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RELATIONSHIP AMONG CUSTOMER VALUE, SATISFACTION, AND LOYALTY OF SOCIAL NETWORK SERVICE

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Abstract

Social Network Service (SNS), is an innovative application and business model in recent years. It changes the development and communication of current social network and gathers tremendous viewers to create more business opportunities. However, what are the values that attract users to use SNS? This study focuses on the behaviors of SNS users in Taiwan by empirical research. From the customer point of view, satisfaction and loyalty could be relative to and affected by utilitarian value and hedonic value. Therefore, this study builds an applicable integrated model and uses Structural Equation Modeling to analyze the relations of constructs in the model.

We find the following. (1) The constructs of the model are supported. (2) The utilitarian value can be measured by factors of sociality, convenience, and information availability; hedonic value can be measured by factors of adventure, escapism, and affiliation. (3) The utilitarian value and hedonic value affect customer satisfaction; customer satisfaction affects word of mouth and repatronage intention. (4) The utilitarian value and hedonic value positively affect word of mouth and repatronage intention, but providing a good customer satisfaction can enhance word of mouth and repatronage intention. (5) The influence of hedonic value is higher than that of utilitarian value.

Keywords: Social Network Services (SNS), Utilitarian Value, Hedonic Value, Satisfaction, Word-of-Mouth, Repatronage Intention

Introduction

The invention of Internet not only influences human life, but also creates many business opportunities to promote the innovations and applications for business model. If one can understand and take full advantage of changes on Internet, one could facilitate enterprises to enhance competitive advantages [1]. Social Network Services (SNS) is an innovative business model and application in recent years. It changes the

development and communication of current social network, and provides Internet users a channel to manage interpersonal relationship. Internet has become a good tool to link people without time and space limit as well. The website operation gathers tremendous viewers and also creates substantial business opportunities [2]. In the past two years, the number of websites has been increased 17% [2]. The fast growing SNS websites also indicates that it has become one of the major culture trends to connect many people at daily life. Some of the popular SNS websites, such as MySpace and Facebook, attract thousands of network users around the world to browse. This wave also hits Taiwan in establishing similar websites and/or providing similar related services. According to "Behavioral Analysis of Taiwan Network Entertainment" [3]by the Market Intelligence Center (MIC) of the Institute for Information Industry (III), 65.4% of network users in Taiwan have uploaded personal information on SNS websites, where most of them record and share their life (58.6%), display themselves (56.7%) and make friends online (54%) via webpage. Therefore, it is an important issue to understand SNS users requirements and provide better services to keep the users and attract new ones.

Even though SNS is getting more popular, fewer academic and marketing studies have been conducted especially on practical research [4]. It suggests that service studies on Internet should consider the customer motivation or cognition value [5]. Moreover, the value concept had been proved to influence satisfaction and loyalty [6]. However, almost these studies are studied based on retail shops and online shopping. These issues, including customer value constructs proposed in retail, service and marketing papers, are equally important in operating SNS.

In short, the purpose of this study is to verify the importance of customer value on SNS. Constructs in this study are based on the utilitarian and hedonic value to handle research problems according to user satisfaction and loyalty [word of mouth and repatronage intention] [4] [7], establish an explainable integrated model and then use

Structural Equation Modeling to analyze and verify the cause and effect relation among each construct in the model. Therefore, the main purposes in this study are to investigate the following: (1) Does the SNS utilitarian value include the factors of sociality, convenience and information accessibility? (2) Does SNS hedonic value include factors of adventure, escapism and attribution. (3) The relationship and influence of the SNS utilitarian and hedonic value to satisfaction, word of mouth and repatronage intention. (4) Based on the research results, the suggestions are given.

Literature review and hypotheses Social Network Service (SNS)

Social Network Service (SNS) is an innovative application for web2.0. The service features include: providing to contacting friends, making friends and interact services via Internet platform. Each user may have his or her personal webpage, establish a list of friends and link them from the list, as well as facilitate users contacts via bulletin boards, activity, community and etc.[3]. Number of users usually increases one by one by Internet via friends, just like veins on the leaf [8]. Therefore, this kind of website is called vein website in China. It is defined [2] SNS as a kind of service based on network, allowing a user: establishing public or semipublic profiles(1); listing users of this user in that system and linking the lists shared by other users(2); searching or viewing other users in that system via list link shared by other users(3).

