



A THEORETICAL EXTENSION AND EMPIRICAL INVESTIGATION FOR CONTINUANCE USE IN SOCIAL NETWORKING SITES

Mohana Shanmugam¹, Yusmadi Yah Jusoh, Rozi Nor Haizan Nor and Marzanah A. Jabar²

¹Department of Information Systems, Universiti Tenaga Nasional, Selangor, Malaysia

²Department of Information Systems, Universiti Putra Malaysia, Selangor, Malaysia

E-Mail: mohana@uniten.edu.my

ABSTRACT

Social commerce is a relatively new stream mediated by the proliferation of Social Networking Sites (SNSs) and the popularity of social media. The social commerce wave has opened up vast opportunities in emerging markets through online communities' participation. Knowledge sharing and learning through online communities are made possible with the active collaboration and interaction among groups of individuals. This study investigates on the role of social media in facilitating online communication of consumers through related theories and constructs, leading to online social support. A conceptual model integrating constructs of the Theory of Planned Behavior (TPB), Social Support Theory (SST), perceived value and satisfaction is developed to augment our understanding on the continuance participation from the intention and behavioral perspectives. The study therefore introduces a continuance participation model that integrates the emotional and informational constructs from the SST, TPB, perceived value and satisfaction in SNSs to establish a theoretical foundation for the study of continuance participation in online communities. A survey conducted on users of SNSs with a total of 285 final respondents empirically tests the continuance model constructs with ten hypotheses using Structural Equation Modelling (SEM) approach and Partial Least Square (PLS) methods to which all nine theorized hypotheses are achieved. The results indicate that social interaction through social support has an intense influence on perceived value and satisfaction resulting in an increased continuance participation intention and behavior in online communities. Additionally, the model reveals that the constructs perceived behavioural control, subjective norms, and attitude from the Theory of Planned Behaviour alongside with Social Support constructs, satisfaction and a perceived value construct significantly influence online communities' continuance participation intention and behaviour. This paper also seeks to enlighten our knowledge on online communities and tap into the social commerce capabilities particularly looking into continuance participation from the intention and behavioral perspectives. The findings of this study contributes to the social commerce school of thought by theoretically developing research in online communities by proposing social constructs from a social psychology theory in increasing our understanding on continuance model. The theoretical base of this study is the primary contribution of this research. In addition, it complements the minority theoretical background that surfaces in the area of social commerce distinctly looking at online communities.

Keywords: social commerce, theory of planned behaviour, social support theory, continuance participation, SEM-PLS.

INTRODUCTION

Social commerce, a relatively new stream in e-commerce is an emerging platform with the increased popularity of social networking sites such as the Facebook, LinkedIn, Twitter, wikis and micro blogging [1-3]. With the massive evolvement of the internet, Web 2.0 instances hold great potential in reshaping the way consumers interact online. Web 2.0 is described as web pages that uses a two-way stream of communication that connects users, allowing them to socialize online [4] and share their own user-generated content [5]. Web 2.0 technologies has enabled individuals to develop and nourish relationships in detached social communities, to create and extend networks, and to produce combined effort through a collective interaction patterns of users [6]. Additionally, these social interactions are deemed significant in promoting and ensuring the successful operation of online community sites [7].

Prior research suggests that in the next generation of online businesses, communities play a pertinent role in attracting new customers [8, 9]. In fact, in the recent era

the emergence of social commerce and its co-create environment has changed the passive behaviour of users to become active content creators on the internet [10]. With more and more people connecting through Web 2.0 websites, there is a huge need to study on the continuance participation of online communities from the intention and behavioral perspectives. This study is crucial and has become a key research area in the Information Systems (IS) field [11, 12] with past research reporting on sites failing to retain operation due to lack of value these sites impart to the online communities [13].

Investigating on continuance participation is focal because the social values and potential of online communities cannot be realized without users' ongoing participation [14]. At the same time, the sustainability and operability of the websites are highly dependent on the continuance usage and engagement of its own users [15]. In IS however, research studies embarking upon different information technology widely covers aspects related to pre-adoption rather than post-adoption [15-17].



The most recent research on continuance participation [15] has introduced several constructs in driving intention and behavior of users and has shed much insight however a major key determinant from the social-related influence, the social support constructs from the psychology theory is absent in the model. The absence of informational and emotional support of the SST in continuance participation model is a limitation that needs to be notably addressed. This is because research shows social interaction of users in online communities establish social support and develop these networks for co-creation of value [18, 19]. Therefore, it is vital to investigate the social support constructs that drive the intention and behavior of online users in an online community purview to ensure the successful operation of online community sites.

Accordingly, this research addresses these questions: (1) Does social support measured by informational and emotional support influence continuance participation in online communities? (2) Does social support through perceive value exert significant relationship on continuance participation intention? (3) Does social support exert positive relationship on satisfaction for improved continuance participation intention? The rest of the paper is organized as follows. The next sections review on theoretical background of this study followed by development of the research model and hypotheses. The methodology is then provided followed by the findings from data analysis. The final sections conclude the paper and present implications and future research directions.

