An Application of the UTAUT Model for Exploring Cosmetics Product Purchase Intention of Virtual Community Members

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Abstract

Technology development have been rapidly grown and adapted by people. Internet users in Taiwan have been a great number and powerful growth. There are 36.4% people who use internet to search for cosmetics information. These challenges highly involved the technological innovations in cosmetics market. Due to plenty of internet users, virtual community (VC) has been established. Since VC is full of business benefit, there have been more and more researches paying attention on it. During past studies, researchers pointed out that VC can significant aggregate common needs both of society and commercialization. Furthermore, VC can be applied on purchase intention and behavior. These findings drive us to dig deeper on how virtual community affects on cosmetic product purchase intention. We apply on a general approach, Unified theory of acceptance and use of technology (UTAUT), that could help to bridge people acceptance and use of technology, and generate new factors to understand how virtual community provide influences to cosmetic product purchase intention. This research were concentrated on the UTAUT analysis by performance expectancy, effort expectancy, social influence, facilitating conditions and trust. Finally, we are looking forward cosmetic product purchase intention factor in VC can be facilitated on similar industry and observing for significant opportunity of VC.

Key words: Virtual Community, Cosmetic Product, Purchase Intention, UTAUT

1. Introduction

Internet users in Taiwan have been a great number and powerful growth. Taiwan Network Information Center, TWNIC (2013) points out that internet user rate in Taiwan comes to the third place, high up to 77.09%. From 2002, Taiwan government has been promoted National Information Infrastructure project and it does a big progress. According to TWNIC (2013), regular internet user population from 9.35 million up to 17.53 million and growth rate also up to 87%. In TWNIC's survey, the first ten popular behavior of internet users are as following. (Fig. 1)
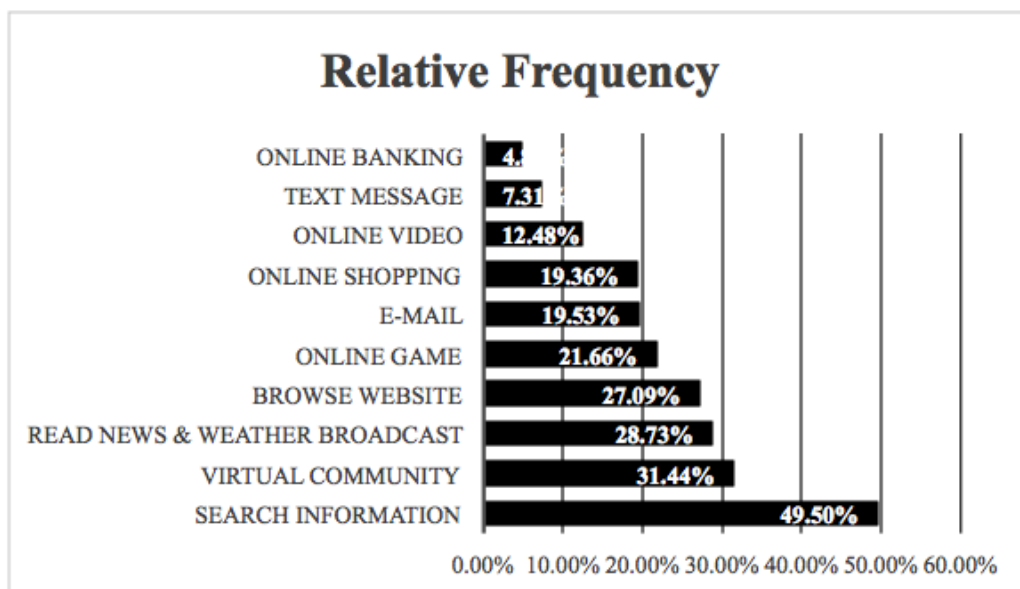
Source : Shi, 2013

Fig. 1 Most popular behavior of internet users

Chien and Fang (2005) observed that internet space can change people life, including works, entertainment, consumption, education and so on. These changes make internet becomes a potential business opportunities. (Chien & Fang, 2005). Cosmetic industry provides people enjoy in fashion and diversity industry. The internet could be built as a platform for customers to have social interactions with others who have their shared interests. In this research the main focus is to test application of UTAUT model on VC members purchase intention of cosmetic product. We are trying to find what factors will influence on VC members' purchase intention. We begin from defining virtual community and cosmetic industry, purchase intention will be reviewed as well. Presenting the research model and hypotheses, and we will reveal the data collection

and the data analysis. Conclusion and managerial implication will be given in the end.