SNS is so special in that it not only allow users making new friends, but transferring social network from the real world to the virtual world [9]. In reality, many users in well known SNS websites do not have strong intention to make new friends, rather, they communicate with acquaintances and friends in the real world. These websites also emphasize that "pursuit of existing interpersonal relationship" is a major provided feature.

SNS mainly focuses on interpersonal relationship, differing from community websites based on interests [2]. Therefore, SNS not only differs from friend-making websites but also community websites. The service of friend-making website is to establish the relation with strangers. SNS is mainly based on existing interpersonal relationship to further extend social network. This is the difference that is easily confused.

Even though SNS's are so worldwild popular, from the viewpoint of development and evolution, these websites don't provide SNS [2] at the beginning. For example, QQ in China is real-time communication software when it started. LunarStorm in Sweden initiates to be a community website. Cyworld in South Korea originates from a network forum. Skyrock in France is a network

blog before adding SNS features and so on. Although the initial development of these websites is not the same, they become SNS website as well after adding the features of social service.

Current wellknownSNSs, such as Myspace, Facebook, MSN spaces and so on, not only have a lot of users, but also can provide many business opportunities. In comparison. the applications in Taiwan just began. From the successive establishment of the similar websites or related services to provide, such as Wretch, Youthwant, Atlaspost, meeya and so on, the SNS application has become a trend and the competition become more intensive. How can the operations of SNS create the customer value to keep competitive advantage and avoid customer leaving? This study, based on the definitions and features of SNS in literature, samples the appropriate SNS websites as research objects.

Utilitarian and Hedonic value

The past studies on customer value construct mainly focused on customers to weigh between product quality and price [10]. However, some researchers think value constructs are much more complicated. The other side of value should be taken into account by researchers [12]. administrators [10] Regardless consumption experience in reality or on Internet, the price felt by customers can be divided as utilitarian and hedonic value [7] [13] [15]. The utilitarian value indicates benefits related to functionality, tool and reality provided to customers during consumption. The hedonic value indicates benefits related to emotion, experience and delight provided to customers during consumption [13] [14] [16].

SNS could provide the utilitarian value, where interpersonal relationship works better than physical environment, for example, users are more in control, have more options and more information on this aspect. Not only SNS can provide functional benefit and interpersonal interaction, but also can provide hedonic value to meet users' emotion need and further become a part of their life. Thus utilitarian value construct is categorized as convenience and information accessibility [17]. According to the characteristics of SNS, this study further includes one social construct, reflecting users via this service website to seek interaction of interpersonal relationship. Meanwhile hedonic value construct, according to [18] [19], is categorized as adventure, escapism and attribution. Therefore this study proposes first two hypotheses as follows:

H1a: SNS utilitarian value includes sociality, information accessibility and convenience.

H1b: SNS hedonic value includes adventure,

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escapism and attribution.

Relationship among Value, Satisfaction, and Loyalty

Satisfaction is a level to reflect customer confidence, a combination of emotion and cognition decision [20]. Many researches on marketing have shown that the utilitarian, hedonic value and satisfaction are related [7] [13] [16] [21]. Therefore, this study proposes two hypotheses:

H2a: SNS utilitarian value will positively influence satisfaction.

H2b: SNS hedonic value will positively influence satisfaction.

The findings of [22] pointed out loyal customers can have stronger links with a website and spread it by word of mouth. This is also an important construct to weigh consumption. The theory pointed out word of mouth is a result reacted with emotion for consumption condition [23]. The generation of word of mouth is highly related to the scene experienced by customers. By sharing experience with other people, word of mouth can mentally comfort the pressure [24]. The studies have shown word of mouth is related to cognitive process, such as perceived value and fair estimate [23]. Therefore, this study proposes two hypotheses according to discussion above-mentioned:

H3a: SNS utilitarian value will positively influence word of mouth.

H3b: SNS hedonic value will positively influence word of mouth.

