Experience, motivations and confirmation of expectations in SNS satisfaction

Completed Research

Ilias O. Pappas
University of Agder and Norwegian
University of Science and Technology
ilias.pappas@uia.no

Sofia Papavlasopoulou
Norwegian University of Science and
Technology
spapav@ntnu.no

Abstract

As SNSs have an increasing importance in peoples' daily lives, this paper seeks to understand how user satisfaction with SNSs can be increased. Motivations to use SNSs include entertainment, information, social-psychological support, and convenience, and fulfilling these needs can lead to increased satisfaction. Here, we propose that motivations combine with confirmation of expectations and experience in years to explain user satisfaction with SNSs. We draw on complexity and configuration theories, present a conceptual model and perform a fuzzy-set qualitative comparative analysis (fsQCA). Through an empirically study with 582 SNSs users, we identify eight combinations (configurations) of motivations, confirmation of expectations, and experience that lead to high satisfaction. The findings highlight the different role of specific motivations when using SNSs and present combinations of motivations that need to be fulfilled in order to reach user satisfaction. Also, we present different solutions for users with different levels of expectation confirmation and experience, highlighting how high satisfaction can be achieved for both experienced and inexperienced users, as well as for users with confirmed or unconfirmed expectations. Finally, we present findings from both fsQCA and PLS-SEM highlighting the complementarity between the methods which can help into getting a deeper understanding of the sample, and by extension of the users. The paper concludes with implications for theory and practice, as well as limitations and suggestions for future research.

Keywords

Confirmation, Expectations, Experience, FsQCA, Motivation, Satisfaction, Social Networking Sites, Social Media,

Introduction

Social Networking Sites (SNSs), such as Facebook, Snapchat, Instagram, are part of many people's daily activities, as they spend increasing time, sharing personal information, communicating with friends, or using them as tools to improve their work. Although the overall number of SNSs' users increases regularly, not all platforms experience an equivalent increase in their user base, with some showing accelerated growth, like Snapchat (Carson 2017), and others showing a decline in market share, like Twitter (eMarketer 2016). This is due to intense competition among SNSs, as they always aim to offer improved and new services, but also on the fact that users evolve and may develop new needs, and motivations, thus seeking new experiences (Chung and Buhalis 2008; Krishen et al. 2016). SNSs are highly experiential and their value is created through users' interaction with them, transforming the way people communicate and creating new online communities with large impact on business and society (Dwivedi et al. 2018). There are numerous studies in the area of SNSs satisfaction and mainly its effect on usage, with many of them examining several of their characteristics as antecedents of behavior (Kim et al. 2011; Throuvala et al. 2019). Here, we propose a different approach to satisfaction focusing on internal factors as predictors of SNSs usage. As users' needs and motivations are influenced by the system they are using, we seek to understand how their motivations, the confirmation of their expectations and their previous experience can affect their overall satisfaction with SNSs.

As users become more experienced with SNSs, except their motivations, their expectations may differ, leading them to seek different ways to confirm and satisfy them (Bhattacherjee 2001; Kang et al. 2009).

Indeed, most of the studies in the area of e-service use and adoption have found that confirmation of expectations will lead to increased satisfaction (Hu et al. 2015; Yin et al. 2013). Traditionally, studies use variance-based methods and compute net-effects among variables (e.g., structural equation modelling (SEM) and multiple regression analysis (MRA)). These methods assume that relations between variables are symmetric, which however is unlikely to happen in real life complex situations (Urry 2005; Woodside 2017). Asymmetric relations exist among variables and to be able to capture them different methods are needed. It is quite likely that users are satisfied even if their expectations are not confirmed or they are dissatisfied when they are confirmed. Thus, there is a need to capture and explain users that have such combination of expectations and satisfaction. Also, due to the nature of SNSs we propose that expectations should be examined along with users' motivations and their experience in years, all important antecedents of user satisfaction.

Users with different motivations and different levels of expectations and experience might not be represented from the one-model-fits-all produced from the traditional regression-based models (RBMs). Indeed, these models suggest that a predictor needs to be both a necessary and sufficient condition to achieve the desired outcome because they assume relations among variables to be symmetric and compute one single best solution that explains the outcome. Focusing on symmetric relations may be misleading, since such effects do not apply to all cases in the dataset, thus the relationship between two variables is unlikely to be of symmetrical form (Ragin 2008; Woodside 2017). For instance, high convenience or confirmation may be sufficient for high satisfaction, however if convenience is absent then users may still be satisfied if they found the information they were looking for or their expectations were met. Thus, convenience may not be a necessary condition for the outcome, but it may be sufficient, depending on how it combines with other factors.

