YouTube stickiness: the needs, personal, and environmental perspective

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Received 18 November 2013
Revised 5 December 2013
23 February 2014
7 April 2014
9 April 2014
Accepted 13 April 2014

Abstract

Purpose – Many video sharing sites (e.g. YouTube, Vimeo, and Break) host user-generated video content in the hopes of attracting viewers and thus profits. Therefore, continuous use and video sharing behavior on the part of site users is critical to the continue enjoyment of other users and to the video service providers business. The purpose of this paper is to provide an improved understanding of what motivates internet users to share videos and spend more time on video sharing web sites.

Design/methodology/approach – The authors propose a research model based on Uses and Gratification Theory and on Social Cognitive Theory, incorporating key determinants of web site stickiness. An online survey instrument was developed to gather data, and 265 questionnaires were used to test the relationships in the model.

Findings – The causal model was validated using SmartPLS 2.0, and 14 out of 18 study hypotheses were supported. The results indicated that continuance motivation and sharing behavior were important antecedents of YouTube stickiness and mediated the influence of need, personal, and environmental factors.

Practical implications – The proposed framework can be used by online video service providers to develop a platform that satisfies user needs and to enhance sharing intention.

Originality/value – The study provides a comprehensive framework of the antecedents and effects of continuance motivation and sharing behavior on video sharing web sites.

Keywords Web sites, Social networks

Paper type Research paper

Introduction

Increased bandwidth and reduced access costs have established the internet as an important global communications platform. The development of new internet technologies have expanded the scope of such communications beyond text to include images, music, and video.

In 2013, nearly 85 percent of Americans watched videos online (comScore, 2013), and YouTube, the most popular video sharing web site, had more than 154 million unique viewers in the USA. This rise in online video watching has driven the emergence of online video as an important channel for advertising. For instance, in 2005 a two-minute, 46-second Nike advertisement featuring the Brazilian soccer player Ronaldinho gathered more than 17 million views (Story, 2007). Since then, businesses have become increasingly aware of the potential advertising revenue and promotional effect of videos shared on YouTube, thus highlighting the need to understand factors which

The authors would like to thank the Editor, Dr Jim Jansen, and anonymous reviewers for their excellent comments and suggestions. The authors are also thankful to Mr Jonathan Brody for his editorial assistance. This study was supported by grants from the National Science Council of the Republic of China under Contract Number NSC 101-2410-H-025-008-. Both authors have contributed equally to this paper.

Internet Research
Vol. 25 No. 1, 2015
pp. 85-106

1066-2243
DOI 10.1108/IntR-11-2013-0236

encourage people to share videos and to remain on video sharing web sites for longer durations.

The behavior of YouTube users has been extensively studied. Lange (2007) analyzed how YouTube users develop and maintain their social networks by sharing videos, finding that that teenagers share videos that tend to reflect their social relationships. Yang *et al.* (2010) explored the behavioral intention of YouTube video sharers based on the Technology Acceptance Model (TAM) and Social Influences Theory, finding that positive attitudes and social influence had a strong direct effect on the intention to share videos. Video sharing web sites are also a form of entertainment media. Kim and Arnett (2012) indicated that user satisfaction for portal usage is significantly influenced by online content such as video, music, games, and news. Davis *et al.* (2013) demonstrated that hedonic rather than utilitarian consumption positively impacts online game usage. In a study on online games, Wu *et al.* (2010) found that web site usage behavior (including motivation and intention) was influenced by the individual user's personal needs. Yee (2006) stated that user needs such as social interaction and achievement had an influence on the usage and sharing of entertainment media.

Other prior research has shown that users' needs and sharing behaviors are very important to the growth of entertainment media such as online video web sites (Yang *et al.*, 2010; Park *et al.*, 2011). However, few studies have investigated video sharing behavior and web site stickiness from the view point of user needs, abilities, and motivation for continuous usage. Most previous studies on YouTube user behavior focussed on user attitudes, intention, and satisfaction using TAM and Theory of Reasoned Action. Moreover, they usually investigated video sharing web sites from the perspective of social influence or self-disclosure (Yang *et al.*, 2010; Park *et al.*, 2011). Other researchers have explored video sharing on YouTube from the perspective of system design.

Although TAM is a general model for examining YouTube usage patterns, previous studies have indicated that TAM cannot fully explain intrinsic motivation for media usage (Cha, 2014; Hsu and Lin, 2008; Ji and Fu, 2013). Thus, to better understand users' intrinsic/extrinsic motivation and characteristics, Uses and Gratifications Theory (UGT) could be used to explore the usage of video media and is especially applicable to studies of internet usage (Cha, 2014; Ji and Fu, 2013). In addition, YouTube is a type of IT service. In the context of IT usage, people's sharing behavior and motivation cannot be explained by UGT alone. Studies have demonstrated that individuals exhibit different levels of self-efficacy and creativity in using computer technology, and these differences influence motivation to continuously use IT and behavioral intention (Compeau and Higgins, 1995; Agarwal and Prasad, 1998; Marakas *et al.*, 1998). Also, internet users' sharing behaviors are influenced by environmental factors such as social norms and community identification (Lu and Hsiao, 2007; Hsu and Lin, 2008). Hence, Social Cognitive Theory (SCT) can be used to examine how users' personal factors and environmental factors affect their motivation and behavior when using IT (Compeau and Higgins, 1995; Marakas *et al.*, 1998).

This study uses UGT to investigate factors influencing the stickiness of YouTube, and then uses SCT to examine how personal and environmental factors impact the continuance motivation and sharing behavior of YouTube users.

Theoretical background, hypothesis, and research model

Based on UGT and SCT, the research model and hypotheses were proposed from the perspectives of need, person, and environment to understand the relationships among

the impact factors, web site stickiness and users' continuance motivation and sharing behavior. Figure 1 presents the model and its constructs. The constructs and the rationales for the proposed hypotheses are defined in the following sections.