Repatronage intention reflects the possibility of re-consumption [25]. The utilitarian value should be related to repatronage intention. If customers think this website can provide more functions and utilitarian value, more repatronage intention will increase [17] [26]. Good consumer experience would make customers stay longer on the website and visit it frequently. Hedonic value may also affect repatronage intention because emotional experience during consumption could be an important factor to repurchase or no repurchase [27]. Some retail research has empirically supported this statement [28]. A study showed the utilitarian and hedonic value play a key role in predicting the repatronage intention of website [29]. Therefore, we propose the following hypotheses based on these researches:

H4a: SNS utilitarian value will positively influence repatronage intention.

H4b: SNS hedonic value will positively influence repatronage intention.

Customer satisfaction for the positive influence on loyalty has been widely supported by references related to marketing research [16] [30]. Satisfaction can be considered as a key to establishing and maintaining loyalty, and a

foundation for customers to use website for a long period of time. High satisfaction can enhance the possibility of recommending service by customers [30] [31]. Thus, customer satisfaction is the key factor for enterprise operation and customer loyalty. Therefore, we propose the following hypotheses:

H5a: Customer satisfaction at SNS will positively influence word of mouth.

H5b: Customer satisfaction at SNS will positively influence repatronage intention.

Research methodology

This study aims to define each variable and establish the research model according to proposed hypotheses, and then design questionnaires to collect and analyze data in accordance with research model.

Research model

This research model is based on utilitarian and hedonic value as independent variables and customer satisfaction as an intermediate variable to investigate the impact of utilitarian and hedonic value on customer satisfaction, and then further affect word of mouth and repatronage intention through the intermediate effect of customer satisfaction. This research will empirically verify the proposed construct. The model is shown in Fig. 1.

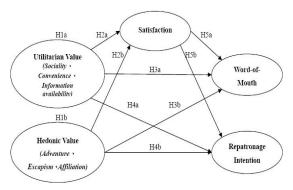


Fig. 1 Research model

Questionnaire design

This study makes use of self-report inventory questionnaires to collect data. The constructs include the utilitarian value [19] [17] [29], hedonic value [18] [7] [19] [4] [17] [29] [32], satisfaction [21] [33] [7], [20] [34] and loyalty [word of mouth and repatronage intention] [4] [29] [22]. These constructs come from previous researches; some measure items originate from online shopping SNS. researches, not According to the characteristics of SNS, some of the item meanings are modified to match the SNS scene and study issues. The 7-point Likert Scale is used for measurement. If necessary, the questionnaire items can be provided.

Study scope

The study subjects are SNS website users in Taiwan. As far as the time, the cost, the definition of SNS, and the website traffic are concerned, SNS websites with high traffic like Wretch, Youthwant, MSN Space, Facebook and Myspace were selected as the target populations. In addition, this study also took 5 months to observe and operate SNS websites. In November and December 2008, the pretest and formal questionnaire surveys were conducted respectively.

Data collection

In order to make the data source closer and more related to the users of the target populations, online questionnaires were adopted to collect sample data. [35] also pointed out that when a study focused on the online consumer behavior, online questionnaire would be an appropriate way to collect data. There were 1250 questionnaires collected. After getting rid of some invalid responses, the study finally got 821 effective questionnaires in total. The effective response rate is 65.7%.

Questionnaire pretest analysis

The purpose of questionnaire pretest in this study is to confirm the clarification, homogeneity, and reliability of those questions in the questionnaire. We got 64 effective respondents out of 65 samples. After pretest, the validity and reliability of the questionnaire will be analyzed as the basis of establishing a formal questionnaire. For content validity, the questionnaire referred to some other related measures developed by foreign scholars. Therefore, the questionnaire should have content validity. Furthermore, two scholars and eight postgraduate students who have user experience in SNS were invited to examine the expressions of questions word for word, and provided opinions as the basis of scale modification. Consequently, this questionnaire should also have expert validity. For the item analysis, homogeneity check among each question was applied as the reference for modification. Pearson's correlation coefficient must be greater than 0.400; the modified items and coefficients related to total score must exceed 0.400. The outcome of the analysis showed the communities is 0.250 which means the extraction factors can explain over 25% of item variance. As a result, four questions need modifications. The values of Cronbach's α in each construct through reliability analysis were all greater than 0.9, which indicates high internal consistency in each construct. After the inspections on the

questionnaire, we modified several items for the follow-up questionnaire survey.