To this end, we draw on complexity and configuration theories (Woodside 2017) and aim to capture causal patterns of factors that lead to high satisfaction from SNSs use. Inherent in the theories is the principle of equifinality (i.e., multiple complex configurations of the same conditions can explain the same outcome) (Pappas 2018; Woodside 2014), and the principle of causal asymmetry (i.e., the causes explaining the presence of an outcome, are likely to be different from those explaining the absence of the same outcome) (Ragin 2008). Thus, the following research question is put forth:

RQ: *What conditions of motivations, confirmation of expectations, and previous experience are sufficient or necessary to create causal combinations that explain high satisfaction with SNSs?*

To address this research question we employ a fuzzy-set qualitative comparative analysis (fsQCA) (Ragin 2008), which can identify causal combinations of the different types of motivations, confirmation of expectations that lead to high satisfaction with SNSs for users with different levels of experience. The findings identify eight different combinations of the aforementioned factors that explain the outcome. None of the motivations or confirmation of expectations is a necessary or sufficient factor regardless of users' previous experience in years in explaining high satisfaction. The paper contributes to existing literature in several ways. First, it offers evidence on the combination of various motivations that need to be fulfilled to reach user satisfaction based simultaneously, on expectations and experience. Also, it shows that experienced and non-experienced users have different motivations and expectations that lead to different levels of satisfaction. Finally, we present findings from both fsQCA and traditional PLS-SEM showing the complementarity between the methods, enhancing the ability of fsQCA to a deeper understanding of users.

The paper is organized as follows. In Section 2, theoretical background on motivations and confirmation of expectations when using SNSs is presented, followed by a discussion on the conceptual model. Section 3 describes research methodology along with details on fsQCA implementation. Section 4 presents the empirical results, and section 5 discusses the findings highlighting theoretical, methodological, and practical implications, along with limitations and avenues for future research.

Background

Motivations and confirmation of expectations for choosing an SNS

The use of SNSs depends largely on ones' motivations and needs, which in turn can influence behavior; if these motivations are reached then the person is expected to feel satisfied. Based on the Expectation

Confirmation Theory (ECT) (Oliver 1980), the confirmation of one's expectations from an activity will lead to their increased overall satisfaction with this activity. The strong positive relation between confirmation and satisfaction is well established and verified by numerous studies that examine users' behavioral intentions. Similarly, in the context of SNSs studies show that when users' expectations are met then his or her satisfaction will be increased (Hu et al. 2015; Yin et al. 2013). However, studies show that previous experience (Pappas et al. 2014) or habit (Bae 2018) has been found to be important for forming users' satisfaction in e-services. Indeed, as experience increases users develop new needs, motivations, and expectations (Bhattacherjee 2001; Kang et al. 2009) and their fulfillment will influence their satisfaction (Oliver 2014) and by extension their behavioral intentions. For example, recently it was found that only for a group of users (male users) experience influenced their intention to continue using SNSs (Lin et al. 2017). Thus, we propose that different combinations of motivations for using SNSs exist, describing users with different levels of expectation confirmation and experience.

Furthermore, users' motivations in using SNSs or choosing an SNSs have been examined in order to understand how they influence their overall satisfaction (Bae 2018; Kim et al. 2011). Based on the uses and gratification theory (UGT) SNSs use depends on users' inner needs and motives (Raacke and Bonds-Raacke 2008). Motivations include socializing, entertainment, seeking information, and psychological support (Chung and Buhalis 2008; Kim et al. 2011; Krishen et al. 2016), and related to the potential benefits that SNSs may offer to their users by covering their needs (Chung and Buhalis 2008). People use SNSs for different reasons, such as to communicate with friends in a convenient and simple way, which may lead to a feeling of belongingness, encouragement and companionship (Kim et al. 2011). Also, by using SNSs, overtime, people are likely to make new acquaintances and create new relationships based on similar interests and preferences (Kim et al. 2011). In addition, individuals may use SNSs to seek information, on multiple occasions, from news to travelling information (Kourouthanassis et al. 2017), or to seek social and psychological benefits, which may be gained as people use SNSs over time (Chung and Buhalis 2008). Since the fulfilment of users' motivations and needs is an important factor in increasing satisfaction, further work is needed to provide an integrated view of SNSs by employing new methods that are able to give more insight into the area.