2. Literature Review

2.1 Virtual Community and Cosmetic Industry

The most widely known definitions and attributions of VC are given by Howard Rheingold (Rheingold, 1993). As internet was booming growing up, more and more scholars gave verified definitions of VC. Definition of VC is also changed and revised by different periods (Table 1). Thus, we can imply VC keeps growing and developing.

Table 1 Definitions of VC proposed by various authors

Year	Author	Definition
1993	Rheingold (1993)	VC is a group of people who may or may not meet one another face to face, and who exchange words and ideas through the mediation of computer bulletin boards and networks
1997	Hagel and Armstrong (1997)	VC are computer-mediated spaces where there is a potential for an integration of content and communication with an emphasis on member-generated content.
2000	Craig and Zimring (2000)	A sense of community, that is, it is not guaranteed by opportunities for interaction but, rather, must grow out of interaction itself.
2000	Ho, Schraefel, and Chignell (2000)	Technologically mediated, persistent, environment which supports: multiple interaction styles, capability for real-time interaction, and multi-user engagement.
2004	Koh and Kim (2004)	A group of people with common interests or goals, interacting for knowledge (or information) sharing predominantly in cyberspace.
2006	Chiu, Hsu, and Wang (2006)	VC are online social networks in which people with common interests, goals, or practices interact to share information and knowledge, and engage in social interactions. It is the nature of social interactions and the set of resources embedded within the network that sustains VC
2010	H-K. Ellonen, A. Tarkiainen and O. Kuivalainen (2010)	From the relationship marketing perspective, the key would seem to be that customers

Definition of VC is constantly redefined as time goes by, it would change its profile and be created new feature. Despite definition of VC being revised, it still has its

common features. In summary, we can define that there are four main characteristics of VC:

1. They must exist in the cyberspace;
2. They have to use internet technologies;
3. They allow the formation of social relationships;
4. They are used for members' communication and interaction around common interests which are user generated.

For application of VC, we found that researchers have concluded VC had its business implication. Hagel (1999) gave the definition of VC in a new way. "VC actually started as spontaneous social events on electronic networks, people gathered around common areas of interest, engaging in shared discussions that persisted and accumulated over time that led to a complex network of personal relationships and an increasing identification with the group as a community. These spontaneous social events provide the foundation for a very attractive business model" (Hagel, 1999). VC can provide opportunities for businesses seeking to benefit (Kim, Kim, & Huang, 2014). The individual's interaction with these tools allow companies to gather information about tastes, preferences, trends, concerns and other personal and collective data to help them redefine and improve the product or service (Hernández & Boluda, 2012). From understanding of researchers' finding, VC can generate business benefit and it established new opportunity for business.

According to Datamonitor (2013), cosmetic industry could be inferred that market consumption volumes increased with a compound annual growth rate of 4% from 2008 to 2012, to reach a total of 0.46 billion units in 2012. What's more, Euromonitor International (2013), current value sales of cosmetic industry in Taiwan is up by 7% to reach US$ 117 million in 2010. Reviewing by Industry & Technology Intelligence Service (ITIS) in 2013, total revenues of US$ 570 million is generated in Taiwan. Even if economic regression, cosmetic indusrty still stand in a relative advantage situation. Especially, young generation should be taken into consideration because of 24.9% share in whole cosmetic consumption (Wu & Chen, 2012). The statistics shows VC and cosmetic industry are being promising growth.

2.2 Trust on Purchase Intention
Trust is "the willingness of a party to be vulnerable to the actions of another party

based on the expectation that the other will perform a particular action important to the trustee, irrespective of the ability to monitor or control that other party" (Mayer, Davis, & Schoorman, 1995). Trust is one type of social constructions that originates from interpersonal relationships (Sztompka, 1999). Therefore, it can be a key factor when people surf on VC. Trust has been definitely recognized as a critical success factor when it comes to online shopping. Customer trust can affect customers' purchase intention (Sun & Yang, 2009). VC members would think they are trustworthy when individual perceives to be similar to others. When members trust the community in general, they will identify with the community and trust the information provider of the community.

