

Main Factors for Joining New Social Networking Sites

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Abstract. The popularity of Social Networking Sites (SNS) such as Facebook or Twitter, along with their potential as marketing tools, is drawing the attention of entrepreneurs and developers to create their own SNS. Research about SNS users' behaviour is focused on users' participation, leaving a gap in relation to users' reasons for joining a new SNS. Thus, our work aims to contribute to the literature by investigating the main motivations that a SNS user has for joining a new SNS. Following the framework of the decomposed theory of planned behaviour (DTPB), a two-step structural equation model was implemented in order to answer the research question. Findings made it possible to explain 55% of the intention to join a new SNS. In order to explain the intention, the attitude towards the new network plays a key role, which in turn is directly influenced by perceived usefulness. Our findings invite SNS practitioners working on creating new social media websites or services to pay special attention to how to portray the new SNS in order to be appealing for the users. On the theoretical implications, the proposed model confirmed the need to include additional variables to the TPB in order to gain a better understanding of the phenomena studied.

Keywords: SNS, decomposed theory of planned behaviour, DTPB, joining, SEM.

1 Introduction

SNS popularity has motivated the creation of new SNSs aspiring to be the 'next Facebook' or 'the Facebook of a specific niche target'. However, whatever innovative, creative or solid structure features these networks may offer, many of them have struggled for the same reason: an active critical mass of users. A popular example is the case of Google+, which, despite having the technological and financial support of Google, has not managed to overtake Facebook's first place in the SNS market. In order to understand SNS user behavior, an initial review of the existing literature on this topic showed a strong focus on user participation and SNS applications, both of them assuming that users are already registered with the SNS. Our work aims to contribute to the literature by investigating the main motivations that a SNS user has for joining a new SNS. Thus, being interested in finding out what the main factors in joining a new SNS are, a two-step structural equation model was implemented following the framework of the DTPB in order to answer this question

2 Theoretical Framework

Previous research has approached the reasons for joining an SNS tangentially as part of their studies. Some authors have studied the differences between users and non-users [1-3], and others have studied continuance of use [4-7]. From this research authors like Coursaris et al. [1] and Hsu et al.[5] have obtained good results using models related to the theory of planned behaviour (TPB), which has been widely used in information systems (IS) research [8]. Despite the broad and successful use of TPB, this theory has been criticised for the unidimensionality of the factors involved in the model in order to explain the attitude antecedents [9, 10]. This issue is reflected in the limited predictive ability, as presented in the meta-analysis performed by Armitage and Conner [11], who found that TPB explained 27% and 39% of the variation in behaviour and intention constructs respectively [11], encouraging researchers to complement TPB in order to improve this issue. For this reason, our research chose the decomposed theory of planned behaviour (DTPB) as a framework to find the main motivations to join a new SNS

2.1 Decomposed Theory of Planned Behaviour

The decomposed theory of planned behaviour (DTPB) was proposed by Taylor and Todd [10], looking to improve the results obtained with TPB by extending the model to the constructs' antecedents [10]. As a result, a second order model was proposed deconstructing attitude, subjective norms and perceived behavioural control. Based on previous research comparing DTPB with related models such as TRA and TPB, the DTPB provides a better explanation of intentions (55.36%) and behaviour (39.80%), improving the results obtained by Armitage and Conner [11] by 16% and 12% respectively [10, 12-14]. Based on the improvement in the explanatory power of the DTPB, this theory was adopted as the main framework of this research in order to gain a better understanding of the main factors influencing the registration with a new social networking site (SNS).

Based on previous research done using DTPB, the variables listed in Table 1 are included in the model used for this research.

Table 1. DTPB variables considered for the research

Construct	Definition	Reference
Intention	"How hard people are willing to try, or how much of an effort they are planning to exert, in order to perform the behaviour"	[15]
Attitude	"The degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question"	[15]
Perceived usefulness	"The degree to which a person believes that using a particular system would enhance his or her job performance"	[16], [17]

Table 1. (Continued.)