Conceptual Model

Various motivations have been recognized as important for choosing and using SNSs, with entertainment, information, social-psychological, and convenience being among the most important ones, and their influence on users' attitudes and behavior has been verified (Chung and Buhalis 2008; Kim et al. 2011; Throuvala et al. 2019). Furthermore, considering the fundamental role of satisfaction as a determinant of behavioral intentions (Oliver 2014), and the fact that different factors exist that may influence both satisfaction and its effect on behavior, we argue that we need to further explore its relationship with users' motivations. Additionally, as users' motivations are based on their internal needs and overall experience, which lead to overall satisfaction (Bhattacherjee 2001; Kang et al. 2009; Oliver 2014), we argue that their inclusion will offer more insight on their roles and how their presence or absence can lead to satisfaction.

The majority of current studies employ variance-based methods to build integrative models [e.g., (Bae 2018; Kim et al. 2011)], which assume a symmetric relation between the examined factors and focus on single best solutions with the best fit, not being able to capture asymmetric relations or explain different types of users. To address this gap, we examine users' satisfaction with SNSs by unravelling configurations of causally related sets of factors. Comparing findings from fsQCA and variance-based methods can also help identifying differences between them methods while offering more insight into the same dataset [e.g., (Liu et al. 2017; Skarmeas et al. 2014)] We posit that there is a synergy among motivations, confirmation of expectations, and experience in explaining satisfaction with SNSs, and theorize that there is not one single, optimal, configuration of such values. Instead, multiple and equally effective configurations of causal conditions exist, which may include different combinations of motivations, confirmation of expectations, and experience. Depending on how they combine, they may or may not explain users' high satisfaction from SNSs. *High* satisfaction means that the condition (i.e., satisfaction) is present in the solution. This approach allows the identification of asymmetrical relations among the examined factors and the outcome.
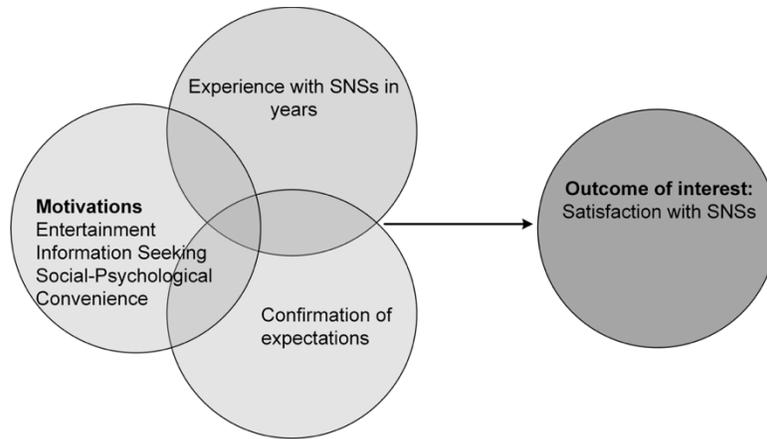
Figure 1. Venn diagram illustrating the conceptual model

Methodology

Sampling and measures

A survey-based research approach was followed, and custom-built survey instrument was developed, comprising of questions on background information of respondents and on the identified constructs. A snowball sampling methodology was used to attract respondents. The respondents were presented with a few examples of SNSs and were asked to answer based on their personal evaluations and perceptions. We aimed at about 1800 online shoppers, out of which 582 responded, who represent the final sample of this study which was retained for further analysis. The sample consists of more women (64%) than men (36%). The majority of the responders are between 25-34 years old (37%), 27% between 18-24, followed by 19% at the age of 35 to 44 and 12% were less than 17 years old. The rest were over 45 years old (5%). In terms of the educational status, the vast majority (50.7%) were university graduates.

In the survey respondents were presented with questions on their demographic characteristics, followed by questions on the constructs. Table 1 presents the definitions of the adopted constructs and their source in the literature. In all cases, except experience, 7-point Likert scales (1 Not at all - 7 Very Much) were used to measure the variables. For experience, the users were asked how many years they have been using SNSs. All users were experienced, and 40% had a 4-year experience with SNSs, while the rest (60%) used SNSs for over 4-years.

Construct	Definition	Source
Confirmation of motivations	Confirmation of expectations when using SNSs to fulfill users' motivations	(Kang et al. 2009)
Seeking Entertainment	Using SNSs for entertainment purposes	(Chung and Buhalis 2008; Kim et al. 2011)
Seeking Information	Using SNSs for seeking information and knowledge	
Seeking Social Psychological support	Using SNSs for seeking a relationship and involvement with other members	
Seeking Convenience	Using SNSs is generally easy and does not require a lot of effort	
Satisfaction with SNSs usage	Users' overall satisfaction when using SNSs	(Lu and Hsiao 2010)
Experience with SNSs	Users' number of years in using SNSs – Categorical variable	
Table 1. Constructs definition		

Reliability and validity

In terms of reliability, Composite Reliability showed that all constructs present high internal consistency. Regarding validity, all item loadings were above the threshold of 0.7. Further, all average variance extracted (AVE) values exceeded the minimum threshold of 0.5, and the square root AVE for all construct were greater than their respective correlations (Table 2).