THEORETICAL BACKGROUND

The TPB is an established psychological model that predicts an individual's planned and deliberated behaviour. Developed by Ajzen [20], the TPB is an extension of Theory of Reasoned Action [21]. This theory is widely applied in many marketing [22] and information systems [15, 23, 24] domains. The TPB was proposed as the basis model of this study to describe users' intention and behaviour in continuance usage of an online community. This is because the focus of this study is the value users perceive through online communities and it influences the decision to continue or discontinue using an online community. In addition, the TPB is used as the basis of this study model because TPB caters for users' social needs rather than professional or educational needs which is the nature of virtual communities [25]. Additionally, virtual communities such as Facebook, LinkedIn and Tripadvisor are software systems and TPB is significant since the constructs to be studied involves attitude and behaviour rather than measuring experience using the technology itself which is the focus of Technology Acceptance Model (TAM) [15, 26]. The three predictors of the TPB, attitude, subjective norms and perceived behavioural control is incorporated with the satisfaction construct from the IS Continuance Model [11]

perceived value [15, 27] a significant predictor for repurchase intentions in marketing studies [28, 29] and two novel predictors from the social support theory, the emotional and informational construct to study on the users' intention and behaviour on continuance participation in online communities. The social support constructs contribute in positive engagement of online users in their online community which strengthens the reliability of the continuance participation model [25]. The inclusion of the social support constructs are deem vital in this study because research has demonstrated that social interaction of users in online communities establishes social support and develops networks for the co-creation of value [30]. It is therefore significant for the TPB and Social Support constructs to be integrated alongside perceived value and satisfaction constructs.

RESEARCH MODEL

This study integrates the social support construct namely the emotional and informational constructs with satisfaction, perceived value and constructs of the theory of planned behaviour to test the direct and indirect relationships on continuance participation intention and behaviour. The assimilation of the research framework is as depicted in Figure-1.

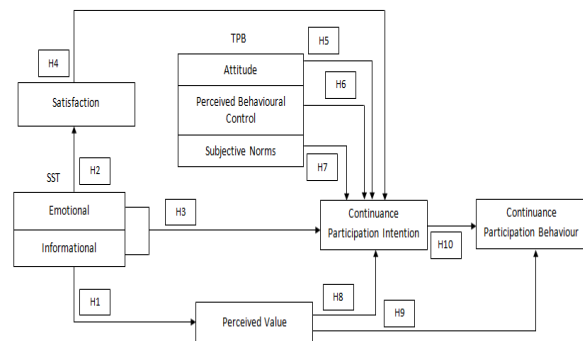


Figure-1. Research model.

Effect of social support

Perceived value through the lens of the economic theory of utility emphasizes that individuals have limited resources so they make the most of the information they have for utmost utility or satisfaction [15]. For greater perceived value, social support heightens the source of information required by individuals for making informed decision. Social support increases the engagement between online community users and intensifies perceived value which leads to increased continuance participation intention and behaviour. The social support constructs and perceived value derive from a social-related thinking [31] school of thought hence it is reasonable to postulate the following hypothesis:



H1. Users' social support influences users' perceived value in online communities

In an online community context, social support offered by network of friends adds value through the exchange of information, sharing of knowledge and transfer of experience. Both the emotional and informational support provided by the individuals aids in fulfilling the social needs of online communities [2] which in turn promotes satisfaction and the intention for continuance participation. Additionally, through these support users gain beneficial advantage that results in satisfaction [2]. For instance, an individual that gets first hand information on a particular product or service will have an increased understanding on the product knowledge. This will lead to consumer satisfaction as users are emotionally evoked by the overall online community experience [32, 33] and promote continuance use. The following hypotheses are therefore deduced:

H2. Users' social support positively drives users' satisfaction in online communities

H3. Users' social support positively drives continuance participation intention in online communities

Effect of satisfaction on continuance participation intention

Myriad of studies have shown that satisfaction is a key determinant in driving continuance intention [33-36]. Satisfaction as a psychological construct has been tested on a series of studies including job satisfaction, satisfaction with product or service consumption and end-user satisfaction with IT usage [37]. It is also considered as an attitude [38] commonly recognized as a quasi-attitudinal construct [39]. In the context of online community, this construct is regarded as a behavioral attitude [24, 36, 40, 41] and refers to the degree to which users are often more inclined to continue using the social platform primarily based on their satisfaction to prior usage of a service. Indeed, satisfaction is referred to a user's overall feel and emotional reaction of using the social medium [32] and has been empirically demonstrated to positively influence continuance intention [40]. As such, it is reasonable to posit the following hypothesis:

H4. Users' satisfaction has a positive influence on continuance participation intention in online communities

Effect of attitude on continuance participation intention

The construct attitude refers to the likelihood of performing an action. There is a causal association between attitude and behavioural intention as reported by past literature [42]. In this study, attitude refers to the reasoning of an individual on their continuance participation relating to their favourite online community site. Since attitude concerns to the long lasting devotion one has over something [42], the following hypothesis is posited:

H5. Attitude of users towards continuance participation in online communities positively drives continuance participation intention

Effect of perceived behavioural control on continuance participation intention

Perceived behavioural control is associated with the ability in executing a particular behaviour [31]. Ajzen [43] demonstrated that perceived behavioural construct is a perception based on past experiences, individual's preferences or second-hand information. As much as actual control power is required to carry out specific behaviour, perceived behavioural control impacts behavioural intention because the decision whether or not to perform a behaviour lies under the jurisdiction of perceived behavioural control. Thus, the following hypothesis is proposed:

H6. Perceived behavioural control of users in relation to continuance participation in online communities positively drives continuance participation intention

Effect of subjective norms on continuance participation intention

Subjective norms is a prediction of intention [44]. Defined as the professed social pressure from a group of individuals whether or not to perform a specific behaviour is what defines subjective norms [42, 45]. An empirical investigation by Al-Debei, Al-Lozi [15] however reveals that subjective norms is less significant in influencing continuance participation intention. It is however focal to study on the relationship between subjective norms and continuance intention because in a study by Pavlou and Chai [46], the construct subjective norms was identified to be significantly correlated to continuance participation intention. It is therefore legit for the following hypothesis to be hypothesized:

H7. Subjective norms of users in relation to continuance participation in online communities positively drive continuance participation intention

Effect of perceived value

Perceived value, a construct based on the fusion of three paradigms and theories, namely the economic theory of utility, the cost-benefit paradigm and the uses and gratifications paradigm was empirically proven to exert highest effect on continuance participation intention in a study on mobile internet users [15]. In post adoption studies, although there are only a handful of studies linking perceived value and intention to continue participating empirical evidence has shown that perceived value significantly influences behavioural intentions [15, 47]. Past study has also confirmed that the probability of accomplishing behaviour increases when confidence level



increases [15]. Hence, to test the efficacy of the findings, the following hypotheses are put forth:

H8. Users' perceived value positively drives continuance participation intention in online communities

H9. Users' perceived value positively drives continuance participation behaviour in online communities

Effect of continuance participation intention on continuance participation behaviour

The theory of planned behaviour posits that behavioural intention is the key determinant in predicting actual behaviour. Many authors in their studies have proven a strong relationship between these two constructs [43, 48, 49]. In addition, the intention construct is often used to validate actual behaviour [42]. Thus, this study postulates that behavioural intention positively influences continuance participation behaviour in online community.

H10. Behavioural intentions to continually participate in online communities positively drives continuance participation behaviour

METHODOLOGY

Data collection

Respondents for this study were users of SNSs. Respondents with a minimum of two years of experience using these sites were targeted as it is essential to study their continuance participation intention for developing future online community sites. Since this study focuses on the continuance use, respondents who are freshly acquainted to SNSs will make a bias sample. The probability sampling method was chosen to collect the data. The respondents were reached through an internet survey developed using Google Forms. Language used was kept simple to aid understanding and encourage completion. The respondents were given a three month of response period from March 2015 to beginning of June 2015. A total of 424 respondents were reached through an internet survey developed using Google Forms. A total of 291 respondents participated in this study from which only 285 were selected for the final analysis. The remaining 6 with outliers were discarded. This makes a total net response of 67.2%. Demographic details of the respondents are as shown in Table-1.

Table-1. Demographic details of the respondents

Demographic	Group	Frequency	Percentage (%)
Gender	Male	159	55.8
	Female	126	44.2
Age	18 - 24	163	57.2
	25 - 34	114	40
	35 - 44	8	2.8

	45 or above	0	0
Profession	Student	138	48.4
	Academic	8	2.8
	Professional	66	23.2
	Executive	51	17.9
	Other	22	7.7
Member of Social Networking Sites	Yes	285	100
	No	0	0
Social Networking Sites used	Facebook	284	99.6
	LinkedIn	114	40
	Twitter	101	35.4
	Google+	138	48.4
	Other	71	24.9
Social Networking Sites Usage Experience	< 1 year	1	0.4
	1 - 2 years	4	1.4
	2 - 3 years	26	9.2
	3 - 4 years	25	8.8
	> 4 years	228	80.3