Perceived ease of use	“The degree to which a person believes that using a particular system would be free of effort“	[18], [17]
Compatibility	“The degree to which an innovation is perceived as being consistent with existing values, needs”	[10]
Subjective Norms	“The perceived social pressure to perform or not to perform the behaviour”	[15]
Peer influence	Perceived expectation from peers for an individual to perform the behaviour of interest	[10, 19]
Superior influence	Perceived expectation from peers for an individual to perform the behaviour of interest	[17]
External Influence	“Influence exerted by external sources” (e.g. mass media)	[20]
Perceived Behavioural Control (PBC)	“The perceived ease or difficulty of performing the behaviour”	[15]

Based on these variables, the following hypotheses are proposed:

1. Attitude towards joining a new SNS has a significant influence on the intention to join a new SNSs
2. The perceived usefulness of new SNSs has a significant influence on the attitude towards joining them.
3. The perceived ease of use of new SNSs has a significant influence on the attitude towards joining them.
4. The perceived compatibility of new social networks with the existing SNSs has a significant influence on the attitude towards joining them.
5. Social norms have a significant influence on the intention to join a new SNS
6. Peer influence about joining new SNSs has a significant influence on the social norms connected with joining these sites
7. Superior influence about joining new SNSs has a significant influence on the social norms connected with joining these sites
8. External influence about joining new SNSs has a significant influence on the social norms connected with joining these sites
9. Perceived behavioural control has a significant influence on the intentions of joining new SNSs
10. Self-efficacy has a significant influence on the perceived behavioural control towards joining new SNSs.
11. Facilitating condition has a significant influence on the perceived behavioural control when it comes to joining new SNSs.

2.2 Extending the DTPB Model

A common practice among DTPB researchers is to include additional variables to the original model in order to improve its explanatory power. One of the most commonly

used constructs is trust, considered by Nor and Pearson [21] as well as by Merikivi and Mantymaki [22] as an external factor. As Bart [23] suggested, there are differences between offline and online trust, with the trust subject in the online case being the website. For this reason, our study adopted the trust definition proposed by Dinev and Hart. They conceive online trust as “the confidence that personal information submitted to internet websites will be handled competently, reliably, and safely.” [24, P. 64].

In order to test the influence of trust in the model, the following hypotheses are proposed:

12. Trust towards new SNSs has a significant influence on the attitude toward joining these sites.
13. Trust towards new SNSs has a significant influence on the social norms connected with joining these sites.
14. Trust towards new SNSs has a significant influence on the perceived behavioural control when it comes to joining these sites.

The model proposed is presented in Fig. 1

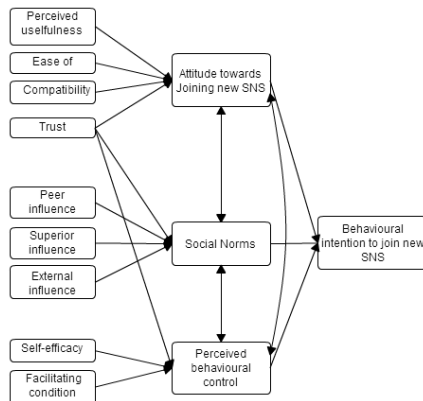


Fig. 1. Research model

3 Methodology

Following the guidelines proposed for TPB and DTPB [10, 15], a quantitative methodology was adopted using online questionnaires for data collection. As the research question is aimed at finding the main reason for joining a new SNS, the sample framework considered current SNS users who have been living in the UK for at least six months. This framework was selected in order to take advantage of users’ existing experience and knowledge of SNS, which can provide better insight than first time users, in addition to easier access to this population.

The data analysis strategy followed a common practice among DTPB researchers, using structural equation modelling based on the two step analysis proposed initially by Anderson and Gerbing [25] for the TPB. Our analysis included conducting a confirmatory factor analysis to test the measurement model, followed by a path analysis to test the structural model in order to test the model proposed in Fig. 1.