Construct	Mean	SD	CR	AVE	Construct						
					1	2	3	4	5	6	7
1.Experience with SNSs	-	-	-	-							
2.Confirmation of needs	4.11	1.19	0.89	0.72	0.08	**0.85**					
3.Entertainment seeking behavior	4.10	1.19	0.82	0.53	-0.01	0.38	**0.73**				
4.Information seeking behavior	4.64	1.45	0.92	0.74	0.03	0.37	0.29	**0.86**			
5.Social Psychological seeking behavior	3.11	1.31	0.87	0.64	0.13	0.43	0.35	0.19	**0.80**		
6.Convenience	4.75	0.1.4	0.91	0.71	0.21	0.59	0.40	0.34	0.44	**0.84**	
7.Satisfaction	4.44	1.24	0.94	0.78	0.14	0.74	0.39	0.38	0.43	0.62	**0.89**
Note: Diagonal elements (in bold) are the square root of the average variance extracted (AVE). Off-diagonal elements are the correlations among constructs (all correlations higher than 0.1 are significant, p< 0.01;). For discriminant validity, diagonal elements should be larger than off-diagonal elements. Experience is a categorical variable.											
Table 2. Descriptive statistics and correlations of latent variables											

We test for multicollinearity and for common method bias by utilizing the common latent factor and the CFA marker variable techniques (MacKenzie and Podsakoff 2012). Variance inflation factor (VIF) for all factors is lower than the recommended value (<3), thus multicollinearity is not an issue. Common method bias is not a problem, as variance from the common latent factor and the CFA marker variable techniques, is 0.11 and 0.26, respectively.

Data analysis

fsQCA

The study applies fuzzy-set Qualitative Comparative Analysis (fsQCA) using fs/QCA 2.5 (Ragin and Davey 2014). FsQCA identifies patterns of elements, between independent and dependent variables, that lead to an outcome and goes a step further from the analyses of variance, correlations and multiple regression models (Woodside 2013). More details on the analysis may be found on (Pappas 2018). FsQCA offers two types of configurations, which include necessary and sufficient conditions. The configurations can be present or not present (i.e., negated) in a solution. The necessary and the sufficient conditions create a distinction among core and peripheral elements. Core elements are those with a strong causal condition with the outcome, peripheral elements are the ones with a weaker one (Fiss, 2011).

As a first step in fsQCA, all measures need to be calibrated into fuzzy sets with values ranging from 0 to 1 (Ragin 2008). This defines if a case is a member or not of a set and how much (fully, partially, not at all). The different levels of belonginess to a set will lead to the multiple combinations and solutions identified by fsQCA. We need to choose three thresholds that define the full membership threshold, the full non-membership, and the crossover point. As we use a 7-point Likert scale the calibration is done by following the procedure employed by previous studies [e.g., (Pappas 2018; Pappas et al. 2016)]. The full membership threshold is fixed at the value of 6; the full non-membership threshold is fixed at the value of 2; and, the crossover point was fixed at the value of 4. The values of every variable are calibrated based on a logistic function to fit into the three aforementioned thresholds.

Next, the fsQCA algorithm is applied to produce a truth table of 2^k rows, with k representing the number of outcome predictors, and each row representing each possible combination. As a final step, the truth table is sorted based on frequency and consistency (Ragin 2008). The frequency describes the number of observations for each possible combination. Consistency refers to *"the degree to which cases correspond to the set-theoretic relationships expressed in a solution"* (Fiss 2011). A frequency cut-off point needs to be set, in order to make sure that a minimum number of empirical observations is obtained for the assessment of subset relationships. The minimum acceptable observation frequency is set at three (Fiss 2011), and the lowest acceptable consistency for observations is set at >.85, higher than the recommended threshold of 0.75 (Ragin 2006).

