SOCIO-PSYCHOLOGICAL FACTORS INFLUENCING CONTINUANCE INTENTION OF PARTICIPANTS USING ONLINE SOCIAL NETWORKS TO BUY

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Abstract

The purpose of this study is to investigate the influence of perceived trust (PT), social norm (SN), user satisfaction (US) and perceived behavioural control (PBC) from the perspective of online social networks (OSNs) and how these factors influence continuance intention of OSN participants who have ever been influenced to buy on this platform to continue buying from OSNs. Online survey was used to collect data from people who have ever used OSNs to buy, at least once. The WarpPLS 4.0 was used to analyse measurement and structural models resulting in significant evidence in support of PT, SN and US as predictors of OSN continuance intention, different from the traditional web-based transactions. For instance, trust in OSN is revealed to be based mainly on the degree of the social relations that users have with their vendors because they are members on the network, on top of their experiences of Web service use. US were influenced by PBC, while US also influenced SN and PT with PT exhibiting a strong relationship with SN. These results have practical implications for individuals desiring to engage in commercial activities on OSNs.

Key Words: Continuance intention, OSN, Participants

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1. Introduction

Online Social Networking (OSN) can be defined as a group of Internet-based applications that utilizes web 2.0 technologies in order to allow the creation and exchange of user-generated content (Chui 2013). It offer a way to achieve efficient communications and distribution of messages, directly with customers at very low costs and with highly targeted messages and content, such as special pricing or other promotions for certain customers and markets. It offers more effective ways to engage more with customers, e.g. for advertising and marketing certain products, through interactive media such as chat room. Additionally, they can be used to build customer communities, which can be tapped for marketing and product development. In this way, social media helps customers to communicate with one another, in a way in which companies can actively or passively participate. In recent years, the number of online customer communities has grown continually ranging from Adobe’s forums, which have more than one million members to SC Johnson’s Right@Home platform that promotes products via articles and information relating to particular topics (Chui 2013).

The traditional electronic commerce popularly known as website commerce or e-commerce on the otherhand, builds applications on the principles of service offer and request, loose coupling and cross organisation flow (Maamar et al 2011). When businesses participate in Web services for business needs they mean service compositions based on functionality offering and the quality of service (QoS). A tabular summary of some of the differences is shown below. For the purposes of this paper, business transaction is defined as any form of buying and selling on OSN.
Table 1. Web service management strategies

<table>
<thead>
<tr>
<th>Comparative elements</th>
<th>Basic web site</th>
<th>Social networks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Profile</strong></td>
<td>User profile built following regular use of Web services</td>
<td>User profile built following regular use of Web services and social relations that users maintain with others; relations are either explicit or implicit</td>
</tr>
<tr>
<td><strong>Composition</strong></td>
<td>Web service composition driven by individual users familiar with composition techniques and constraints</td>
<td>Web service composition driven by the needs and previous experiences of each social network’s members</td>
</tr>
<tr>
<td><strong>Trust</strong></td>
<td>Trust directly established between user and Web service provider</td>
<td>Trust mainly related to the strength of the social relations that users have on top of their experiences of Web service use</td>
</tr>
<tr>
<td><strong>Advertising</strong></td>
<td>Web service advertisement done by its provider</td>
<td>Web service advertisement taken care of by users via their social contacts; better use of Web services because of trust in these contacts</td>
</tr>
</tbody>
</table>

*Source: (Except from Maamar et al 2011 p.93)*

The use of Twitter to buy something or advertising on LinkedIn operates on different dynamics as compared to basic website. For instance, companies participating on a particular OSN are able to communicate, respond to will-be buyers in real time and sell them products and services. A typical example is the diagram below which shows how a potential buyer was made to decide to buy.

**Figure 1.** A snapshot of a Twitter follower who has decided to buy (Collinkromke.com/ford-twitter)

OSNs are typically social groups formed by the interdependent relationship between people, factors such as peer pressure and friends’ recommendations become natural driving forces for users to switch to sites where most of their friends are (Wu et al 2014) and this could be good gestures for business.