3.1 Measurements

The items included in the survey were adapted and operationalized from previous research. The questions are based on a 5 points Likert scale (1:strongly disagree to 5:strongly agree.) with exception of external influence, self-efficacy and facilitating which follows a 7 point scale, keeping the scale range as the original authors proposed them. Intention questions were adapted from Ajzen, (26), Attitude from Peslack et al. [28], perceived usefulness and ease of use from Davis [16], ease of use from Lorenzo-Romero and Chiappa [29], compatibility, social norm, peer influence, superior influence and PBC from Taylor and Todd [10], trust from Dinev et al. [24], external influence from Hsu [5] and self-efficacy and facilitating from Lin [27]

4 Data Analysis

The questionnaire was available online from July to August 2013. 464 people started the questionnaire and 282 managed to complete it. Of the sample, 44% are male with an average age of 29.01 years (S.D =7.6 years) and 56% female with an age of 31.81 years on average (S.D=9 years). A majority of the respondents are students (52.1%), followed by full time workers (31.9%), leaving 16% for other options (part-time jobs, self-employment, voluntary work and unemployed). As far as their nationality is concerned, 53% of the respondents are European (of which 35% of the total are from the UK), 32.27% Asian and 8.87% from Latin-American countries.

When it comes to use, Facebook is the most used SNS with 92%, followed by Twitter and LinkedIn with 39.3% and 38.3% respectively. Regarding the number of networks with which the respondents are registered, 30.8% of the respondents have a profile in only one SNS, leaving 70.2% for a range between two and six SNSs. From this range, users with presence in two networks represent 32.2% of the total, with Facebook and LinkedIn being equally popular to Facebook and Twitter with 11% each (other combinations account for the rest). Likewise, 24.4% of the total have a profile in three SNSs, with Facebook-Twitter-LinkedIn the most popular combination (12.4% of the total).

4.1 Descriptive Statistics

Table 3 presents the constructs applied in the questionnaire with their respective mean, standard deviation and reliability measures. Most of the items present means around the midpoint values of the scale and a standard deviation of one point showing a moderate opinion on the part of the respondents. The intention to join new social networks has the lowest mean (mean=2.33, S.D=0.92), which can be explained by the fact that users are already in the most popular SNSs such as Facebook and Twitter, making them feel that they do not need to join additional networks. In contrasting, the

variables related to the PBC, self-efficacy and facilitating present the higher values of the mean, evidencing how users feel in control of their interaction with SNSs. The reliability of the variables will be discussed in the following section.

Table 2. Proposed influential factors in joining an SNS

Factor	Mean	Std. Deviation	Reliability (Cronbach's Alpha)	CR	AVE	MSV	ASV
Intention	2.33	0.92	0.956	0.950	0.864	0.331	0.118
Attitude	2.94	0.84	0.959	0.952	0.833	0.686	0.183
Usefulness	3.20	0.85	0.911	0.911	0.719	0.686	0.204
Ease of use	3.57	0.77	0.928	0.929	0.685	0.284	0.112
Compatibility	3.20	0.89	0.832	0.847	0.653	0.403	0.164
Trust	2.82	0.89	0.87	0.871	0.693	0.230	0.100
Social norm	3.21	0.97	0.857	0.860	0.755	0.506	0.108
Peer influence	3.09	0.93	0.904	0.904	0.825	0.506	0.132
Superior influence	2.95	1.00	0.79	0.816	0.694	0.383	0.116
External influence	3.97	1.29	0.899	0.901	0.696	0.339	0.179
Perceived behavioural control	3.94	0.81	0.896	0.896	0.742	0.413	0.105
Self-efficacy	4.97	1.10	0.9	0.900	0.644	0.413	0.115
Facilitating	6.07	1.19	0.969	0.969	0.939	0.297	0.053

4.2 Measurement Model

Table 3 shows the measurements related to reliability obtained by using this model. The indices presented in the table are: Cronbach's alpha, Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV), and Average Shared Variance (ASV). All the alpha coefficients and CR are greater than 0.7, as recommended in the literature [30, 31], showing good reliability. Likewise, all the AVE are greater than 0.5 and the CR is greater than the AVE, which is a good sign regarding the convergent validity. Regarding discriminant validity, all the MSV and ASV are less than AVE, following the standards recommended by Hair and Anderson [31]. The Cronbach's alpha was obtained using SPSS v.19 and the AVE and CR, MSV and ASV were calculated using the Excel macros developed by Gaskin [32].