Motivation and needs

Motivation is the desire to achieve goals and is a complex phenomenon. Several theories have attempted to explain how motivation works. In management contexts, the most popular explanations of motivation are based on the needs of the individual. Needs can drive an individual's motivation and behavior (Wu *et al.*, 2010). Past research has demonstrated that needs are the primary factor influencing user behavior (Lee *et al.*, 2011), including IT acceptance behavior (Wu *et al.*, 2010; Cha, 2014) and knowledge sharing behavior (Hung *et al.*, 2011). If individuals think that video sharing behavior can satisfy their needs, such as reputation building and self-expression, they will have more intention to share. In the context of online video sharing, reputation is defined as the degree to which a person believes that such activity could enhance his or her personal reputation (Hsu and Lin, 2008), while self-expression refers to the process of communicating information such as thoughts and feeling to others through sharing video online. In an investigation of music sharing behavior, Lee *et al.* (2011) indicated that self-expression, which is an inner need, expresses an individual's thoughts and feelings when interacting with others through social media. In addition, some researchers have posited that interactivity is a fundamental element of communication and could affect people's motivation for using web sites.

Interactivity and continuance motivation

Continuance motivation in this study refers to the continuous inner drive for sharing video through YouTube (Wu *et al.*, 2010). Several studies have confirmed the relationship between interactivity and continuance motivation. Lee *et al.* (2011) indicated that interactivity was a factor of social motivation. Wu (2005) explored how perceived interaction and real interaction influenced user attitudes toward web sites and specified that the degree of user-system interaction would impact user attitudes and motivation. Phang *et al.* (2009) argued that interactivity increased positive consumer attitudes toward and participation in web sites, and thus enhanced their motivation and willingness to buy. Previous research has also indicated that interactivity will influence online sharing behaviors through instilling positive attitudes, such as flow experience, satisfaction, preferences, or likelihood of return (Lu *et al.*, 2010; Lee *et al.* 2011). Phang *et al.* (2009) support this claim by asserting that the effect of perceived interactivity on knowledge seeking or contribution through online community systems will be mediated by perceived usability and sociability. That is to say, interactivity would affect sharing behavior through other factors. In this study, we define interactivity as service navigability, control, and responsiveness as well as two-way communication between the users. As mentioned earlier, it is expected that interactivity will have a positive direct effect on continuance motivation. Thus, we propose:

H1. Interactivity on YouTube will positively influence users' continuance motivation.

Sharing behavior

Sharing behavior concerns the willingness of individuals to share their videos with others on YouTube. Other studies have examined the relationships between video