In summary, cosmetic product purchase intention can be stimulate through VC. We could expect that the emergence of factors from UTAUT will drive VC members' purchase intention.
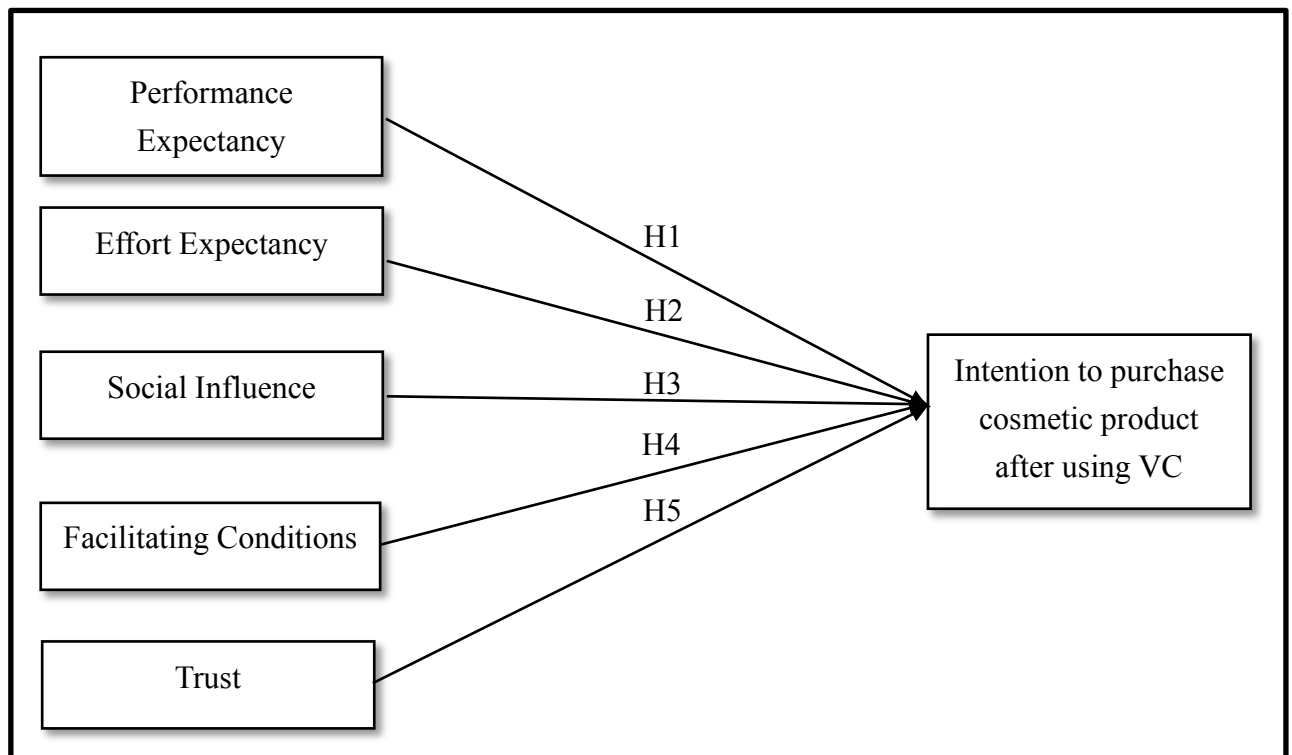
3. Conceptual Model and Research Hypotheses

We use the UTAUT model and add Trust as one key factor in the research model. This approach has previously been used in a number of studies on many people's technology adoption or purchase intention, such as mobile learning, M-banking and so on (Carlsson, Carlsson, Hyvonen, Puhakainen, & Walden, 2006; Cheah, Teo, Ooi, & Wong, 2013; Cody-Allen & Kishore, 2006; El-Gayar & Moran, 2006; Escobar-Rodríguez & Carvajal-Trujillo, 2014; Thomas, Singh, & Gaffar, 2013). The UTAUT models have typically not only been tested in the studies but have been used as conceptual tools to different issues. We revised UTAUT and tested it as main tool on VC members.

UTAUT formed a new model that were evidenced based on the past studies which have all been verified in each field and category separately. UTAUT was also proposed as a theoretical advancement over existing theories used to examine technology adoption and diffusion related research. It facilitates in examining customers' intentions to use and adapt to information system and consequent usage behavior. The main model of the framework to this research is based on Unified Theory of Acceptance and Use of Technology Model (Venkatesh, Morris, Davis, & Davis, 2003).