As the reliability and validity test were successful, a confirmatory factor analysis (CFA) was implemented in Amos V19. The fitness indices ($\chi^2/df=1.524$, $RMSEA=0.043$; $GFI=0.833$; $AGFI=0.798$; $CFI=0.959$ and $NFI=0.891$) meet the standards based on Hair and Anderson [31] or are close enough to the threshold, showing a good model overall.

4.3 Structural Model

In order to find the main motivations to join a new SNS, the structural model proposed in Fig. 1 was implemented in AMOS v 19, covariating the exogenous variables of attitude, social norms and perceived behavioral control. Likewise, trust was linked to attitude, social norms and PBC in order to test the direction and strength of the relationships, with these factors following the model proposed by Wu, Chen and Chung [33]. Due to the large number of combinations from covariating variables, a specific search was performed in order to find better results based on the initial model [34]. However, as the results obtained were very similar ($\chi^2/df=1.686$, RMSEA=0.049; GFI=0.818; AGFI=0.788; CFI=0.945 and NFI=0.875 for the DTPB + Trust model and $\chi^2/df=1.686$, RMSEA=0.049; GFI=0.818; AGFI=0.789; CFI=0.945 and NFI=0.875 for the specific search), the initial model will be used for the data analysis. Table 7 presents a summary of the estimators for the standardized weight and the p-value. The test is based on the Critical ratio and the p-value [34].

5 Discussion

Considering that the SNS market is already competitive in terms of people already registered with at least one SNS. Finding the most influential variables that can help to improve the likelihood to join a new SNS becomes a critical task. Based on the results obtained from the structural model proposed, most of the hypotheses stated are significant. The results related to attention, social norms and PBC are supported, showing the suitability of TPB as a framework for working with IS topics. Furthermore, hypotheses extending TPB to DTPB evidenced the utility of using a second order model to improve the explanation of the intention to join a new SNS. As far as trust is concerned, the model showed a significant relationship with attitude and PBC.

Research into SNS has been approached from different fields, with a common characteristic being the assumption of the presence of registered users in the network. This research went one step back, studying the reasons that would make a person join a new SNS. Findings show that our proposed model makes it possible to explain 55% of the intention, 71.2% of the attitude, 59% of the social norms and 60% of the perceived behavioral control. These values are consistent with previous research implementing DTPB [10, 35-37], and confirming the need to extend the TPB framework in order to gain a better understanding of the phenomena studied.

Examining the variables directly related with intention (see Table 7), the dominant role of attitude ($\beta=1$) was found, followed by PBC ($\beta=-0.15$) and social norms ($\beta=0.13$). The order in which variables are sorted regarding their weight is concordant with the original DTPB model and other researchers using this theory [35-37]. This finding indicates how important the perception that potential users have about what the new SNS could do for them is. Going one step deeper in the attitude, it was found that perceived usefulness has a bigger impact, revealing the following chain: Perceived usefulness --> attitude --> intention. This finding is especially interesting considering that the sample is composed of current SNS users, because in a highly competitive market such as SNS with an established leader such as Facebook or twitter, if people have the impression that new SNSs could be useful for their interest, then they are more likely to become a member of that new network.

Table 3. Summary of the Model's Hypotheses and Results

Hypotheses	Direct effect	Standardised weight estimate	p-value	Results
h1	1	0.71	0	Supported
h2	1	0.768	0	Supported
h3	-0.029	-0.028	0.535	Not supported
h4	0.048	0.055	0.346	Not supported
h5	0.138	0.126	0.005	Supported
h6	1	0.802	0	Supported
h7	-0.08	-0.074	0.22	Not supported
h8	0.028	0.034	0.603	Not supported
h9	-0.155	-0.117	0.008	Supported
h10	1	0.758	0	Supported
h11	0.085	0.114	0.028	Supported
h12	0.119	0.118	0.008	Supported
h13	-0.029	-0.022	0.702	Not supported
h14	-0.188	-0.176	0	Supported

Regarding PBC, the sign of the coefficient is rather unexpected when compared with previous research. However, the inverse relationship with intention means that the more in control the user of the network feels, the lower the intention of joining. Analyzing the PBC from users' familiarity with other SNS, the negative sign starts to make sense. Thus, if the user feels too familiar with the network it would feel like something he is already using or has used. Therefore, if the SNS has nothing new to offer, the user will not join the new SNS. The results associated with social norms are as expected, confirming the relevance of peers influencing the intention to join new SNSs [10, 38-41]. Consequently, the word of mouth coming from the acquaintances of the potential network's new member is more influential than the influence that people might receive from external media such as TV, newspapers or any other way of advertising.