Findings

The findings from the fsQCA for high satisfaction with SNSs are presented in Table 3. Every combination in the solution can explain the same outcome at a specific amount. The presence of a condition is presented by black circles (●) and its negation by crossed-out circles (⊗) (Fiss 2011). Blank spaces indicate a situation in which the causal condition may be present or absent with no influence on the solution. Core elements of a configuration are presented with large circles, peripheral elements with small ones. Consistency values are presented in Table 4 for every and the overall solution, with all values being higher than the recommended threshold (>0.75). Consistency shows the degree that a relationship has been approximated, and coverage evaluates the empirical relevance of a consistent subset (Ragin 2006). The overall consistency is similar to the correlation showing how strong is the solution, and the overall solution coverage indicates the extent to which high satisfaction may be determined from the existing configurations and is comparable to the R-square value reported in traditional regression analyses. The overall solution coverage of .86 shows that a very large amount of the outcome is explained by the eight solutions. FsQCA computes the empirical relevance for each solution, by calculating raw and unique coverage. The raw coverage describes the amount of the outcome that is explained by a certain alternative solution, while the unique coverage describes the amount of the outcome that is exclusively explained by a certain alternative solution. The solutions presented in Table 4 explain a great number of users' satisfaction with SNSs, ranging from 10% to 66% cases associated with the outcome.

Configuration	Solutions							
	1	2	3	4	5	6	7	8
Experience in years					●	●	⊗	⊗
Confirmation of expectations			●	●	⊗	⊗		●
Seeking entertainment	⊗	●		•	⊗	●	●	⊗
Seeking information		●	•		●	⊗	●	⊗
Seeking social psychological support	⊗				⊗	⊗	⊗	⊗
Seeking convenience	●	●	●	●				
Consistency	0.872	0.922	0.957	0.961	0.836	0.890	0.862	0.889
Raw Coverage	0.420	0.589	0.656	0.611	0.190	0.141	0.193	0.091
Unique Coverage	0.026	0.029	0.046	0.051	0.011	0.009	0.022	0.012
Overall solution consistency	0.845							
Overall solution coverage	0.863							
Note: Black circles indicate the presence of a condition, and circles with "x" indicate its negation. Large circles indicate core conditions; small ones, peripheral conditions. Blank spaces indicate the condition does not play a role in the specific solution.								
Table 3. Configurations leading to high satisfaction								

For high satisfaction when using SNSs, solutions 1-8 present combinations for which the examined factors may be present or absent, depending on how they combine with each other. In detail:

Solutions 1-4 describe users who use SNSs and mainly seek convenience and their experience in years is not important. This is a rather expected outcome considering the nature of SNSs and how easy is to access them. The solutions explain very large parts of the sample (Raw coverage range 42%-61%). However, convenience on its own is not sufficient to lead to satisfied users. Solution 1 describes users who do not seek neither entertainment nor social psychological support, regardless if their motivations are confirmed. On the other hand, solution 2 describes users who seek a combination of convenience, entertainment and information. Similarly, solutions 3-4 show that users whose overall expectations are confirmed, will be highly satisfied when they use SNSs out of convenience combined with either information or entertainment, respectively.

Solutions 5 and 6 describe users' who have high experience in years in using SNSs while their overall expectations are not confirmed. Indeed, these users will be satisfied when they are seeking only information or only entertainment, with the rest of the motivations being on low or medium levels. These solutions indicate to high experienced users that have very specific reasons for using SNSs (for information or entertainment) and even if their overall confirmations are not fully confirmed, they are still satisfied overall. This may refer to users that have very high expectations, due to the high experience, but still report high overall satisfaction as they are likely aware of their high expectations which might not be realistic. These solutions explain 19% and 14% of the sample.

Solution 7 describes users who have low experience in using SNSs. These users will be highly satisfied with SNSs when they seek to fulfil entertainment and information motivations, while their socio-psychological motivations remain at lowers levels. This points to users who have recently started using SNSs and solely focus on having fun with them or for learning new things. It is interesting to note here that confirmation of expectations does not play a role in explaining satisfaction, and it can either be at low or high levels. This solution explains 19% of the sample.

Solution 8 also describes users who have low experience in using SNSs. However, different from solution 7, this solution refers to users who have high confirmation of expectations from using SNSs but have lower levels in their information, entertainment, and socio-psychological motivations regardless of convenience. This indicates that there exist other motivations and reasons to use SNSs and could help to identify users' behavior when using a new SNSs. The latter is quite interesting considering the new number of SNSs that appear constantly. This solution explains 9% of the sample.

Performing a PLS-SEM analysis for the same model, the findings (Table 4) show that confirmation of expectations is the strongest predictor of satisfaction followed by seeking convenience. This is in accordance with fsQCA findings where convenience appears in four out of eight solutions. Especially when confirmation is also present, then those solutions (S3, S4) explain the largest part of the sample (65% and 62%). Also, seeking information and social psychological support both have a significant but smaller effect. Finally, PLS-SEM shows that seeking entertainment and experience have no effect on satisfaction. However, fsQCA shows that there are some cases in the sample for which entertainment and experience is important and plays a role in forming their satisfaction. The findings verify the complementarity of the two methods as by employing them together we can get a deeper insight into the data.