UTAUT postulates that four constructs act as determinants of behavioral intention and

we add trust as a factor in the revised UTAUT (Venkatesh *et al.*, 2003):

1. **Performance expectancy:** The degree to which an individual believes that using a particular system would improve him or her to attain gains in job performance.

2. **Effort expectancy**: The degree of ease associated with the use of a particular system.

3. **Social influence**: The degree to which an individual perceives that other important people believe he or she should use the new system. Social influence is system- or application-specific, whereas the subjective norm relates to non-system-specific behavior.

4. **Facilitating conditions:** The degree to which an individual believes that an organizational and technical infrastructure exists to support the use of a particular system.

5. **Trust:** The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustee.

Performance Expectancy

Effort Expectancy

Social Influence

Facilitating Conditions

Trust

H1
H2
H3
H4
H5

Intention to purchase cosmetic product after using VC

Source: Venkatesh *et al.*, 2003

Fig 3.1 Research model (Revised UTAUT)

The effects of performance expectancy (PE), effort expectancy (EE), social influence

(SI), facilitating conditions (FC), trust (TT), and cosmetic product purchase intention (PI) are examined. The impacts of moderators in the UTAUT by Venkatesh *et al.* (2003) will not be included in this test. Therefore, the hypotheses of relationships for direct effects are:

H1. The performance expectancy in the use of the VC positively affects the online purchase cosmetic product intention.

H2. The effort expectancy in the use of the VC positively affects the online purchase cosmetic product intention.

H3. The social influence regarding the use of the VC positively affects on the online purchase cosmetic product intention.

H4. The facilitating conditions perceived in the use of the VC positively affect the online purchase cosmetic product intention.

H5. The trust in the use of the VC positively affects the online purchase cosmetic product intention.

We will try out the UTAUT on five factors in order to find out what factors can be able to affect on VC members' cosmetic product purchase intention.

4. Data Analysis

4.1. Data collection

The surveys were carried out online questionnaire within a limited period from January to March in 2014. The samples have been randomly selected, and all of them are anonymous. The objective of the pretest was to test whether the sentence of the questionnaire would make people misunderstand, and it also tested whether people could understand the meaning of each items in the questionnaire. The reliability of this questionnaire could be examined through the pretest. After pretesting, questionnaires were distributed online and received 285 participants. After filtering invalid response, 278 participants are valid.

4.2 Data analysis

This research used SPSS analyze data to examine the data. The description statistics, reliability analysis and validity analysis and correlation analysis of the research instrument were analyzed with SPSS. The data construction is balanced with gender. All of female and male were high education and experienced VC users. The result shows that the overall reliability of this research is 0.857 which means high reliability. The KMO of this research is 0.854. It represent that this research is appropriate to do analysis. This analysis adopts Pearson's correlation coefficiency to test the

relationships between the constructs. The result of the correlation analysis is shown in Table 2.

Table 2 Correlation analysis

Correlations						
	PE	EE	SI	FC	TT	PI
PE						
EE	0.284**					
SI	0.015	0.12				
FC	0.193**	0.253**	0.174**			
TT	0.210**	0.12	0.072	0.184**		
PI	0.489**	0.202**	-0.121	0.1	0.227**	

Note: **. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

5. Conclusion

5.1 Contribution and practical implication

In this paper we have studied the factors affecting VC members' cosmetic product purchase intention by testing the UTAUT. Performance expectancy and trust could be found as explanations for purchase intention, but that social influence could not be used as such for explanations. From the results, it reveals that people emphasize performance expectancy most of all. It means VC should provide cosmetic product abundantly and help people accomplish task quickly during browsing cosmetic product information (Guo & Barnes, 2007; San Martín & Herrero, 2012). Second, people also pay attention on their personal information security. If VC provide skills and expertise to VC members, people would be inspired to purchase after using VC (Lu, Zhao, & Wang, 2010; Wu, Chen, & Chung, 2010). However, social influence used to consider as a key factor to stimulate purchase intention but not significant in this research. Some researchers pointed out that social network and social influence had become more complex and inconsistent so social influence should not be simplified into the model (Hamre, 2008; Lee, Lee, & Lee, 2006).Thus the results we obtained do not support in all cases the original UTAUT hypotheses.

5.2 Further study

For the further study, we suggest using the qualitative study method to interview the

VC members face-to-face, thus evolving the conceptual factor to do further study. The method used in the study is quantitative, using documents to discover the factors and develop the questionnaire. It would be interesting to include holistic perspective on purchase intention of cosmetic product on VC members.

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