Measures

In the present study, theories related to technology acceptance behaviour including the TPB [43], IS continuance model [40], extended TPB model for continuance use in SNSs [15] and satisfaction construct from IS success model [50] are incorporated within the extended model to develop the survey instrument. In addition, the measurements for the attitude (AT) construct were adopted from Davis on Perceived usefulness, perceived ease of use, and user acceptance of information technology [51]. Measurements for subjective norms (SN) were borrowed from the study of Dholakia, Bagozzi and Pearo on consumer participation in virtual communities [52]. The perceived behavioural control (PBC) and continuance participation behaviour (CPB) construct measurements were adapted from Al-Debei and Dholakia on consumer participation and predicting continuance in Facebook [15, 52]. Measurements for continuance participation intention (CPI) were adopted from a study by Bhattacharjee and Premkumar on understanding changes in belief and attitude towards information technology use [11]. The perceived value construct (PV) were adopted from Kim on the adoption of mobile internet from value perspective [53]. Besides, two new social support (SC) constructs from the emotional and informational dimension of Social Support Theory were incorporated to further justify the continuance participation of online communities.



RESULTS

Data analysis

Structural Equation Modelling (SEM) was selected as the primary tool to test the hypothesized model. Essentially, SEM is a tool for analyzing multivariate data which is particularly appropriate for theory testing [54, 55]. SEM is a powerful and versatile technique [56] that can simultaneously assess the measurement model (relationships between constructs and measures) and the path model (relationship between one construct with another) [57, 58].

The SEM data analysis approach is used collectively with the Partial Least Square (PLS) method, and PLS is a suitable method for testing path models [59]. In Information Systems literature, PLS modeling is specifically suited for research in IT continuance intentions aside being a strong approach for work intended to develop and refine theories [60].

Construct reliability and validity of measurement items

The measurement model was assessed using SmartPLS Version 3.0. The model was first evaluated in terms of reliability. Reliability was evaluated using the composite reliability. As shown in Table 2, the composite reliability of the seven latent variables is all larger than 0.70 which indicates an acceptable level and ideal internal quality of a model for exploratory research [61, 62]. This shows an acceptable composite reliability.

Table-2. Reliability of constructs

Constructs	No. of indicators	Composite reliability
Attitude	3	0.881
Continuance Participation Behaviour	3	0.792
Continuance Participation Intention	3	0.939
Perceived Behavioural Control	2	0.717
Perceived Value	3	0.895
Satisfaction	4	0.960
Social Support	7	0.913
Subjective Norms	2	0.904

For construct validity, both convergent validity and discriminant validity were examined. Convergent validity was accessed by average variance extracted (AVE) and indicator loadings. When AVE values (Table 3) are more than 0.50, good internal quality of a model is presented [63].

Table-3. AVE of constructs

Constructs	AVE
Attitude	0.712
Continuance Participation Behaviour	0.564
Continuance Participation Intention	0.837
Perceived Behavioural Control	0.566
Perceived Value	0.741
Satisfaction	0.858
Social Support	0.602
Subjective Norms	0.824

Discriminant validity arises when average variance extracted (AVE) is more than the correlation squared of the other constructs [64]. As shown in Table 4, all AVE values in diagonal are greater than the off-diagonal numbers showing acceptable discriminant validity. Therefore we conclude that the measure for each construct satisfies construct validity.

Table-4. Fornell-Larcker criterion.

AA TT	CC PB	CC PI	PPB C	PPV	SSA T	SSC	SSN
0.84 4							
0.21 3	0.75 1						
0.70 4	0.32 1	0.91 5					
0.40 8	0.16 9	0.53 1	0.75 3				
0.79 9	0.22 1	0.70 6	0.36 9	0.86 1			
0.38 6	0.29 9	0.50 2	0.39 0	0.36 2	0.92 6		
0.71 0	0.23 7	0.64 2	0.33 6	0.71 2	0.33 1	0.776	
0.62 5	0.18 3	0.44 2	0.23 6	0.62 5	0.22 6	0.626	0.908

The resulting estimations from the results of PLS analysis is as shown in Figure-2. All the paths are positively significant at the 0.05 level except for H9 (relationship between perceived value and continuance participation behaviour). Nine out of ten hypothesized hypotheses are supported.

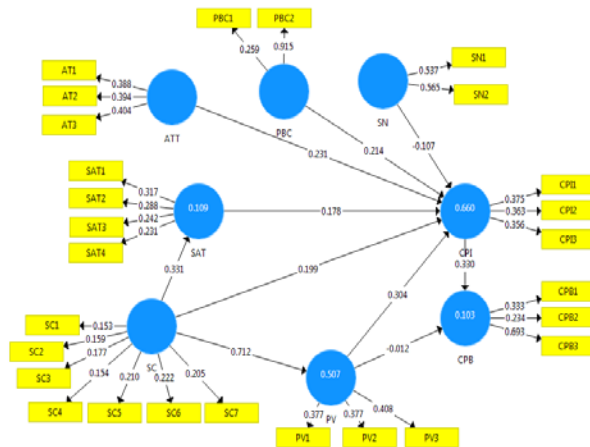


Figure-2. PLS algorithm reputation model results.