Data analysis method

This study not only analyzed the data by structural equation modeling to investigate the causal relations among model variables, but also estimated model parameter by maximum likelihood estimation (ML). According to suggestions from [36], the model was analyzed on two phases of measurement and structural model analysis, and the variables were reviewed prior to analysis. This study used SPSS 16.0 and AMOS 16.0 as sample encoding and analysis.

Analysis and results

Sample characteristics

According to demographic data, the female respondents are more than female respondents (55.9% to 44.1%); the respondents' age ranged from 20 to 25 years old is the most part (35.1%). The majority group of educational background is university or college degree (47.5%). Most of the respondents are single (86.6%), showing the single youth prefers to use SNS. This is consistent with survey made by the Market Intelligence Center (MIC) of the Institute for Information Industry (III) in 2007[3]. Most of the respondents' income is below NT\$15000 [included] per month (41.5%), which relates to the occupations (33.5% students, 11.0% job seekers) in the sample respondents. The majority of respondents reside in the northern Taiwan (57.7%).

Variables data review

Many scholars think structural equation modeling must be applied with large sample size [37]. If samples are from model observed variable, the ratio of the sample size to the observed variables must be between 10:1 to 15:1 [38]. 37 observed variables are designed in this questionnaire. The ratio of the effective samples to the observed variables is about 22:1, complying with the requirement. The basic assumptions of maximum likelihood estimation includes: the observed data are drawn from matrix, drawn samples must be the probability maximum selected in all possible ones, and parameters must conform to the multivariate normal distribution [39]. Sampling in this study referred to the rank of browse traffic for Alexa website, and selected social service websites with larger browse traffic as sampling model; again, [39] indicates if the skewness coefficient is greater than 3 and the peak coefficient is greater than 8, the samples in the distribution of variable are not normal. The skewness and the peak of each variable can meet the standards. The data follows

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the normal distribution.

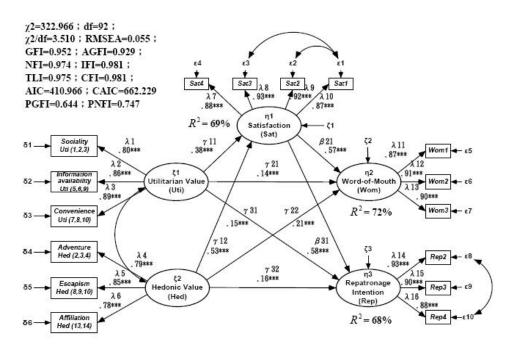
Measurement model analysis

Conducting the confirmatory factor analysis, the measurement model fit must be evaluated. For the evaluation of model fit, external and interior quality of model should be included. According to [40], preliminary fit criteria, overall model fit and the fit of internal structure of model should be evaluated all together. In summary, measurement model of each construct fit is acceptable after confirmatory factor analysis (CFA). When testing measurement model fit, measurement variables are also examined via CFA to confirm the reliability and validity of each construct. Therefore, in examining the measurement variable, we refer to six standards suggested by [40] as CFA screening standards of the measurement variables. With reasonable inference by referring to modification indices (MI) and modification model,

conducted multiple stages of CFA step by step. In such repeated analyses, eight measurement variables are deleted. Consequently, models reliability and validity were analyzed. The results meet our expectation. Each construct has good convergent and discriminant validity.

Structural model analysis

After the measurement model was examined, the structural model analysis is made. In the initial structure model, the evaluation results of overall model fit showed RMSEA = 0.092, GFI = 0.89 and AGFI = 0.85 didn't fill the requirements [41]. It was found that two variables' absolute values of standardized residual are greater than 2.58. After deleting two variables, 27 measurement variables are left. The final structural model and overall model fit can both meet the evaluation standards. The evaluation results of overall model fit are as shown in Fig. 2.



Standardized estimates; *** P < 0.001

Fig. 2 Structural model analysis

Analysis and discussion of causal relations

After verifying the applicability and rationality of the whole model, the estimate of the measurement and structural model can be further evaluated. By investigating the observed and potential variable as well as their relations, the structural relations of final overall model can be obtained. To summarize the evaluation standards, the theory models proposed in this study have reached the certain fit level to continuously verify the causal relations of the model. In the structural equation modeling, the causal relations among potential variables must be explained by estimated γ [potential external variable \rightarrow potential interior variable] and β [potential interior variable], which can be used to weigh the influences among potential variables. The relations among observed and potential variables must be explained by estimated λ . The structural equations determine each path coefficient of the model

through maximum likelihood estimation, and then check the t-value. The results show λ , γ and β are significant. In Fig. 2, the causal relations among variables in this study are significant. Therefore, the hypotheses are supported.