The role of trust in the model shows its influence on attitude ($\beta=0.118$) and PBC ($\beta=-0.186$). The direct relationship between trust and attitude suggests that a trusted perception of the network benefits the perceived attitude towards the new SNS and consequently the intention to join it. In contrast, trust is negatively related with PBC, which in turn has an inverse relationship with intention, as a result producing a positive influence of trust on intention. These findings identify trust as an important variable in order to improve the chance of making people join a new SNS. From the attitude side, users have to perceive that the network will help them to meet their expectations regarding the purpose of the network. At the same time, the new SNS has to give a sense of trust in the users regarding how the network will perform in terms of the tasks or functions it is supposed to do. From the PBC side, the trust is linked to that sense that the new network is offering something that current or previous networks are not using, a feeling about the way in which the new SNS is doing things differently to what users have tried before.

6 Conclusion

The present study was aimed at finding the main factors that influence the decision to join a new SNS. Previous research on SNS user behaviour showed the utility of DTPB as a framework to develop the research, finding that behaviour and intention comprises a combination of different variables. This theory turns out to work adequately for understanding users' motivations to join new a SNS, explaining 55% of the intentions. Likewise, the model identified attitude as the most influential factor, followed by PBC and social norms. Interestingly, PBC presents a negative influence on the intention, suggesting that if the potential user feels that he knows all he needs to know about the networks, it means that there is nothing new to offer, reducing the odds of joining the new SNS. A third important factor is the trust perception, which is related to attitude and PBC. Therefore, a combination of highly useful SNS carrying on the tasks in a way that has not been done before and complemented with the feeling of trust in the network will increase the odds of joining a new SNS.

PBC, although important, has to be handled carefully, due to the inverse relationship with the intention. This can be interpreted as people needing a challenge in operating the network, otherwise it would feel like more of the same, and in that case they will stay with the networks they are already registered with.

6.1 Theoretical Implications

SNS user behaviour is growing along with the interest in SNS research. However, as most of the research focuses on user participation, there is a need to understand the reasons why a potential user will join. This research has shed some light on this question based on the DTPB. The model proposed included trust as an additional variable, showing satisfactory results to explain user motivations. The results obtained with the model are consistent with previous research implementing this theory regarding the order of importance of the variables. Although the negative relationship between PBC and intention was unexpected, it makes sense in view of how familiar the new SNS seems to the users when compared with their current or past SNS experiences. Thus the more familiar the new SNS is perceived to be, the lower the intention to join it.

6.2 Implications for Practitioners

Results show the SNS market to be a highly competitive field in which people tend to be registered with several networks, making the entrance of new SNS initiatives a hard job. Therefore, having a good SNS service/idea, combined with good advertising and word of mouth is not enough to move a person to join a new SNS. Based on our research, SNS developers /entrepreneurs have to pay extra attention to offering a new SNS, emphasising how useful it is related to the purpose of the network, performing its task/functions as has not been done before, giving that sense of novelty that will make users generate word of mouth and curiosity to join the new SNS.

6.3 Limitations and Further Research

The DTPB model was developed to study the factors influencing the user behaviour based on the intention. As this research is framed in the hypothetical scenario of receiving an invitation to join a new SNS, it is not possible to measure the behaviour. Having intention as the main dependent variable is common practice in DTPB research ([8], [27], [42], [21], [38]). However, for future research it is recommended to include behaviour in order to complete the model. This research considered all SNSs without differentiating between categories. For future research the study could be narrowed towards specific types of network, either general purpose or niche SNS, in order to test whether there are differences in the factors. Likewise, future research could consider a broader research framework in order to study whether there is cultural impact on the variables influencing the decision to join a new SNS.

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