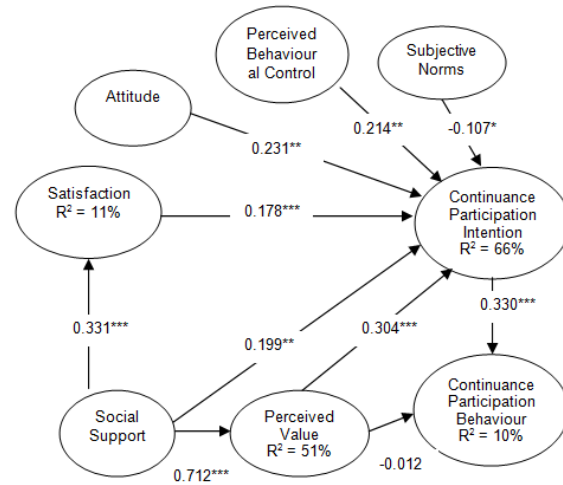
The t-values were evaluated by administering the bootstrap resampling method with 5000 subsamples to examine the significance of path coefficients. The results indicate that all paths are statistically significant using a two-tailed test except PV → CPB. The t-value and p-value alongside the degree of significance is shown in Table-5.

Table-5. Significance testing results.

Hypothesis	Path coefficient	t Values	p Values	Significance levels
ATT → CPI	0.231	2.798	0.005	supported
CPI → CPB	0.330	3.924	0.000	supported
PBC → CPI	0.214	3.249	0.001	supported
PV → CPB	-0.012	0.142	0.887	rejected
PV → CPI	0.304	4.407	0.000	supported
SAT → CPI	0.178	4.078	0.000	supported
SC → CPI	0.199	2.973	0.002	supported
SC → PV	0.712	19.605	0.000	supported
SC → SAT	0.331	5.517	0.000	supported
SN → CPI	-0.107	2.366	0.018	supported

The coefficient of determination (R^2) show that the model accounts for 11%, 51%, 66% and 10% of the variance in satisfaction, perceived value, continuance participation intention and continuance participation behaviour respectively (Figure-3). The results indicate a moderate and acceptable level of explanatory power. In addition, perceived value exerts the highest effect on continuance participation intention (30% vs. 10%, 21%, 23%, 18% and 20%). In addition, social support (71%) has a large influence on perceived value indicating that social related influence and social interaction of individuals in online communities is a key determinant of continuance participation intention and behaviour. It is also crucial to

note that continuance participation intention influences continuance participation behaviour at 33% whilst perceived value does not support continuance participation behaviour.



Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Figure-3. Structural model.

The Q^2 value is an indicator of the model's predictive relevance. Table-6 shows that all Q^2 values are considerably above zero, thus providing support for the reputation model's predictive relevance for the four endogenous constructs (CPB, CPI, PV and SAT). Further, results indicate that CPI and PV have a large predictive relevance whereas CPB and SAT have a small predictive relevance. Refer to Table 6 for a summary of the R^2 and Q^2 value.

Table-6. Reputation model

Endogenous latent variable	R^2 value	Q^2 value
CPB	0.103	0.044
CPI	0.660	0.545
PV	0.507	0.370
SAT	0.109	0.088

DISCUSSION AND IMPLICATIONS

This study bridges the TPB, SST, perceived value and satisfaction constructs in examining the intention and behaviour of online community users continuance participation. The social support constructs are crucial in continuance studies but was overlooked in previous studies and is the motivation behind this study. This research introduces two novel predictors of the social support theory, namely the informational and emotional constructs in predicting the continuance participation



intention and behaviour. The inclusion of social support constructs contribute to the positive engagement of users in their online community and strengthens the reliability of the continuance participation model.

As hypothesized, the findings of this study show that (1) the effect of social support measured by informational and emotional support is significant in driving continuance participation intentions and the behaviour of online communities; (2) social support through perceived value exerts a strong effect on continuance participation intention; and (3) social support exerts a strong effect on satisfaction for improved continuance participation intention. These findings highlight that the constructs of the SST promotes continuance participation among the online community users as a result of online collaboration, sharing of knowledge and expertise resultant from the supportive climate. This social climate leads to a more favourable consumer attitude as individuals perceive a higher level of social presence and sense of belonging in their choice of online community. When individuals receive emotional and informational support from their peers on the online community platform through various forms such as forum, chat and newsfeed for instance, it results in fulfilling their social needs hence influence continuance participation.

Findings also indicate that continuance participation intention is influenced by social support (H1, H2, H3), satisfaction (H4), attitude (H5), perceived behavioural control (H6), subjective norms (H7), perceived value (H8, H9) and behavioural intention (H10). The findings are consistent with the results of a recent study [15] but with improved explanatory power with the addition of two novel constructs from the SST (emotional and informational) and the integration of satisfaction construct. Additionally, the inclusion of satisfaction construct increases the continuance participation intention from 58% of predictive power in a recent research conducted by Hajli, Mohana [31] to an increase of 66% in our study.