The overall predicted effects of each predicted variable to customer satisfaction, word of mouth and repatronage intention are further discussed. The study results show the effects of the utilitarian (0.39) and hedonic (0.53) value on customer satisfaction. Both have the significant effects on satisfaction. The study results also verify there are relations among the utilitarian, hedonic value and satisfaction [7] [13] [16] [21]. The effect of the hedonic value on customer satisfaction is greater than the utilitarian value (0.53>0.39). This also reveals users have more preference for the hedonic value. Therefore, the hedonic value is more important to SNS. As for word of mouth, the direct effect of customer satisfaction is the highest (0.57). The second is the indirect effect of the hedonic value [0.30], influencing the extent of word of mouth up to 59% (0.30/0.51) of the total effect. The third is the indirect effect of the utilitarian value (0.22), sharing about 61% (0.22/0.36) of the total effect; in influencing repatronage intention, the direct effect of customer satisfaction is the highest (0.58). The second is the indirect effect of the hedonic value (0.31). influencing the extent of repatronage intention up to 66% (0.31/0.47) of the total effect. The third is the indirect effect of the utilitarian value (0.22), sharing about 59% (0.22/0.37) of the total effect. It shows because customer satisfaction has the high effect on word of mouth and repatronage intention to further trigger the indirect effects of the utilitarian and hedonic value on word of mouth and repatronage intention. In other words, both need customer satisfaction to display the indirect effect on word of mouth and repatronage intention. The intermediate effects show the possibilities of customers' recommendation pointed by [30] [31] via satisfaction are consistent with the increasing repatronage intention. Although the direct effects of the utilitarian and hedonic value on word of mouth (0.14,0.21) as well as repatronage intention (0.15,0.16) are not higher than the direct and indirect effects of satisfaction, on the whole the effects of both values on word of mouth and repatronage intention reach the significant level (P<0.001), showing there is a certain influence. The study results supported the points proposed by [7] and [29]. For model explanation, while the combined effect of utilitarian and hedonic value achieved 69% of variance on customer satisfaction, word of mouth and repatronage intention by the utilitarian and hedonic value, and customer satisfactions are 72%, and 68% respectively to

show that the extent of potential variable for the model is good.

Conclusions

Summary of findings and implications

The main contribution of this study is to prove attitude and behavioral results of using SNS and verify the effects of the utilitarian and hedonic value on satisfaction and loyalty. From utilitarian or hedonic viewpoint, it helps SNS administrators decide the allocations of website resources and how to manage the relation of network customers. Moreover, those views also carefully create a website environment so that consumers can have the better cognitive value, which includes a better website interface in compliance with social requirement, easily accessible information, and a reliable and comfortable network environment. All those factors above can strengthen customer loyalty (word of mouth and loyalty). The top five functions most used in SNS by customers are online log, bulletin board, photo upload, browsing and real-time message. It demonstrates that users have the needs of on-line friendship and interaction. These functions are indispensable in SNS.

The results in this study show, in using SNS, most users focus on existing interpersonal relationship. Such interpersonal relationship specially facilitates word of mouth. Word of mouth not only provides new users with more confidence and security in website use, but also can have more website exchanges and higher cognition among customers to further increase repatronage intention. Therefore, existing social relations facilitate word of mouth and repatronage intention for SNS. For example, classmates and club members through word of mouth can become registered members and voluntarily register to community so that registered members have the another sense of attribution to open an another window to attract new members. It differs from friend-making websites.

By way of word of mouth and exchanges, SNS produces the clustering effect to further develop the network effect, which promotes users' dependence on Internet and finally generates the lock-in effect. By doing so, the switching cost of a user will be relatively enhance. Increasing the number of users will expand the website scale and develop many feasible commercial models. For example, members can make comments on commercial advertisements so that more members can share the ideas of the advertisement and further arouse more discussions. Those feedbacks will make advertisers more put more customized advertisements on website. The other example is members make comments on new film as talking subject so that more members have interests to see this movie. Therefore, it will provide exposures of on-line advertisement as well.

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