (1992), *A Primer for Soft Modeling*, The University of Akron, Akron, Ohio

Flavian, C., Guinaliu, M. and Gurrea, R. (2006), "The role played by perceived usability, satisfaction and consumer trust on website loyalty", *Information & Management*, Vol. 43 No 1, pp. 1-14

Fogg, B. J. and Iizawa, D. (2008), "Online persuasion in Facebook and Mixi: A cross-cultural comparison", *Persuasive*, pp. 35-46

Fogg, B.J. and Eckles, D. (2007), "The behavior chain for online participation: How successful web services structure persuasion", Persuasive, pp. 199-209

Fornell, C. and Larcker, D. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No 1, pp. 39-50.

Ganesan, S. (1994), "Determinants of long-term orientation in buyer-seller relationships", *Journal of Marketing*, Vol. 58 No 2, pp. 1-19

Gefen, D., Straub, D. and Boudreau, M. (2000), "Structural Equation Modeling techniques and regression: Guidelines for research practice", *Communications of the Association for Information Systems* Vol. 7 (August), pp. 1-78

Geisser, S. (1975), "The predictive sample reuses method with applications", *Journal of the American Statistical Association*, Vol. 70 No 350, pp. 320-328

Geyskens, I., Steenkamp, J-B., Scheer, L.K. and Kumar N. (1996), "The effects of trust and interdependence on relationship commitment: A trans-atlantic study", *International Journal of Research in Marketing*, Vol. 13 No 4, pp. 303-317

Grönroos, Ch. (1994), "From marketing mix to relationship marketing: Towards a paradigm shift in marketing", *Management Decision*, Vol. 32 No. 2, 1994, pp. 4-20

Hagel, J.III. and Armstrong, A.G. (1997). *Net Gain: Expanding Market through Virtual Communities*, Harvard Business School Press, Boston

Henseler, J. and Chin, W.W. (2010), "A comparison of approaches for the analysis of interaction effects between latent variables using Partial Least Squares path modeling", *Structural Equation Modeling*, Vol. 17 No 1, pp. 82-109

Henseler, J. and Fassot, G. (2010), "Testing moderating effects in PLS path models: An illustration of available procedures", in Vinzi, EV, Chin, WW, Henseler, J, Wang, H (Eds.), *Handbook of PLS and Marketing*, Springer, Berlin, pp. 713-736

Herrero, J. and Gracia, E. (2007), "Measuring Perceived Community Support: Factorial Structure, Longitudinal Invariance, and Predictive Validity of the PCSQ (Perceived Community Support Questionnaire)", *Journal of Community Psychology*, Vol. 35 No 2, pp. 197–217

Hur, W-M., Ahn, K-H. and Kim, M. (2011), "Building brand loyalty through managing brand community commitment", *Management Decision*, Vol. 49 No 7, pp.1194-1213

Janda S., Trocchia P. and Gwinner K. (2002), "Consumer perceptions of internet retail service quality", *International Journal of Service Industry Management*, Vol. 13, pp. 412-431

Koh, J. and Kim, Y-G. (2004), "Knowledge sharing in virtual communities: an e-business perspective", *Expert Systems with Applications*, Vol. 26 No 2, pp. 155-166

Kozinets, R.V. (2002), "The Field behind the Screen: Using netnography for marketing research in online communities", *Journal of Marketing Research*, Vol. 39, pp.61-72.

Kozinets, RV. (1999), "E-tribalized marketing? The strategic implications of virtual communities of consumption," *European Management Journal*, Vol. 17 No 3, pp. 252-264

Kwon, O. and Wen, Y. (2010), "An empirical study of the factors affecting social network service use", *Computers in Human Behavior*, Vol. 26 No 2, pp. 254-263

Lam, S.Y., Shankar, V., Erramilli, M.K. and Murthy, B. (2004), "Customer value, satisfaction, loyalty, and switching costs: An illustration from a business-to-business service context", *Journal of the Academy of Marketing Science*, Vol. 32 No 3, pp. 293-311

Langerak, F., Verhoef, P. C., Verlegh, P.W.J. and De Valck, K. (2003), "The effect of members' satisfaction with a virtual community on member participation", *ERIM Report Series Reference No. ERS-2003-004-MKT*, available at: http://ssrn.com/abstract=4116411

Lin, H-F. (2008), "Determinants of successful virtual communities: Contributions from system characteristics and social factors", *Information & Management*, Vol. 45 No 8, pp. 522-527

McMillan, D.W. and Chavis, D.M. (1986), "Sense of community: A definition and theory", *Journal of Community Psychology*, Vol. 14, pp. 6-23

Meyer J.P., Allen N.J. and Smith C.A. (1993), "Commitment to organizations and occupations: Extension and test of a three-component conceptualization", Journal of Applied Psychology, Vol. 78 No 4, pp. 538–51

Mittal, V., Sayrak, A., Tadikamalla, P. and Anderson, E. (2005), "Dual emphasis and the long-term financial impact of customer satisfaction", *Marketing Science*, Vol. 24 No 4, pp. 544–55

Nonnecke, B, Andrews, D. and Preece, J. (2006), "Non-public and public online community participation: Needs, attitudes and behaviour", *Electronic Commerce Research*, Vol. 6 No 1, pp. 7-20

Nonnecke, B. (2000), *Lurking in Email-based Discussion List*. Doctoral dissertation, South Bank University, London, U.K.