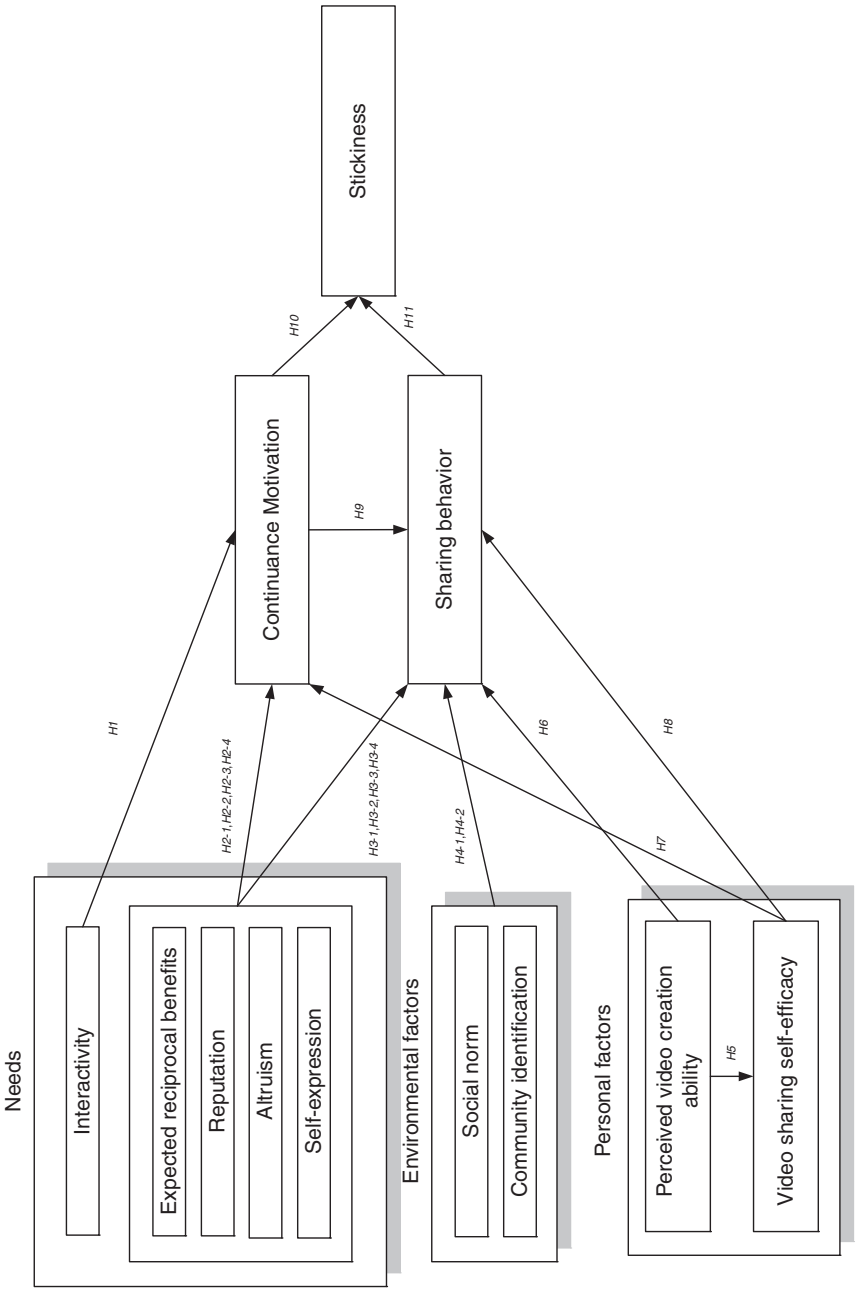


Figure 1.
Research model

sharing factors and continuance motivation. For example, Hung *et al.* (2011) suggested that the expectation of reputation building encourages people to develop personal opinions and creativity, produce useful information, and share this information with others. The research findings indicated that reciprocity, reputation, and altruism influenced sharers' motivation and behavior. Altruism refers to the degree to which a person is willing to increase other people's welfare without expecting returns. Fang and Chiu (2010) showed that, in virtual communities, altruism is a major factor affecting knowledge sharing behavior and motivation to share knowledge. Expected reciprocal benefits involved the degree to which a person believed he or she could obtain benefits through video sharing. Chang and Chuang (2011) demonstrated that expected reciprocal benefits, altruism, and reputation would positively influence knowledge sharing behavior and continuance motivation in virtual communities. Lee *et al.* (2011) opined that self-expression influenced music sharing behavior and the motivation to share. Therefore, we hypothesize:

H2-1. Expected reciprocal benefits will positively influence continuance motivation on YouTube.

H2-2. Reputation will positively influence continuance motivation on YouTube.

H2-3. Altruism will positively influence continuance motivation on YouTube.

H2-4. Self-expression will positively influence continuance motivation on YouTube.

H3-1. Expected reciprocal benefits will positively influence sharing behavior on YouTube.

H3-2. Reputation will positively influence sharing behavior on YouTube.

H3-3. Altruism will positively influence sharing behavior on YouTube.

H3-4. Self-expression will positively influence sharing behavior on YouTube.

SCT

SCT has been widely applied to research in education and IT (Bandura, 1986). The theory focusses on the interrelationship between behavior, personal factors, and environmental factors. Based on SCT, Lu and Hsiao (2007) stated that knowledge self-efficacy, social norms, and information creation ability are antecedents of the continuous sharing of information on blogs. These factors are added to the model here.

In online communities, environmental factors include social norms and community identification. For our purposes, social norms are defined as the degree to which a user perceives that others approve of their participation in a given web site, and influences knowledge sharing behavior within organizations (Jiacheng *et al.*, 2010; Choi and Chung, 2013). Community identification represents the perception of belonging to a particular online community (e.g. YouTube). Lee *et al.* (2011) proposed that community identification impacted music sharing behavior directly, a claim supported by Hsu and Lin (2008) who suggested that social influence factors have a direct effect on blogging

behavior. The TAM also verifies that social norms will directly influence behavior intention or behavior (Venkatesh and Morris, 2000). Accordingly, we hypothesized:

H4-1. Social norms will positively influence sharing behavior on YouTube.

H4-2. Community identification will positively influence sharing behavior on YouTube.

Perceived video creation ability is defined as a person's judgment of his or her ability to create valuable or interesting video. Video sharing self-efficacy is one's confidence in one's ability to create and share valuable or interesting videos. Individuals with increased abilities to create knowledge will have greater confidence and self-efficacy, which influence the way they act (Bandura, 1986). In other words, the user's ability to share compelling video will positively impact his or her self-efficacy. Similarly, perceived ability to create information impacts knowledge self-efficacy (Lu and Hsiao, 2007). Yang and Cheng (2009) found that IT self-efficacy is a key determinant of creation self-efficacy and behavior. Munro *et al.* (1997) also indicated that users' ability to complete tasks and reach goals is relevant with their self-efficacy and behavior. In addition, Strader and Hendrickson (1999) published an analytical paper in which consumer ability to complete tasks, motivation to participate in e-markets and opportunity to purchase through online channels are posited as the main independent variables affecting consumer participation in electronic markets. In the research model, ability and motivation directly and positively impacted participation behavior. For this reason, in this study, video creation ability and continuous motivation are seen as having a direct impact on online sharing behavior as well. Hence, we propose:

H5. Perceived video creation ability will positively influence sharing behavior on YouTube.

H6. Perceived video creation ability will positively influence video sharing self-efficacy.

Self-efficacy

Self-efficacy has a significant impact on knowledge sharing behavior and motivation in virtual communities (Hsu *et al.*, 2007). In terms of IT usage, individuals with higher self-efficacy have more positive attitudes, continuance motivation, and usage behavior (Saleem *et al.*, 2011). Also, knowledge sharing self-efficacy significantly influences knowledge sharing behavior and motivation (Chen and Hung, 2010). In addition, self-efficacy is an important antecedent of performance-related factors, such as goal level, goal commitment, and performance goal orientation (Johnson, 2005). People will be more motivated to continue activities in which they feel a sense of competence and accomplishment. In summary, in different areas of IT application, user self-efficacy is as a key factor affecting user motivation and behavior. Accordingly, we propose:

H7. Self-efficacy will positively influence continuance motivation on YouTube.

H8. Self-efficacy will positively influence sharing behavior on YouTube.

Stickiness

Proactive stickiness to YouTube is defined as the user's willingness to return to and prolong his or her visits to YouTube while loyalty refers to the behavioral intention to repeatedly use a web site or service (Teng, 2010). How to make internet customers stick around and stay longer on a web site is a bigger challenge for online companies. Oliver (1999) indicated that consumers with higher loyalty visited and used web sites more frequently, increasing web sites stickiness. Wu *et al.* (2010) found that the continuance motivation of online game players significantly influenced the stickiness of entertainment media. He also measured stickiness by determining how many times players had visited game web sites and played games. In the present study, stickiness is measured according to visit duration and the number of visits. Consequently, we propose:

H9. Continuance motivation will positively influence sharing behavior on YouTube.

H10. Continuance motivation will positively influence web site stickiness.

H11. Sharing behavior will positively influence web site stickiness.