However the current literature on OSNs has primarily focused on the general issues surrounding online trading, architecture of social networking services applied to business, trends of online social networks and identification of key users of online social networks (Fortino and Nayak 2010, Kaplan and Haenlein 2010, Ostrom et al. 2010, Pallis et al, 2010, Shiau and Luo 2013). Not much has been written to understand the influence of socio-psychological factors of user satisfaction, perceived trust, social norm and perceived behaviour control on the continuance intention of people using OSNs for business transactions.

With this gap in mind, this paper investigates the influence of socio-psychological factors namely: user satisfaction, perceived trust, social norm and perceived behavioral control on the continuance intention of people using OSNs to transact business.

In this context, the psychological factors (user satisfaction and perceived trust) and the social factors (social norm and perceived behavioural control) that affect behaviours of people using OSNs for business transactions are examined. Business transaction in this paper, is the interaction between OSN participants, vendors and network providers engaging in business activities on OSNs.
2. Theoretical background and hypothesis development

This study applies expectation-confirmation theory (Bhattacherjee 2001), theory of planned behaviour (Ajzen 1991) and theory of trust (Castelfranchi and Falcone 2010) to study participants behaviour and repurchase intention in this paper, as theoretical foundation to address its objectives. These theories which have been used greatly in the extant IS literature can be extended to apply to this study since OSN is also a web 2.0 online phenomenon.

2.1. Expectation-confirmation theory

The logic of expectation-confirmation theory (ECT) posits user satisfaction to be the most important determinant of individual’s continuance intention (Oliver 1980, Bhattacherjee 2001). The ECT (Bhattacherjee 2001) has its roots in the technology acceptance model (TAM) and customer satisfaction/dissatisfaction model (CS/D) (Oliver and Burke 1999). TAM was developed for the information systems discipline and it has received a wide range of applications among information system researchers because of its strong foundation in psychological theory (Taylor and Todd 1995). The parsimonious nature of the theory allows it to be used as a guideline to develop a successful information system (Venkatesh and Davis 2000). However, attention has shifted from information system acceptance to continuance intention (Bhattacherjee 2001, Liao et al. 2009, Akter et al. 2013, Shiau and Luo 2013). The CS/D was originally designed in marketing research to model customer repurchase behavior (Oliver 1981). CS/D is not dedicated to the modeling of information system continuance per se, but it is a general model for describing a person’s reiterative behaviour in performing certain tasks (Oliver 1980). The relationship between user satisfaction and continuance intention is well supported by a lot of research findings (Bhattacherjee 2001, Liao et al. 2009, Yusliza and Ramayah 2011, Akter et al. 2013, Shiau and Luo 2013).

Studies on customer satisfaction scarcely address the influence of satisfaction on social norm. This create room for more investigation. Customers will be expected to raise satisfaction with services that are offered by an OSN when they trust the OSN (Kassim and Abdullah 2008). This important premise leads us to the following hypothesis:

H1: Users’ satisfaction with OSNs will positively influence their continuance intention to use OSNs for business transactions.

H2: Users’ satisfaction with OSNs will positively influence their ability to succumb to pressure or to put pressure on others to use OSNs for business transactions.

H3: Users’ satisfaction with OSNs will positively influence their perceived trust in OSNs for business transactions.

2.1.1 Theory of socio-cognitive trust

The theory of socio-cognitive trust (TST) defines trust as a notion that is appraised by agents in terms of cognitive ingredients (Castelfranchi and Falcone 2010). TST treats cognitive trust as a relational factor between a trustor (trust giver) and a trustee (trust receivers). This relationship can be established in a given environment or context and most importantly, about a defined activity or task to be fulfilled. Individuals choose who they will trust and base this decision on what they believe are “good reasons” (McAllister 1995). The choice to trust and the search for “good reasons” suggest a process by which one determines that an individual, group or organization is trustworthy (McAllister 1995). Trust is a significant psychological factor of electronic loyalty and is crucial for users to embrace risk that comes with online transactions (McCole et al. 2010, Xu and Liu 2010). The existence of trust by nature will make participants comfortable and take the words of of to be vendors in their network serious. The issue of trust is particularly germane when it comes to business, let alone conducting such business in an environment such as OSN where users do not see each other physically. The lack of trust could impact negatively on users (McKnight et al. 2002, Gefen and Heart 2006).