Antecedent	Effect on Satisfaction (R^2 = 0.61)
Experience in years	0.044, N.S.
Confirmation of expectations	**0.525***, $p < 0.001$**
Seeking entertainment	0.063, N.S.
Seeking information	**0.084**, $p < 0.01$**
Seeking social psychological support	**0.073*, $p < 0.05$**
Seeking convenience	**0.212***, $p < 0.001$**
Table 4. Findings from PLS-SEM analysis	

Discussion, Implications and Future Work

This study examines how users' motivations for choosing and using SNSs combine with their overall confirmation of expectations and their previous experience to explain their satisfaction. To identify such combinations, we draw from complexity theory and propose a conceptual model that includes four users' motivations (i.e., entertainment, information, social psychological, convenience), their confirmation of expectations, and experience. The findings lead to multiple combinations that explain high satisfaction with SNSs, offering several contributions addressing our research question and supporting our conceptual model.

We identify that the antecedents of high satisfaction are necessary parts of specific solutions, which solutions in turn are sufficient on their own in explaining the outcome. We verify the principles of complexity and configuration theories regarding equifinality and asymmetry (Woodside 2017) and offer the specific combinations that lead to high satisfaction. In detail, we unravel the different role of specific motivations when using SNSs offering evidence that it is combinations of motivations that need to be fulfilled in order to reach user satisfaction. Second, we present solutions in which satisfaction can occur when confirmation of expectations can be either at high or lower levels. Third, we show that users with different amount of years in experience have different motivations and expectations, which need to be combined in specific ways in order to explain satisfaction. Finally, we compare fsQCA findings with traditional PLS-SEM analysis highlighting the complementarity between the methods which can help into getting a deeper understanding of the sample, and by extension of the users.

The findings show that convenience is present (i.e., high) in 4 out of 8 solutions and always as a core factor, suggesting that it has a critical role in driving user satisfaction (Kim et al. 2011). In general, it is expected that users will prefer to use services or tools that are easy to use, can be accessed at all times, and do not require increased effort. Smartphone advancement allows users to get such services, increasing their satisfaction. Also, the findings show that convenience is always combined with some of the other motivations describing users with different needs from SNSs. Furthermore, confirmation of expectations does not always need to be high for satisfaction to be achieved, suggesting that even when disconfirmation occurs users can be satisfied depending on the presence of other factors. However, as confirmation and disconfirmation are different conceptually, more research is needed for a better understanding on what happens when expectations are not confirmed, and fsQCA can help us go deeper into expectations of specific users to explain why they were not confirmed. For example, having high unrealistic expectations but being aware of it as a power/experienced user would do. Indeed, in the context of e-services previous experience (Pappas et al. 2014) and habit (Bae 2018) has been found to be important for forming users' satisfaction .

The theoretical implications of stem from the novel approach and methodology that is employed. In detail, we differentiate from the majority of the studies that are based on variance-based methods to investigate user experience and satisfaction with SNSs [e.g., (Bae 2018; Kim et al. 2011)]. These methods are based on the assumption that the relation among variables is symmetric. However, in real life relation among variables can be asymmetric, thus we bridge complexity and configuration theories with fsQCA to identify this asymmetry between users' motivations, confirmation of expectations, and experience that can lead to increased satisfaction, which may lead to the creation of new hypotheses and theories (Fiss 2011; Woodside 2017). To this end, recent studies have employed fsQCA in the area of online services and SNSs (Kourouthanassis et al. 2017; Krishen et al. 2016; Pappas et al. 2017). Through asymmetric analysis we identify the necessary and sufficient conditions that lead to the outcome, high satisfaction, going beyond the common discussion on the most important factor and the single best solution of symmetric tests. Furthermore, we present findings from both fsQCA and PLS-SEM showing that the two methods are complementary, and while PLS-SEM can identify a single best solution explaining a large part of the sample, fsQCA adds more to that by showing more solutions that describe different types of users. Also, fsQCA shows that some factors (e.g., experience, entertainment) can play a role for some type of users, even if the traditional PLS-SEM showed that they have no effect on satisfaction.