Nunnally, J. (1978), *Psychometric Theory* (2ª ed.), McGraw-Hill, New York

Preece, J., Nonnecke, B. and Andrews, D. (2004), "The top five reasons for lurking: Improving community experiences for everyone", *Computers in Human Behavior*, Vol. 20 No 2, pp. 201-223

Putnam, R. (2000). *Bowling alone: The Collapse and Revival of American Community*, Simon & Schuster, New York

Rust, R., Moorman, Ch. and Dickson, P.R. (2002), "Getting return on quality: Cost reduction, revenue expansion, or both?", *Journal of Marketing*, Vol. 66 (October), pp. 7–24

Saga, V. and Zmud, R.W. (1994), "The nature and determinants of it acceptance, routinization, and infusion", in Levine, L. (Ed.), *Diffusion, Transfer, and Implementation of Information Technology*. North-Holland, New York, pp.67-86.

Sánchez-Franco, M.J. (2009), "The moderating effects of involvement on the relationships between satisfaction, trust and commitment in e-banking", *Journal of Interactive Marketing*, Vol. 23 No 3, pp. 247-258

Sánchez-Franco, M.J. and Roldán, J.R. (2010), "Expressive aesthetics to ease perceived community support: Exploring personal innovativeness and routinised behaviour as moderators in Tuenti", *Computers in Human Behavior*, Vol. 26 No 6, pp. 1445-1457

Schwarz, A., Chin, W.W. (2007), "Looking forward: Toward an understanding of the nature and definition of IT acceptance", *Journal of the Association for Information Systems*, Vol. 8 No 4, pp. 230–243

Severt, E. (2002), *The Customer's Path to Loyalty: A Partial Test of the Relationships of Prior Experience, Justice, and Customer Satisfaction*, Doctoral Thesis, Faculty of the Virginia Polytechnic Institute and State University, EEUU.

Smith, J.B. and Barclay, D. (1997), "The effects of organizational difference and trust on the effectiveness of selling partnerships", *Journal of Marketing*, Vol. 61, pp. 3–21

Stefanone, M.A., Lackaff, D. and Rosen, D. (2011), "Contingencies of self-worth and social-networking-site behaviour", *CyberPsychology, Behavior, and Social Networking*, Vol. 14 No 2, pp. 41-49

Stone, M. (1974), "Cross validatory choice and assessment of statistical predictions", *Journal of the Royal Statistical Society*, Series B, Vol. 36 No 2, pp. 111-147.

Sun, H. and Zhang, P. (2006), "The role of moderating factors in user technology acceptance", *International Journal of Human–Computer Studies*, Vol. 64 No 2, pp. 53–78

Sundaram, S., Schwarz, A., Jones, E. and Chin, W.W. (2007), "Technology use on the front line: How technology enhances individual performance", *Journal of the Academy of Marketing Sciences*, Vol. 35 No 1, pp. 101–112

Svensson, G. (2001), "Extending trust and mutual trust in business relationships towards a synchronised trust chain in marketing channels", *Management Decision*, Vol. 39 No 6, pp. 431-440

Tenenhaus, M., Esposito Vinzi, V., Chatelin, Y. and Lauro, C. (2005), "PLS path modeling", *Computational Statistics and Data Analysis*, Vol. 48, pp. 159–205

Turner, J.W., Grube, J. and Meyers, J. (2001), "Developing a optimal match within online communities: An exploration of CMC support communities & traditional support", *Journal of Communication*, Vol. 51 No 2, 231-251

Vasalou, A., Joinson, A.N. and Courvoisier, D. (2010), "Cultural differences, experience with social networks and the nature of 'true commitment' in Facebook", *International Journal of Human-Computer Studies*, Vol. 68 No 10, pp. 719-728

Verhoef, P.C, Lemon, K.L., Parasuraman, A., Roggeveen, A., Tsiros, M. and Schlesinger, L.A. (2009), "Customer experience creation: Determinants, dynamics and management strategies", *Journal of Retailing*, Vol. 85 No 1, pp. 31-41

Wellman, B., Haase, A. Q., Witte, J. And Hampton, K. (2001), "Does the internet increase, decrease or supplement social capital? Social networks, participation and community commitment", *American Behavioral Scientist*, Vol. 45, pp. 436–455

Werts, C.E., Linn, R.L. and Jöreskog, K.G. (1974), "Interclass reliability estimates: Testing structural assumptions", *Educational and Psychological Measurement*, Vol. 34, pp. 25-33

Wu J-J., Chen Y-H. and Chung Y-S. (2010), "Trust factors influencing virtual community members: a study of transaction communities", *Journal of Business Research*, Vol. 63 No 9 pp. 1025-1032