Research methodology

Subjects (data collection for model testing and demographics)

Previous studies of YouTube users have focussed more on video viewing behavior, rather than video sharing (Duncan *et al.*, 2013; Lee and Lehto, 2013). The target population of this study is the online video viewers who have been sharing videos on YouTube. In 2013, more than 72 percent of adult internet users watched videos on one or more video sharing sites, but only 31 percent of these uploaded or posted videos online (Pew Research Center, 2013). A survey instrument was prepared integrating measurement constructs taken from a range of sources detailed below and translated into Chinese by two bilingual subject matter experts. The questionnaire was administered to Chinese-speaking communities only. Participants were found through solicitations on popular online bulletin boards, video discussion forums, and social networking sites in Taiwan from March 2012 to June 2012. Participants all completed an informed consent form before proceeding to the questionnaire. The form stated the purpose of this research, the risks and benefits of this study, and terms of confidentiality. Participants were mostly from Taiwan, with a few from Hong Kong and China. After eliminating incomplete responses and duplicates, 265 valid responses were used for data analysis. Of these, 66.8 percent of respondents were male, and most of the respondents were from 16 to 35 years of age. Detailed descriptive statistics data relating to the respondents are shown in Table I.

Instrument development

The questionnaire contained 35 self-reported items related to 12 constructs. Most of the items selected for the constructs were adapted from prior research and were slightly modified to fit the YouTube context. The items were measured on a five-point Likert scale, ranging from "disagree strongly" to "agree strongly." The items for stickiness were taken from Wu *et al.* (2010) with wording modified to fit the context of this study. Continuance motivation was assessed based on the scale proposed by Wu *et al.* (2010). Sharing behavior was measured with items taken from Hsu *et al.* (2007) and Chen and Hung (2010). The antecedents of continuance motivation and sharing behavior in the

Measure	Items	Frequency	%
Gender	Male	177	66.8
	Female	88	33.2
Age (years)	< 15	7	2.6
	16-20	52	19.6
	21-25	71	26.8
	26-30	51	19.2
	31-35	44	16.6
	36-40	22	8.3
	41-55	16	6.0
	> 56	2	0.8
Education level	Junior high school or less	10	3.8
	High school/vocational high school	39	14.7
	College diploma	26	9.8
	University or bachelors degree	136	51.3
	Masters degree or above	54	20.4
Occupation	Civil servant (police and teacher)	13	4.9
	Freelancer	17	6.4
	Service industry	43	16.2
	IT worker	35	13.2
	Homemaker	3	1.1
	Retired	1	0.4
	Businessman and financial worker	8	3.0
	Professional (lawyer, doctor, etc.)	3	1.1
	Unemployed	2	0.8
	Media worker	2	0.8
	Agricultural worker	1	0.4
	Manufacturing worker	24	9.1
	Student	113	42.6
Average income per month (NT$)	< 10,000	121	45.7
	10,001-20,000	33	12.5
	20,000-30,000	70	26.4
	40,001-50,000	22	8.3
	50,001-60,000	10	3.8
	> 60,001	9	3.4
Experience of using the Internet (years)	1-3	6	2.3
	4-6	22	8.3
	7-9	70	26.4
	10-12	85	32.1
	> 13	82	30.9
Experience of using YouTube to share (years)	< 0.5	22	8.3
	0.5~1	26	9.8
	1~1.5	26	9.8
	1.5~2	12	4.5
	2~3	51	19.2
	> 3	128	48.3
Duration of using YouTube per day (minutes)	< 30	122	46.0
	31-60	88	33.2
	61-90	28	10.6
	91-120	11	4.2
	> 2	16	6.0

Table I.
Profile of respondents

(*continued*)

Measure	Items	Frequency	%
Frequency of using YouTube per day	Less than once or once	76	28.7
	2 times	65	24.5
	3 times	67	25.3
	4 times	11	4.2
	5 times	9	3.4
	6 times and above	37	14.0
Country	Taiwan	214	80.7
	Hong Kong	31	11.7
	China	20	7.6

Table I.

model included needs, environmental factors, and personal factors. Interactivity was measured using the instrument developed by Lee *et al.* (2011) with the wording modified to fit the context of this study. The measures for reciprocal benefits and reputation were adapted from Hsu and Lin (2008). Altruism was assessed based on items developed by Hsu and Lin (2008) and by Lee *et al.* (2011). Items for measuring self-expression were taken from Lee *et al.* (2011) and from Lu and Hsiao (2009). As for environmental factors, social norms measurements were adapted from Hsu and Lin (2008) and from Lu and Hsiao (2007), while community identification was assessed based on the instrument developed by Hsu and Lin (2008). Personal factors, including perceived video creation ability and video sharing self-efficacy, were adapted from Lu and Hsiao (2007).

A pre-test and a pilot test were conducted to validate the instrument. Three experts in the fields of internet behavior and video sharing communities were invited to assess the pre-test in terms of logical consistency, ease of understanding, question sequence, and context suitability. To reduce possible ambiguity in the questions, a pilot test involving 32 YouTube sharers was conducted. Comments from them led to a few minor modifications of the wording and the question sequence. The Appendix presents the revised questionnaire used in the study.

Data analysis and results

The proposed research model was tested using partial least squares (PLS) analysis. As in structural equation modeling (SEM), the PLS approach allows researchers to simultaneously assess measurement model parameters and structural path coefficients, and is widely used in information management research. Unlike covariance-based SEM, PLS focusses on maximizing the variance of the dependent variables explained by the independent ones in place of reproducing the empirical covariance matrix (Haenlein and Kaplan, 2004). For exploratory research or complicated research models, PLS is more suitable than linear structural relations (LISREL). In addition, PLS has been used increasingly in recent years and is suitable for non-normal data (Ringle *et al.*, 2012). The advantages of PLS lie in their minimal restrictions on measurement scales, sample size, and residual distributions (Chin *et al.*, 2003). According to the respondents' gender and age distribution, the data appear to be non-normal. Given the relatively complicated research model and non-normal data, PLS was seen as the most appropriate analysis technique.