The findings of this study provide useful implications for managers and practitioners of SNSs. In detail, they can gain insight on what motivates their satisfied users, how they can address users that have confirmation or disconfirmation of expectations, and how motives and expectations differ for experienced users. It is important for practitioners to interact frequently with their users to better understand what

influences their behavior. The identified solutions provide support to managers and practitioners on how to improve their different strategies for the various business models that focus on users' high satisfaction since it can be achieved via various ways. The intense competition among SNSs, along with users' always developing new needs and requirements (Chung and Buhalis 2008; Krishen et al. 2016), suggests that further research is needed in the area. Indeed, practitioners can build upon the identified paths in this study to better explain the rationale of users' decisions, and by extension focus on specific functionality or create more effective communication strategies. For example, as users gain more experience over time the information they receive can change, following consistent approaches for offering personalized information in SNSs which can lead to improved experience.

The study suffers from some limitations. First, the sampling method may limit the generalization of the findings as snowball sampling was used to recruit respondents. The findings are based on self-reported data. Future studies may combine self-reported data with insight from social media analytics which can be transformed accordingly to be analyzed using asymmetric methods and fsQCA, following similar approaches in other fields (Papamitsiou et al. 2018). These can be extended by including critical dimensions of trust in SNSs communication (Cheng et al. 2017), as it can influence the reasons for being satisfied with an SNS and choosing to use it over time. FsQCA does not capture the unique contribution of every variable for every solution, instead it identifies complex combinations of variables and the amount of the outcome that is explained by these combinations. Finally, since the way people use SNSs differs significantly (Kapoor et al. 2017), future studies may investigate how user motivations and confirmation and experience from SNSs usage differ in different markets and countries.

REFERENCES

Bae, M. 2018. "Understanding the Effect of the Discrepancy between Sought and Obtained Gratification on Social Networking Site Users' Satisfaction and Continuance Intention," *Computers in Human Behavior* (79), pp. 137-153.

Bhattacherjee, A. 2001. "Understanding Information Systems Continuance: An Expectation-Confirmation Model," *MIS quarterly* (25), pp. 351-370.

Carson, B. 2017. "Here's Everything You Need to Know About How Many People Are Using Snapchat.", from http://nordic.businessinsider.com/how-many-people-use-snapchat-user-numbers-2017-2?r=US&IR=T

Cheng, X., Fu, S., and de Vreede, G.-J. 2017. "Understanding Trust Influencing Factors in Social Media Communication: A Qualitative Study," *International Journal of Information Management* (37:2), pp. 25-35.

Chung, J. Y., and Buhalis, D. 2008. "Information Needs in Online Social Networks," *Information Technology & Tourism* (10:4), pp. 267-281.

Dwivedi, Y. K., Kelly, G., Janssen, M., Rana, N. P., Slade, E. L., and Clement, M. 2018. "Social Media: The Good, the Bad, and the Ugly," *Information Systems Frontiers* (20:3), pp. 419-423.

eMarketer. 2016. "Twitter's Share of Us Social Network Users Is Dropping." from https://www.emarketer.com/Article/Twitters-Share-of-US-Social-Network-Users-Dropping/1014343

Fiss, P. C. 2011. "Building Better Causal Theories: A Fuzzy Set Approach to Typologies in Organization Research," *Academy of Management Journal* (54:2), pp. 393-420.

Hu, T., Kettinger, W. J., and Poston, R. S. 2015. "The Effect of Online Social Value on Satisfaction and Continued Use of Social Media," *European Journal of Information Systems* (24:4), pp. 391-410.

Kang, Y. S., Hong, S., and Lee, H. 2009. "Exploring Continued Online Service Usage Behavior: The Roles of Self-Image Congruity and Regret," *Computers in Human Behavior* (25:1), pp. 111-122.

Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K., and Nerur, S. 2017. "Advances in Social Media Research: Past, Present and Future," *Information Systems Frontiers*), pp. 1-28.

Kim, Y., Sohn, D., and Choi, S. M. 2011. "Cultural Difference in Motivations for Using Social Network Sites: A Comparative Study of American and Korean College Students," *Computers in human behavior* (27:1), pp. 365-372.

Kourouthanassis, P. E., Mikalef, P., Pappas, I. O., and Kostagiolas, P. 2017. "Explaining Travellers Online Information Satisfaction: A Complexity Theory Approach on Information Needs, Barriers, Sources and Personal Characteristics," *Information & Management* (54:6), pp. 814-824.

Krishen, A. S., Berezan, O., Agarwal, S., and Kachroo, P. 2016. "The Generation of Virtual Needs: Recipes for Satisfaction in Social Media Networking," *Journal of Business Research* (69:11), pp. 5248-5254.

Lin, X., Featherman, M., and Sarker, S. 2017. "Understanding Factors Affecting Users' Social Networking Site Continuance: A Gender Difference Perspective," *Information & Management* (54:3), pp. 383-395.