H4: Perceived trust in OSNs will positively influence the ability of users to succumb to pressure or to put pressure on others to use OSNs for business transactions.

H5: Perceived trust in OSNs will positively influence continuance intention of users to use OSNs for business transactions.

2.1.2 Theory of planned behaviour

The theory of planned behaviour (TPB) (Ajzen 1991) is an extension of the theory of reasoned action which came as a result of some limitations found in the original model (Bhattacherjee 2001). TPB posits that intentions of individuals are the closest determinants of their behaviours, with intention as a concept to capture the motivation of an individual to perform a given behavior (Ajzen 1991). TPB is a well-grounded framework for conceptualizing, measuring and empirically identifying factors that determine behavioural intention which is an immediate originator of behaviour (Ajzen 2008, Vermeir and Verbeke 2008). According to TPB, behavioural intention depends on three major factors of attitude towards performing behaviour, social norm and perceived behavioural control. These factors represent the subjective probability that an individual will engage in behaviour (Wu 2006). The stronger the
intent of an individual to perform a behaviour, the greater the likelihood of the individual engaging in that behaviour (Ajzen 2008). TPB was recently applied to confirm factors of attitude, perceived behavioural control and social norm as predicting intentions to use social networking sites (Baker and White 2010) and proved successful. This paper therefore posits that:

$H_6$: The ability of users to succumb to pressure or to put pressure on others to use OSNs will positively influence their continuance intention to use OSNs for business transactions.

$H_7$: Perceived behavioural control over OSNs will positively influence users’ satisfaction with OSNs for business transactions.

$H_8$: Perceived behavioural control over OSNs will positively influence continuance intention of users to use OSNs for business transactions.

3. Methodology

3.1. Subject

Online survey was used for this study. Subjects were drawn from online survey agent’s database and these were sent the survey questionnaire to fill out. An introduction letter explained the essence of the survey and assured respondents of confidentiality. A total of 300 valid responses were used to analyse the result.

3.2. Measurement

Five factors were measured by multiple item scales. These factors were adopted from pre-validated measures in social science, marketing and information system studies and subjects were asked to rate using a five point Likert scale rating. The ratings ranged from (1) strongly disagree to (5) strongly agree to measure the relative importance of measurement items. As participants filled in this questionnaire online, the results trip in directly to the database of the agent. With the researcher having a copy of the weblink address of this questionnaire, it was visted about five times a day to monitor the incoming responses. A dashboard enabled this functionality and the inbuilt tools displaying the IP addresses of the systems used to answer the questionnaire made it easy to track responses. No one person could respond twice.

4. Data analysis and results

4.1 Measurement model

The measurement model was evaluated in terms of reliability and validity using PLS 4.0 (Kock 2010). The model validity tells whether a measuring instrument measures what it was supposed to measure (Raykov 2011). The validity was measured by the estimate of convergent validity and discriminate validity. Convergent validity shows the extent to which items of a specific factor represent the same factor and is measured using a standardised factor loading which should be above 0.5 (Fornell and Larcker 1981). The results generated provided evidence of acceptable convergence validity. Discriminate validity indicates the extent to which a given factor is truly distinct from other factors (Suki 2011). A commonly used statistical measure of discriminant validity is a comparison of the Average Variance Extracted (AVE) with the correlated squared root (Fornell and Larcker 1981). In order to pass the test of discriminate validity, the AVE of factor must be greater than the square root of the inter-factor correlations (Fornell and Larcker 1981). The AVE determines the amount of variance that a factor captures from its measurement items (Henseler et al. 2009). Table 4 shows the AVE values and the correlations among factors with the square root of the AVE in brackets on the diagonal. The diagonal values exceed the inter-factor correlations, therefore it can be inferred that discriminate validity was acceptable. This study therefore concludes that measurement scales have sufficient validity and demonstrates high reliability.