Measurement model assessment

The reliability of the reflective measurement items were examined by checking their standardized loadings. As shown in Table II, the minimal indicator-construct

Constructs	Indicators	Mean	SD	Loading
Interactivity	Int1	4.28	0.636	0.6962
	Int2	4.23	0.684	0.7403
	Int3	4.32	0.707	0.7983
	Int4	3.94	0.817	0.7657
Expected reciprocal benefits	Erp1	4.05	0.775	0.7507
	Erp2	4.06	0.805	0.8638
	Erp3	4.06	0.718	0.8544
Reputation	Rep1	3.37	0.825	0.8158
	Rep2	3.55	0.843	0.8471
	Rep3	3.22	0.920	0.8377
Altruism	Alt1	3.95	0.724	0.716
	Alt2	3.65	0.872	0.7561
	Alt3	3.83	0.749	0.8258
Self-expression	Sel1	3.91	0.786	0.7716
	Sel2	3.22	1.016	0.8313
	Sel3	3.51	0.901	0.8926
Social norm	Soc1	3.27	0.981	0.9387
	Soc2	3.28	0.956	0.9286
Community identification	ComI1	3.68	0.843	0.8157
	ComI2	3.59	0.883	0.8587
	ComI3	3.46	0.844	0.8153
Video sharing self-efficacy	VSSE1	3.75	0.861	0.8824
	VSSE2	3.91	0.813	0.9481
Continuance motivation	ConM1	3.81	0.818	0.897
	ConM2	3.05	0.999	0.9148
	ConM3	3.18	0.973	0.907
Sharing behavior	Sha1	3.32	0.964	0.8713
	Sha2	3.10	0.985	0.8955
	Sha3	3.82	0.851	0.8939
Perceived video creation ability	PVCA1	3.61	0.939	0.885
	PVCA2	3.35	1.005	0.9126
	PVCA3	3.26	0.964	0.8867
Stickiness	Sti1	3.32	0.945	0.8256
	Sti2	3.67	0.868	0.8436
	Sti3	3.58	0.871	0.8882

Table II.
Descriptive statistics

loadings in this study were all higher than the recommended cutoff of 0.60 (Hair *et al.*, 1998).

PLS performs a confirmatory factor analysis using convergent and discriminant validities (Gefen and Straub, 2005), which are widely used to validate measurement models in management and information systems research. Convergent validity was assessed by examining Cronbach's α, composite reliability and average variance extracted (AVE) from the measures (Hair *et al.*, 1998). Table III shows that, aside from altruism, the Cronbach's α values of all items were above the acceptable level of 0.7 (Hair *et al.*, 1998). The composite reliability for the measures were above the threshold of 0.7, and the AVE of our scales ranged from 0.56 to 0.87, exceeding the recommended value of 0.5 (Fornell and Larcker, 1981).

The discriminant validity of the scales was assessed by comparing the square roots of the AVEs with the correlations among the 12 constructs. The results shown in Table IV confirm the discriminant validity: the square roots of the AVEs for each

Constructs	Cronbach's α	Composite reliability	AVE
Int	0.741695	0.837747	0.564078
Erp	0.769929	0.863886	0.679877
Rep	0.780796	0.872325	0.694938
Alt	0.651178	0.810635	0.588807
Sel	0.775376	0.871686	0.694418
Soc	0.852991	0.931534	0.871846
ComI	0.775082	0.869223	0.689138
VSSE	0.814414	0.91388	0.841489
ConM	0.890662	0.932402	0.821369
Sha	0.864039	0.917133	0.78677
PVCA	0.875024	0.923432	0.800831
Sti	0.809339	0.888877	0.727437

Notes: Int, interactivity; Erp, expected reciprocal benefits; Rep, reputation; Alt, altruism; Sel, self-expression; Soc, social norm; ComI, community identification; VSSE, video sharing self-efficacy; ConM, continuance motivation; Sha, sharing behavior; PVCA, perceived video creation ability; Sti, stickiness

Table III. Analysis of convergent validity

construct exceeded the correlation between any pair of distinct constructs, which implies that the constructs were empirically distinct. To sum up, the measurement model demonstrated adequate reliability, convergent validity, and discriminant validity.

Model testing

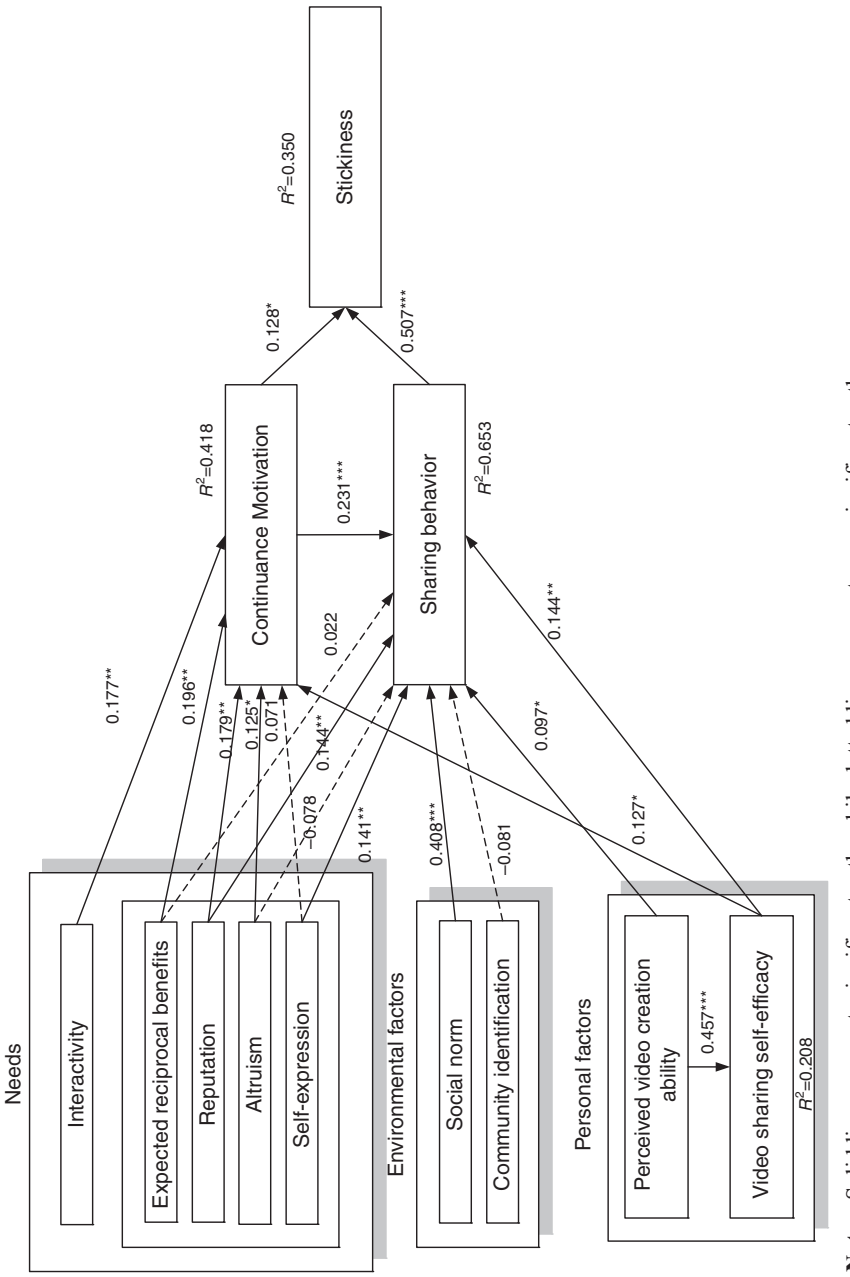
The path coefficients of the research model were measured by using SmartPLS 2.0. A bootstrapping approach was used to test the hypotheses, with 100 random observation samples generated from the original data set. The results are given in Figure 2 with non-significant paths as dotted lines, the path coefficients and p-value results next to each line between constructs, and the variance explained (R^2) for each dependent variable.