The theoretical implication of this study is the theoretic extension of the TPB model with social support constructs derived from the social psychology theory, a satisfaction and perceived value construct to study the constructs of continuance participation intention and behaviour in online communities. Specifically, this study focuses on the post-adoptive intentions and behaviour of online communities hosted by the Web 2.0 platform. With the recent wave of social commerce, online communities such as Facebook, Twitter and LinkedIn still lacks theory driven empirical investigation from the behavioural and social perspective and requires attention in the information systems domain. The results show that nine out of ten proposed hypotheses are met in improving the predictive power of the standard TPB through its extension hence this study develops a theoretical foundation for both academicians and practitioners in the post adoptive context particularly looking into the proliferation of social media.

From a practical point of view, this study assists the decision makers, managers, web developers and organizations in managing and developing their online community successfully. Organizations for instance can relook into their online community model and incorporate the theoretic extension model for improved continuance participation from their users by highlighting on the highest most contributing constructs. Additionally, web developers can precisely emphasize on the exact needs of users relevant for continuance participation by emphasizing on the features attributed to each construct. This is because the decision on whether to continue or discontinue engaging in an online community is based on the value perceived by the individuals realized by adopting the study model which has been empirically tested.

CONCLUSION AND FUTURE RESEARCH DIRECTION

This paper addressed the potential of social support constructs in relation to continuance participation intention and behaviour through the use of an integrated model, TPB, a satisfaction and perceived value construct. The findings of this study provides useful guide to organizations venturing into click and mortar businesses by reengineering existing policy for an improved engagement from online community users. Better engagement of individuals lead to the successful operation of online community sites. Additionally, in today's hypercompetitive world with technology moving at immense speed, companies are at risk if they do not keep up to users' social needs.

This research as in other studies has some limitations. Firstly, the results are based mainly on four popular SNSs namely Facebook, LinkedIn, Twitter and Google+. The attitudes and behaviour of these respondents could differ in other social networking platforms hence future research should develop the model by collecting data from different SNSs users. Secondly, this research tested on the social support construct as a single order construct. Future research could test the social support construct as a second order construct with a different distribution of dataset.

Additionally, future research will follow with a prototype development that acts as a guideline to organizations and web developers involved in the policy making and development of online community sites. The constructs highly contributing to the continuance participation intention and behaviour are classified into several groups of functions and employed in a manner easily understood by the back end users. This will ensure the continuance participation model is well justified and relevant for organizations dwelling in Web 2.0 technology.

ACKNOWLEDGEMENTS

This work is supported by the Ministry of Education Malaysia under the MyPhD programme.