Table 2. Factor AVE and correlation measures

<table>
<thead>
<tr>
<th>Factor</th>
<th>AVE</th>
<th>PBC</th>
<th>SN</th>
<th>US</th>
<th>PT</th>
<th>OSN-CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBC</td>
<td>0.794</td>
<td>(0.891)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SN</td>
<td>0.750</td>
<td>0.644</td>
<td></td>
<td>(0.866)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>0.812</td>
<td>0.565</td>
<td>0.610</td>
<td></td>
<td>(0.901)</td>
<td></td>
</tr>
<tr>
<td>PT</td>
<td>0.693</td>
<td>0.578</td>
<td>0.573</td>
<td>0.604</td>
<td></td>
<td>(0.833)</td>
</tr>
<tr>
<td>OSN-CI</td>
<td>0.656</td>
<td>0.569</td>
<td>0.612</td>
<td>0.610</td>
<td>0.649</td>
<td></td>
</tr>
</tbody>
</table>

4.2. Structural models

Warped and linear relationships between latent variables

WarpPLS 4.0 was used to display the relationship between latent variables in a form of plotted graphs. The graphs below, display the latent variables’ standard values, interpreted in light of changes in standard deviation values. Since a 5-point Likert scale was used to measure the intensity of each construct, a mean score of 2.5 indicates a neutral response, while a mean score of 1 represents an extremely negative response and 5 an extremely positive response.
As evinced from Figure 1, although the relationship is positively supported, it is not linear and begins to intensify at approximately -2.70 standard deviation to the right of the mean. In terms of a 5-point Likert scale, it equals 0.366 when the mean (M=0.311) is added to one half of a standard deviation (SDev=0.110). In other words, this graph shows a nonlinear relationship, in which OSN use intensity for business transactions, begins to enhance satisfaction at a 0.366 Likert scale point threshold.

The next variable that displayed a significant relationship (most) with OSN, is hypothesis 4 (H4). It proposed that, perceived trust in OSNs will positively influence continuance intention of users to use OSNs for business transactions, and also showed a significant relationship to support H4. The significant level is $\beta=0.363, p=0.0042$, and this practically means that for every 0.42 percent increase in social network site use intensity, there is supposed to be a 36 percent increase in trust level, towards the OSN.
H6 is another significant relationship that emerged in this study, showing a positive association between SN and OSN ($\beta=0.246, p=0.0453$). Figure 3 shows that, after passing the mean at -3.50 on the 5-point Likert scale, the greater the use of OSN sites for business transactions, the more users became influenced by social norms, until somewhere around -1.58, where the influence starts yielding an increase in a diminishing fashion. Practically, it means that the majority of OSN participants for business activities, who turned out to be young (26-35) according to this study, for every 4.5 percent of pressure exerted on them by their peers and their social network cycle of friends, there is a 24.6 percent result that they yield to this influence, until such a time that they trust the site and therefore, the pressure from friends then begins to yield little influence. Thus, the strong positive relationship between these two factors should give practitioners clues to appropriate policy formulation and implementation.

The last variable that showed no significant relationship to OSN for business transactions is H8. Thus, PBC over OSNs will positively influence continuance intention of users to use OSNs for business transactions ($\beta=0.10, p=0.2265$). The graph in Figure 4 shows almost zero influence of PBC on OSN-CI at -3.76 mean of PBC. This means, when users decide to do business on OSN, equipment or access points to these OSN sites are not a problem at all. It is, however, worth noting that, although the relationship is not significant, OSN use for business transactions starts to demand availability of these accessible tools at a certain level. This threshold appears to be around 0.17 standard deviation to the right of the mean of the PBC. This level, in terms of
the 5-point Likert scale, is calculated as (M=0.12) + 0.5(SDev=0.10), equalling 0.17.

The graph, though showing a nonlinear relationship, starts to demand PBC to enhance OSN continuance intention at a 0.17 Likert scale point threshold. It means that, when one decides to transact business on a social network, initially, tools such as computers and the like will not hinder the operation, but as the intention to continue using these sites as the choice of business medium increases, these gadgets will become necessary, in order to shape the behaviour to continue use.