The test results showed that continuance motivation and sharing behavior had significant direct effects on web site stickiness ($\beta = 0.128$, t-value $= 2.068$, $p < 0.05$; $\beta = 0.507$, t-value $= 8.211$, $p < 0.001$), supporting hypotheses *H10* and *H11*. Also, sharing behavior was predominantly determined by continuance motivation ($\beta = 0.231$, t-value $= 4.752$, $p < 0.001$), supporting *H9*. Among the antecedents of continuance motivation, interactivity, expected reciprocal benefits, reputation, altruism, and video sharing self-efficacy had significant influence ($\beta = 0.177$, t-value $= 2.849$, $p < 0.01$; $\beta = 0.196$, t-value $= 3.159$, $p < 0.01$; $\beta = 0.179$, t-value $= 2.954$, $p < 0.01$; $\beta = 0.125$, t-value $= 2.028$, $p < 0.05$), supporting *H1*, *H2-1*, *H2-2* and *H2-3*. However, contrary to our expectations, self-expression did not significantly affect continuance motivation ($\beta = 0.071$, t-value $= 1.124$, $p > 0.05$). Thus, *H2-4* was not supported. Among the determinants of sharing behavior, reputation, self-expression, social norms, perceived video creation ability, and video sharing self-efficacy were found to have a significant effect ($\beta = 0.144$, t-value $= 2.924$, $p < 0.01$; $\beta = 0.141$, t-value $= 2.805$, $p < 0.01$; $\beta = 0.408$, t-value $= 7.602$, $p < 0.001$; $\beta = 0.097$, t-value $= 2.007$, $p < 0.05$; $\beta = 0.144$, t-value $= 2.886$, $p < 0.01$), supporting *H3-2*, *H3-4*, *H4-1*, *H6* and *H8*. Nevertheless, the results revealed that sharing behavior was not significantly impacted by expected reciprocal benefits, altruism, or community identification ($\beta = 0.022$,

Table IV.
Analysis of discriminant validity

Constructs	Int	Erp	Rep	Alt	Sel	Soc	ComI	PVCA	VSSE	ConM	Sha	Sti
Int	*0.751*											
Erp	0.588	*0.824*										
Rep	0.378	0.39	*0.833*									
Alt	0.455	0.503	0.495	*0.767*								
Sel	0.342	0.353	0.542	0.477	*0.833*							
Soc	0.295	0.279	0.503	0.464	0.528	*0.933*						
ComI	0.419	0.47	0.51	0.542	0.485	−0.631	*0.830*					
PVCA	0.242	0.352	0.486	0.47	0.462	−0.523	0.573	*0.894*				
VSSE	0.435	0.407	0.434	0.478	0.545	−0.519	0.569	0.467	*0.917*			
ConM	0.501	0.521	0.479	0.491	0.425	−0.472	0.485	0.406	−0.462	*0.906*		
Sha	0.375	0.382	0.572	0.449	0.585	−0.708	0.536	0.53	−0.572	0.59	*0.887*	
Sti	0.411	0.392	0.341	0.383	0.464	−0.495	0.519	0.43	−0.556	0.428	0.584	*0.852*

Notes: Int, interactivity; Erp, expected reciprocal benefits; Rep, reputation; Alt, altruism; Sel, self-expression; Soc, social norm; ComI, community identification; VSSE, video sharing self-efficacy; ConM, continuance motivation; Sha, sharing behavior; PVCA, perceived video creation ability; Sti, stickiness



Notes: Solid line represents significant path, while dotted line represents non-significant path. *p<0.05; **p<0.01; ***p<0.001 (significance level)

Figure 2.
Hypothesis test results

t-value = 0.468, $p > 0.05$; $\beta = -0.078$, t-value = −1.582, $p > 0.05$; $\beta = -0.081$, t-value = −1.433, $p > 0.05$), leaving *H3-1*, *H3-3* and *H4-2* unsupported. Furthermore, perceived video creation ability was found to have a significant impact on influence video sharing self-efficacy ($\beta = 0.457$, t-value = 8.321, $p < 0.001$), supporting *H5*. Table V summarizes the hypotheses test results. Finally, the results show that 35, 41.8, 65.3, and 20.8 percent of the respective variance of stickiness, continuance motivation, sharing behavior, and video sharing self-efficacy can be explained by the research model.