Liu, Y., Mezei, J., Kostakos, V., and Li, H. 2017. "Applying Configurational Analysis to Is Behavioural Research: A Methodological Alternative for Modelling Combinatorial Complexities," *Information Systems Journal* (27:1), pp. 59-89.

Lu, H.-P., and Hsiao, K.-L. 2010. "The Influence of Extro/Introversion on the Intention to Pay for Social Networking Sites," *Information & Management* (47:3), pp. 150-157.

MacKenzie, S. B., and Podsakoff, P. M. 2012. "Common Method Bias in Marketing: Causes, Mechanisms, and Procedural Remedies," *Journal of Retailing* (88:4), pp. 542-555.

Oliver, R. L. 1980. "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions," *Journal of Marketing Research* (17:4), pp. 460-469.

Oliver, R. L. 2014. *Satisfaction: A Behavioral Perspective on the Consumer*. Routledge.

Papamitsiou, Z., Economides, A. A., Pappas, I. O., and Giannakos, M. N. 2018. "Explaining Learning Performance Using Response-Time, Self-Regulation and Satisfaction from Content: An Fsqca Approach," *Proceedings of the 8th International Conference on Learning Analytics and Knowledge*: ACM, pp. 181-190.

Pappas, I. O. 2018. "User Experience in Personalized Online Shopping: A Fuzzy-Set Analysis," *European Journal of Marketing* (52:7/8), pp. 1679-1703.

Pappas, I. O., Kourouthanassis, P. E., Giannakos, M. N., and Chrissikopoulos, V. 2016. "Explaining Online Shopping Behavior with Fsqca: The Role of Cognitive and Affective Perceptions," *Journal of Business Research* (69:2), pp. 794-803.

Pappas, I. O., Papavlasopoulou, S., Kourouthanassis, P. E., Mikalef, P., and Giannakos, M. N. 2017. "Motivations and Emotions in Social Media: Explaining Users' Satisfaction with Fsqca," *Conference on e-Business, e-Services and e-Society*: Springer, pp. 375-387.

Pappas, I. O., Pateli, A. G., Giannakos, M. N., and Chrissikopoulos, V. 2014. "Moderating Effects of Online Shopping Experience on Customer Satisfaction and Repurchase Intentions," *International Journal of Retail & Distribution Management* (42:3), pp. 187-204.

Raacke, J., and Bonds-Raacke, J. 2008. "Myspace and Facebook: Applying the Uses and Gratifications Theory to Exploring Friend-Networking Sites," *Cyberpsychology & behavior* (11:2), pp. 169-174.

Ragin, C. C. 2006. "Set Relations in Social Research: Evaluating Their Consistency and Coverage," *Political Analysis* (14:3), pp. 291-310.

Ragin, C. C. 2008. *Redesigning Social Inquiry: Fuzzy Sets and Beyond*. Wiley Online Library.

Ragin, C. C., and Davey, S. 2014. "Fs/Qca [Computer Programme], Version 2.5," *Irvine, CA: University of California*).

Skarmeas, D., Leonidou, C. N., and Saridakis, C. 2014. "Examining the Role of Csr Skepticism Using Fuzzy-Set Qualitative Comparative Analysis," *Journal of business research* (67:9), pp. 1796-1805.

Throuvala, M. A., Griffiths, M. D., Rennoldson, M., and Kuss, D. J. 2019. "Motivational Processes and Dysfunctional Mechanisms of Social Media Use among Adolescents: A Qualitative Focus Group Study," *Computers in Human Behavior* (93), pp. 164-175.

Urry, J. 2005. "The Complexity Turn," *Theory Culture and Society* (22:5), p. 1.

Woodside, A. G. 2013. "Moving Beyond Multiple Regression Analysis to Algorithms: Calling for Adoption of a Paradigm Shift from Symmetric to Asymmetric Thinking in Data Analysis and Crafting Theory," *Journal of Business Research* (66:4), pp. 463-472.

Woodside, A. G. 2014. "Embrace• Perform• Model: Complexity Theory, Contrarian Case Analysis, and Multiple Realities," *Journal of Business Research* (67:12), pp. 2495-2503.

Woodside, A. G. 2017. *The Complexity Turn: Cultural, Management, and Marketing Applications*. Berlin: Springer.

Yin, G., Zhu, L., and Cheng, X. 2013. "Continuance Usage of Localized Social Networking Services: A Conceptual Model and Lessons from China," *Journal of Global Information Technology Management* (16:3), pp. 7-30.