4.3. Hypothesis testing

The bootstrapping technique was used to perform statistical testing (t-test) of path coefficients of the hypotheses. Table 6 shows the result of the testing with seven out of eight hypotheses supported. Each hypothesis was determined by examining statistical significance of the t-value for its corresponding path. All path leading to OSN continuance intention were supported except hypothesis 8 (Monroe 1990). User satisfaction shows a positive influence on OSN continuance intention (β=0.127, p=0.0292) supporting hypotheses H1 and perceived trust (β=0.683, p=0.0001) supporting hypothesis H2. The importance of satisfaction in the life of people using OSN was again seen when user satisfaction showed influence on social norm (β=0.441, p=0.0001) to support hypothesis H3. Furthermore, perceived trust proved to be a crucial factor in business transactions on OSN by exhibiting a strong influencing relationship with continuance intention (β=0.363, p=0.0042) to support the hypothesis H4. Perceived trust is also found by this study to have influence on social norm (β=0.264, p=0.0025) hence supporting hypothesis H5.

The path coefficient between social norm and continuance intention is interestingly significant (β=0.246) at a significance level of p=0.0453, supporting hypothesis H6. In addition, perceived behavioural control showed an extremely significant influence on user satisfaction (β=0.642, p=0.0001) to support hypothesis H7. In information technology continuance intention research, perceived behavioural control has not been thoroughly investigated. This study have found perceived behavioural control to have a non-significant influence on OSN continuance intention (β=1.212, p=0.2265), proving to be no force in deciding to do business on OSN. That is to say, hypothesis H8 is not supported. This could be because of the fact that in these modern days, several devices abound in a lot of varieties to access online businesses. The devices range from desktop to handheld computers such as cell phones, smart phones and iPad. Within few seconds of attempt, one could easily access the Internet with these devices without having to go through any formal training. As expected, all hypothesized paths in the OSN model were significant at various levels except this last path of H8. This result is expected because having control over using an OSN does not always implies the continuance intention of people to use the OSN for business transactions.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Cause</th>
<th>Coefficient</th>
<th>t-value</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSN continuance intention</td>
<td>User satisfaction</td>
<td>0.11</td>
<td>0.21</td>
<td>H1 supported</td>
</tr>
<tr>
<td>Perceived trust</td>
<td>User satisfaction</td>
<td>0.68</td>
<td>0.60</td>
<td>H2 supported</td>
</tr>
<tr>
<td>Social norm</td>
<td>User satisfaction</td>
<td>0.43</td>
<td>0.42</td>
<td>H3 supported</td>
</tr>
<tr>
<td>OSN continuance intention</td>
<td>Perceived trust</td>
<td>0.35</td>
<td>0.33</td>
<td>H4 supported</td>
</tr>
<tr>
<td>Social norm</td>
<td>Perceived trust</td>
<td>0.27</td>
<td>0.32</td>
<td>H5 supported</td>
</tr>
<tr>
<td>OSN continuance intention</td>
<td>Social norm</td>
<td>0.26</td>
<td>0.22</td>
<td>H6 supported</td>
</tr>
<tr>
<td>User satisfaction</td>
<td>Perceived behavioural control</td>
<td>0.65</td>
<td>0.56</td>
<td>H7 supported</td>
</tr>
<tr>
<td>OSN continuance intention</td>
<td>Perceived behavioural control</td>
<td>0.10</td>
<td>0.12</td>
<td>H8 unsupported</td>
</tr>
</tbody>
</table>

Note: *p<0.05, **p<0.01, ***p<0.001 (two-tailed t-tests)

5. Empirical findings and theoretical contributions

Results from this paper proved perceived trust to be the most important direct determinant of OSN continuance intention. On one hand, users might fear supplying their credit card information to any commercial OSN business provider because of online security threats which is a common phenomenon nowadays. On the other hand, a commercial OSN service provider may fear the effort of network hackers who may intend to steal credit card numbers for their selfish interests. This cycle of suspicion borders on trust which calls for the correct methods to be established to sustain a trusting relationship with participants? The findings are therefore not surprising when perceived trust emerged as the greatest influencing factor that will compel users to indulge in business transactions. This gives support to several other studies that have focused on various issues of trust in electronic commerce (Awad and Ragowsky 2008, Kim et al. 2008, Vance et al. 2008). It can be deduced from this analysis that users will only deal with OSN that they perceive to be
trustworthy. Trust does not come overnight, but through a process and continuous interactions between a particular OSN and customers. The first theoretical contribution is therefore made by suggesting that OSN vendors search for strategies that builds not only the initial trust that users look for before creating the intention to use their OSN but a continuous trusting relationship with participants of OSNs.