Discussion and implication

Discussion

This study explored the determinants of stickiness by examining how sharers' needs, environmental factors, and personal factors impact their continuance motivation and sharing behavior. Most hypotheses were supported, with the exception of *H2-4*, *H3-1*, *H3-3* and *H4-2*. The findings are discussed below.

The results indicated that interactivity, expected reciprocal benefits, reputation, altruism, and video sharing self-efficacy had significant influence on continuance motivation. It seems that sharers value the interactive functions of YouTube which satisfy their needs. In addition, when sharing videos, they expect to obtain help and feedback from other viewers, and desire viewer feedback, which increases their motivation to share videos in the future. They also believe that sharing videos brings benefits such as the enhancement of reputation and social status. These results correspond with those of past studies (Hsu and Lin, 2008; Hung *et al.*, 2011). Our study showed that some sharers have altruistic personalities and enjoy helping others, which raised their continuance motivation. Consistent with Bandura's (1986) Self-Efficacy Theory, sharers with increased ability to create videos are more confident and have

Hypothesis	Path	Standardized β	t-value	Conclusion
H1	Int→ConM	0.177	2.849	Supported
H2-1	Erp→ConM	0.196	3.159	Supported
H2-2	Rep→ConM	0.179	2.954	Supported
H2-3	Alt→ConM	0.125	2.028	Supported
H2-4	Sel→ConM	0.071	1.124	Unsupported
H3-1	Erp→Sha	0.022	0.468	Unsupported
H3-2	Rep→Sha	0.144	2.924	Supported
H3-3	Alt→Sha	−0.078	−1.582	Unsupported
H3-4	Sel→Sha	0.141	2.805	Supported
H4-1	Soc→Sha	0.408	7.602	Supported
H4-2	ComI→Sha	−0.081	−1.433	Unsupported
H5	PVCA→VSSE	0.457	8.321	Supported
H6	PVCA→Sha	0.097	2.007	Supported
H7	VSSE→ConM	0.127	2.092	Supported
H8	VSSE→Sha	0.144	2.886	Supported
H9	ConM→Sha	0.231	4.752	Supported
H10	ConM→Sti	0.128	2.068	Supported
H11	Sha→Sti	0.507	8.211	Supported

Notes: Int, interactivity; Erp, expected reciprocal benefits; Rep, reputation; Alt, altruism; Sel, self-expression; Soc, social norm; ComI, community identification; VSSE, video sharing self-efficacy; ConM, continuance motivation; Sha, sharing behavior; PVCA, perceived video creation ability; Sti, stickiness

Table V.
Summary of test results

higher sharing self-efficacy. In other words, perceived video creation ability will significantly affect video sharing self-efficacy, and sharing self-efficacy will significantly impact continuance motivation. Contrary to our hypothesis, self-expression did not have a significant effect on continuance motivation. It is possible that the influence of self-expression is moderated by gender. Lu and Hsiao (2009) suggested that gender differences affect people's continuance motivation to use social networking sites, with women's significantly influenced by self-expression, while men are strongly affected by personal outcome expectation and their own interests. Our self-selected sample suggests that the majority of YouTube sharers are male. This may be the reason why self-expression did not have significant influence on continuance motivation in this study.

On the other hand, the research results showed that sharing behavior was significantly affected by reputation, self-expression, perceived video creation ability, video sharing self-efficacy, and social norms. Although few posted videos garner much attention or response, most respondents believed that sharing videos could bring them fame and status. Sharers gain intangible benefits, such as appreciation and praise, when viewers "like" their submission or post comments. These findings imply that the need to build one's reputation prompts sharers to share videos more frequently and spend more time on YouTube. Moreover, sharing behavior was significantly affected by self-expression probably because sharers wanted to interact and establish relationships with others (Park *et al.*, 2011). Self-expression has been shown to be an important means of developing and maintaining interpersonal relationships (Wheeless, 1978). Social norms appear to be an important determinant of sharing behavior. According to YouTube usage statistics (YouTube.com, 2014), an average of 100 hours of video are uploaded to YouTube every minute. The results of this study indicate that individuals tend to share more videos when they feel their peers support such activity. The results also echoed findings of Bandura (1986) and Chen and Hung (2010) which suggest that individuals with greater ability and higher video sharing self-efficacy have increased sharing behavior.

Some factors did not have a significant influence on sharing behavior, including community identification. This may be because, with the exception of videos labeled as "private," viewers can watch videos anonymously without joining the community. That is to say, people lack the motivation to participate in the platform and it is hard to build community identification of YouTube. Prior research also supports the argument that community identification does not have direct influence on individual usage behavior on social networking sites (Kwon and Wen, 2010).

The results indicate that expected reciprocal benefits did not predict sharing behavior. One potential explanation for this finding may be that YouTube users care more about sharing than reciprocity, and will do so regardless of whether other viewers/sharers provide interesting videos. This result is consistent with prior studies on virtual communities (Hsu and Lin, 2008; Chen and Hung, 2010; Chang and Chuang, 2011). The results also indicate that altruism was not a significant predictor of sharing behavior. This is possibly due to sharers being more concerned with their personal sharing channels than with the overall community (e.g. the greater YouTube user population). Compared with needs factors such as interactivity and building reputation, altruism seems to be less important to sharers.

In addition, we found that continuance motivation was a vital predictor of sharing behavior, which confirms uses and gratifications theory. The results are similar to those of past studies (Wu *et al.*, 2010; Lin and Lu, 2011). The relationship between

continuance motivation and sharing behavior could partially explain why expected reciprocal benefits and altruism did not have significant influence on sharing behavior in that they directly affect continuance motivation and then indirectly impact sharing behavior.

Finally, our research demonstrates that continuance motivation and sharing behavior had a positive and significant impact on stickiness. Wu *et al.* (2010) viewed stickiness as a habitual behavior, and users who continuously share videos on YouTube are less likely to leave the site.

Implications

This study provides a better understanding of the factors contributing to continuance motivation, sharing behavior, and stickiness. The antecedents are categorized into "needs factors," "environmental factors," and "personal factors." We have developed a theoretical model to explore stickiness. Empirical testing results indicate that sharing behaviors can increase stickiness. Increased volume of video on a given site will increases attract increased viewership, thus driving advertising revenue (eMarketer, 2013).