REFERENCES

- [1] Huang, Z. and M. Benyoucef, From e-commerce to social commerce: A close look at design features. *Electronic Commerce Research and Applications*.
- [2] Liang, T.P., *et al.*, What Drives Social Commerce: The Role of Social Support and Relationship Quality. *International Journal of Electronic Commerce*, 2011. 16(2): p. 69–90.
- [3] Hajli, M. and F. Khani, Establishing Trust in Social Commerce through Social Word of Mouth. *International Journal of Information Science and Management*, 2013: p. 39-54.
- [4] Evans, D., *Social Media Marketing: An Hour a Day*. Indianapolis, IN, Wiley.
- [5] Lefebvre, R.C., The new technology: the consumer as participant rather than target audience. *Social Marketing Quarterly*, 2007. 13(3): p. 31-42.
- [6] Granovetter, M., The strength of weak ties - a network theory revisited. *Sociological Theory*, 1983. 1: p. 201-233.
- [7] Corrocher, N., The adoption of Web 2.0 services: An empirical investigation. *Technological Forecasting and Social Change*, 2011. 78(4): p. 547-558.
- [8] Bagozzi, R. and U.M. Dholakia, Intentional social action in virtual communities. *Journal of Interactive Marketing*, 2002. 16: p. 2-21.
- [9] Ridings, C.M. and D. Gefen, Virtual community attraction: why people hang out online. *Journal of Computer-Mediated Communication*, 2004. 10.
- [10] Hajli, M., An integrated model for e-commerce adoption at the customer level with the impact of social commerce. *International Journal of Information Science and Management*, 2012. 16: p. 77-97.
- [11] Bhattacharjee, A. and G. Premkumar, Understanding changes in belief and attitude toward information technology usage: a theoretical model and longitudinal test. *MIS quarterly*, 2004. 28(2): p. 229-254.
- [12] Bhattacharjee, A., Understanding information systems continuance: an expectation confirmation model. *MIS Quarterly*, 2001. 25(3): p. 351-370.
- [13] Bettoni, M.C., S. Andenmatten, and R. Mathieu, Knowledge cooperation in online communities: a duality of participation and cultivation. *Electronic Journal of Knowledge Management*, 2007. 5(1): p. 1-6.
- [14] Jina, X.L., M.K.O. Lee, and C.M.K. Cheung, Predicting continuance in online communities: model development and empirical test. *Behaviour and Information Technology*, 2010. 29(4): p. 383–394.
- [15] Al-Debei, M.M., E. Al-Lozi, and A. Papazaferiropoulou, Why people keep coming back to Facebook: Explaining and predicting continuance participation from an extended theory of planned behaviour perspective. *Decision Support Systems*, 2013. 55(1): p. 43-54.
- [16] Hsu, M., *et al.*, Knowledge sharing behaviour in virtual communities: the relationship between trust, self-efficacy, and outcome expectations. *International Journal of Human Computer Studies*, 2007. 65(2): p. 153-169.
- [17] Karahanna, E., D. Straub, and N. Chervany, Information technology adoption across time: a cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS Quarterly*, 1999. 23(2): p. 183-213.
- [18] Hajli, M., Developing Online Health Communities through Digital Media. *International Journal of Information Management*, 2014. Doi10.1016/j.ijinfomgt.2014.01.006.
- [19] Hajli, M. and L. Xiaolin, Developing Tourism Education Through Social Media. *Tourism Planning and Development* ahead-of-print, 2014: p. 1-10.
- [20] Ajzen, I., From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action-Control: From Cognition to Behaviour*. Action control: From cognition to behavior: 1985: Springer-Verlag, Heidelberg.
- [21] Ajzen, I. and M. Fishbein, *Understanding Attitudes and Predicting Social Behavior*. Vol. 24. 1980: Prentice-Hall, Englewood Cliffs, NJ.
- [22] De Cannière, M.H., P. De Pelsmacker, and M. Geuens, Relationship Quality and the Theory of Planned Behavior models of behavioral intentions and purchase behavior. *Journal of Business Research*, 2009. 62(1): p. 82-92.
- [23] Riemenschneider, C.K., D.A. Harrison, and P.P. Mykytyn Jr, Understanding it adoption decisions in small business: integrating current theories. *Information & Management*, 2003. 40(4): p. 269.



- [24] Hsu, M.H. and C.M. Chiu, Predicting electronic service continuance with a decomposed theory of planned behaviour. *Behaviour & Information Technology*, 2004. 23(5): p. 359-373.
- [25] Mohana, S. and J. Yusmadi Yah, A Continuance Model for Optimized Participation in Virtual Communities, in *Handbook of Research on Integrating Social Media into Strategic Marketing*, IGI Global. 2015. p. 187-206.
- [26] Xu, L., J. Lin, and H.C. Chan, The Moderating Effects of Utilitarian and Hedonic Values on Information Technology Continuance. *ACM Transactions on Computer-Human Interaction*, 2012. 19(2): p. 12-38.
- [27] Wang, H.W. and S.H. Wang, User acceptance of mobile Internet based on the Unified Theory of Acceptance and Use of Technology: Investigating the determinants and gender differences. *An International Journal of Social Behavior & Personality*, 2010. 33(3): p. 415-426.
- [28] Petrick, J.F., Experience use history as a segmentation tool to examine golf travellers' satisfaction, perceived value and repurchase intentions. *Journal of Vacation Marketing*, 2002. 8(4): p. 332-42.
- [29] Petrick, J.F. and Backman, An examination of the construct of perceived value for the prediction of golf travelers' intentions to revisit. *Journal of Travel Research*, 2002. 41(1): p. 38-45.
- [30] Hajli, M. and J. Sims, Social Commerce: The Transfer of Power from Sellers to Buyers. *Technological Forecasting and Social Change*.
- [31] Hajli, M., *et al.*, Continuance Participation in On-line Communities: a Social Commerce Perspective. *Technological Forecasting and Social Change Journal*, 2015. 96: p. 232-241.
- [32] Crosby, L.A.E., K.R. and D. Cowles, Relationship quality in services selling: An interpersonal influence perspective. *Journal of Marketing*, 1990. 54(3): p. 68-81.
- [33] Gustafsson, A., M.D. Johnson, and I. Roos, The effects of customer satisfaction, relationship commitment dimensions, and triggers on customer retention. *Journal of Marketing*, 2005. 69(4): p. 210-218.
- [34] Somers, T.M., K. Nelson and J. Karimi, Confirmatory factor analysis of the end-user computing satisfaction instrument. *Decision Sciences*, 2003. 34(3): p. 595-621.
- [35] Chen, S.-C., D.C. Yen, and M.I. Hwang, Factors influencing the continuance intention to the usage of Web 2.0: An empirical study. *Computers in Human Behavior*, 2012. 28: p. 933-941.
- [36] Bhattacharjee, A., An empirical analysis of the antecedents of electronic commerce service continuance. *Decision Support Systems*, 2001. 32(2): p. 201-214.
- [37] Premkumar, G. and A. Bhattacharjee, Explaining information technology usage: A test of competing models. *Omega The International Journal of Management Science*, 2008. 36: p. 64-75.
- [38] Fournier, S. and D.G. Mick, Rediscovering satisfaction. *Journal of Marketing*, 1999. 63(4): p. 5-23.
- [39] Bagozzi, R. and M. Gopinath, The role of emotions in marketing. *Journal of the Academy of Marketing Science*, 1999. 27(2): p. 184-206.
- [40] Bhattacharjee, A., Understanding Information Systems Continuance: An Expectation Confirmation Model. *MIS Quarterly*, 2001. 25(3): p. 351-370.
- [41] Cenfetelli, R.T., I. Benbasat, and S. Al-Natour, Addressing the and how of online services: Positioning supporting-services functionality and service quality for business-to-consumer success. *Information Systems Research*, 2008. 19(2): p. 161-181.
- [42] Hsu, M.C. The Management of Sports Tourism: A Causal Modeling Test of the Theory of Planned Behaviour. *International Journal of Management*, 2013. 30(2): p. 474-491.
- [43] Ajzen, I., The theory of planned behavior. *Organization Behavior and Human Decision Processes*, 1991. 50: p. 179-211.
- [44] Yu, T.K., N.H. Li, and K.S. Wu, An empirical research of Kinmen tourists' behavioral tendencies model- a case-validation in causal modeling. *Journal of tourist studies*, 2005. 11(4): p. 355-384.
- [45] Peterson, D.K., The Colbert Bump and The Facebook Follow-Through for Generation Snark: A Test and Extension of The Ajzen's Theory of Planned Behavior for 2012. *Journal of Management Research*, 2012. 4(3).