Social norm is found to be the next direct determinant of OSN continuance intention. Following the line of argument that social norm is a strong influencing factor to create an intention (Sripalawat et al. 2011), this study lends support to that result by finding social norm to be the second most important determinant of OSN continuance intention. Consequently, the second theoretical contribution of this study is that OSN business providers who intend to win more customers should adopt the strategy of peer pressure to whip users in using their websites. In particular, the popularity of social media can be explored to create interpersonal interactions among blogs and networking communities. After they come to the OSN, electronic vendors should be honest, mindful of privacy and security of the users as well as provide them with improved services and products. The bulk of our respondents are young people between the age of 18 and 35 who do business online (Table 3). As a result, before making any decision to use OSN for business, young people are far more likely to consult their social networks for advice (Thorbjornsen et al. 2007, Wang and Xiao 2009). The social networks created through LinkedIn, Twitter, Facebook and other websites are more than just a static hobby, but also they are a complex support circle. For these young people, an OSN mirrors the social groups established by the older generations of some dark ages ago. As a result, we all sometimes rely on advice from people that we trust to support our decision making process.

The third most important direct determinant of OSN continuance intention, according to the results of this study is user satisfaction. This study, therefore contributes to the body of user satisfaction knowledge that OSN vendors should strive to make participants who decides to buy because of the influence of OSNs happy by being honest, providing quality services and products in as much as possible. The indirect influence of perceived behavioural control on OSN continuance intention through user satisfaction, the greatest coefficient factor ($\beta=0.642$), suggests that when infrastructures needed to access OSN are within the reach, the user satisfaction level rises and users would intend to continue using OSN for business transactions. Findings from this research add confirmation to the important role that technology plays in solving numerous customer hustles. The notion that customers actively participate in the process of co-creating value with firms is attracting increasing attention from academia (Prahalad and Ramaswamy 2004). Based on the strong influence of user participation in OSN that were found in this study, the current research can be viewed as adding value to existing knowledge and extending this stream of academic research in a new direction (that is doing business with OSN). The concept of perceived behavioural control has been discussed to be the means by which an individual can access a technology and the confidence that he or she is capable of performing a given behaviour (Ajzen 2008). In addition, this implies the perception of volitional control or the perceived difficulty towards the behaviour affecting the intent. Yet, our research findings proved that perceived behavioural control is not significant when it comes to directly forming intention. This again supports Kwong and Park (2008) who found that the influence of perceived behavioural control on continuance intention was insignificant in a research conducted on college students.

This could be attributed to the computer and knowledge of Internet services which are now common skills among the youth who believe they would be able to use OSN for business transactions regardless of circumstances. We however wish to caution here that, whenever business transactions are involved confidence in one’s ability becomes very important. So the youth should have re-examined themselves before concluding. External control factors such as financial resources might be more important for the younger users than internal control factors such as abilities and skills (Thorbjornsen et al. 2007). With the upsurge of electronic learning these days, proving to be the highest mode of learning, probably it could take the youth only few seconds to master transacting business on OSN platforms.

5.1. Limitations and future research

Online surveys generally have some intrinsic limitations and this study is not exceptional. Respondents to the survey were self-selected, who may have own agenda for participating in the study rather than being randomly or scientifically selected. Moreover, if the data were self-reported, there is no guarantee that participants would provide accurate information (Bhattacherjee 2001, Wright 2005). Future research studies should take into cognizance the above limitations of survey study.

6. Conclusion

The study sought to unravel the psychological and sociological factors that determine OSN continuance intention, instead of the well-known electronic commerce models. The two platforms are not the same, but with a traditional electronic commerce mindset, it is hard to see the difference between a presence on Twitter, LinkedIn and Facebook as different from the electronic commerce website. After
applying expectation-confirmation theory (ECT), theory of planned behaviour (TPB) and theory of social-cognitive trust (TST) to build a new model that predicts OSN continuance intention, findings suggest that perceived trust, social norm and user satisfaction are crucial psychosocial determinants of OSN continuance intention. Perceived behavioural control was not seen to play a significant role on continuance intention, but very significant in relation to user satisfaction.

References