Our research provides the following insights for video web site managers. First, sharers place a premium on interactivity, and web site managers should focus on improving web site features that facilitate online video sharing. Features allowing quick and convenient viewing or sharing could enhance interactivity. For example, features which help users quickly record, upload, and share videos through various mobile devices or web browsers are critical. In addition, features that enhance human-to-human interactivity are very important, such as tagging friends in videos and searching for friends' videos. Second, our findings suggest that reputation is a significant factor in promoting both continuance motivation and sharing behavior. Since recommendation features are a good way to satisfy sharer's need of reputation building, video web sites should provide more recommendation and award features highlighting videos in terms of views, popularity, number of comments, and number of links, with awards or other forms of recognition given to individual videos or sharers with high performance in these metrics. Managers could also hold competitions based on click-through rates or numbers of uploads. Third, perceived video creation ability and video sharing self-efficacy have a significant impact on sharing behaviors, and site managers should focus on providing easy-to-use tools and tutorials to assist users in creating and editing videos.

From a research standpoint, our research model provides an important perspective for studying the stickiness of video sharing web sites. The model integrates existing UGT and SCT concepts as potential predictors of stickiness, the relationships between which were previously poorly understood. Encouraging continued use is critical to increasing click rates for advertisements. Our findings extend the link of sharing behavior and continuance motivation to include stickiness, thereby contributing to the current literature on online consumer behavior. In conclusion, by taking advantage of the theoretical integration of UGT and SCT perspectives, this study takes a user-level view to examine how sharers use a video sharing web site to gratify their needs. Derived from psychological, technological, and social situations, the needs will stimulate their sharing behavior and continuance motivation, which further promotes web site stickiness. Taken as a whole, the above empirical results suggest the proposed theoretical framework exhibit good explanatory power to predict user stickiness for video sharing web sites. This provides a new direction for researchers to contemplate

efforts to integrate findings from cognitive science (SCT) and mass communication (UGT) research to understand online stickiness and consumer behaviors.

Conclusions, limitations, and further research

The purpose of this study was to investigate critical factors influencing the intention to share videos on YouTube. UGT suggests that that media use is motivated by needs and goals while SCT assumes that behaviors will be influenced by individuals' ability, self-efficacy, and environment. Needs, and personal and environmental factors are found to have a significant impact on sharing behavior, and the relationships of these factors are verified by UGT and SCT. The results indicate that needs simultaneously influence continuous usage and sharing behavior. In addition, personal and environmental factors had a stronger effect than the need-related factors did on sharing behaviors. The proposed model provides an improved understanding of the factors affecting sharing behaviors and web site stickiness through identifying the critical role played by needs, personal and environmental factors. From a practical perspective, the insights provided here can help online video sharing web site operators better manage their web sites to encourage user participation. This study contributes to theory and practice in two ways: first, it uses two theories to select motivators to understand the effects of needs, and personal and environmental factors on video sharing behavior, continuance motivation, and web site stickiness; second, responses were collected from video viewers and sharers to test the derived hypotheses.

This study is subject to certain limitations and results should be interpreted and accepted with caution. First, this study only focussed on factors whose impact on intention to share information has already been verified by previous research. Future research should also examine other relational constructs in the individual and environmental dimensions that may affect information sharing behavior (such as entertainment value and rewards). Second, this study adopted a cross-sectional approach, and additional research is needed to confirm the model's validity (specifically through longitudinal surveys) to help predict video sharing behaviors and web site stickiness over time. Fourth, the findings and their implications were acquired from a single study that targeted a specific user group (YouTube users in Taiwan and China), and further research is needed to generalize of our results for a broader population. Finally, non-response bias may be present in the findings because most respondents were active YouTube users.

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Appendix. Constructs and items

Interactivity

(1) I was in control of my navigation through YouTube.

(2) I had some control over the content of YouTube web site that I wanted to see.

(3) I could share my interest or contents in real time with other users through YouTube.

(4) YouTube facilitates exchange of ideas and information among users.

Expected reciprocal benefit

(1) I find that writing and commenting on YouTube can be mutually helpful.

(2) I find my participation in YouTube can be advantageous to me and other users.

(3) I think that participating in YouTube can improve reciprocal benefit.

Reputation

(1) I earn respect from others by participating in YouTube.

(2) Participating in blog activity would enhance my personal reputation in YouTube.

(3) Participating in blogs would improve my status in YouTube.

Altruism

(1) I like helping other people.

(2) Writing and commenting on blogs can help others with similar problems.

(3) I enjoy helping others through YouTube.

Self-expression

(1) I like to tell others about myself.

(2) I tend to provide personal information about myself.

(3) I try to well describe my personality to others.

Social norm

(1) People who are important to me think that I should participate in YouTube.

(2) People who influence my behavior encourage me to participate in YouTube.

Community identification

(1) Participating in YouTube would enhance my chance to meet members who have common interests.

(2) Members on YouTube keep close ties with each other, which is a communication channel to share social lives and information.

(3) I am so proud of being a member of YouTube.

Continuance motivation

(1) I have the motivation to continue sharing video on YouTube.

(2) If I could, I would like to continue sharing video on YouTube.

(3) The past experience motivates me to continue sharing video on YouTube.

Sharing behavior

(1) I usually actively share my experiences with others on YouTube.

(2) I have contributed knowledge to other members on YouTube.

(3) I have tried to share my videos with other members on YouTube.

Stickiness

(1) I would stay longer on YouTube than on others.

(2) I would stay on YouTube as often as I can.

(3) I am willing to continuously visit YouTube.

Perceived video creation ability

(1) I am able to create some valuable or interesting video.

(2) I am good at creating some valuable or interesting video.

(3) I often create some valuable or interesting video.

Video sharing self-efficacy

(1) I have confidence in my ability to provide video on YouTube which others are interested in or consider useful.

(2) I am confident that most video which I provide can attract others' attention.

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