- [46] Pavlou, P.A. and L. Chai, What Drives Electronic Commerce across Cultures? A Cross-Cultural Empirical Investigation of the Theory of Planned Behavior. *Journal of Electronic Commerce Research*, 2002. 3(4): p. 240-253.
- [47] Sweeney, J.C., G.N. Soutar, and L.W. Johnson, Retail service quality and perceived value. *Journal of Retailing and Consumer Services*, 1997. 4(1).
- [48] Taylor, S. and P. Todd, Understanding information technology usage: a test of competing models. *Information Systems Research*, 1995. 6(2): p. 144-176.
- [49] Sheppard, B.H., J. Hartwick, and P. Warshaw, The theory of reasoned action: a meta-analysis of past research with recommendations for modifications and future research *Journal of consumer research*, 1998. 15(3): p. 325-343.
- [50] DeLone, W.H. and M. E.R, Information Systems Success: The Quest for the Dependent Variable. *Information Systems Research*, 1992. 3(1): p. 60-95.
- [51] Davis, F.D., Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 1989: p. 319-340.
- [52] Dholakia, U.M., R.P. Bagozzi, and L.K. Pearo, A social influence model of consumer participation in network-and small-group-based virtual communities. *International journal of research in marketing*, 2004. 21(3): p. 241-263.
- [53] Kim, H.-W., H.C. Chan, and S. Gupta, Value-based adoption of mobile internet: an empirical investigation. *Decision Support Systems*, 2007. 43(1): p. 111-126.
- [54] Bagozzi, R., Causal models in marketing. *Journal of Marketing Management*, 1980. 44: p. 126-128.
- [55] Straub, D., *et al.*, Validation Guidelines for IS Positivist Research. *Communications of the Association for Information Systems*, 2004. 13(24).
- [56] Steenkamp, J.B.E.M. and H. Baumgartner, On the use of structural equation models for marketing modeling. *International Journal of Research in Marketing*. 17: p. 195-202.
- [57] Gefen, D., D. Straub, and M.C. Boudreau, Structural Equation Modeling and Regression: Guideline for Research Practice. *Communications of the Association for Information Systems*, 2000. 4: p. 1-70.
- [58] Hair, J.F., *et al.*, *Multivariate Data Analysis*. Pearson.
- [59] George, A., *et al.*, A critical look at partial least squares modeling. *MIS Quarterly*, 2009. 33.
- [60] Hair, J.F., *et al.*, *Multivariate Data Analysis*, 6th edn, Pearson Prentice Hall, Pearson Education, Inc., Upper Saddle River, New Jersey 07458.
- [61] Bagozzi, R., Y. Yi, and L.W. Phillips, Assessing Construct Validity in Organizational Research. *Administrative Science Quarterly*, 1991. 36(3): p. 421-458.
- [62] Hair, J.F., *et al.*, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* 2014: SAGE Publications, Inc 328.
- [63] Jung, T.S., *Amos with research method*. Taipei: Wunan.
- [64] Fornell and Larcker, Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 1981. 48: p. 39-50.