Factors Affecting User Participation in Video UCC (User-Created Contents) Services

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1. Introduction

The role of users has evolved to become one that includes innovation and participation in the creation of novel products and their use (Von Hippel 1986). In prehistoric times, humans had the desire to create and share their artistic activities and experiences. A case in point is Lascaux[1], which exemplifies the human endeavor regarding the creation of art. In the media environment, users no longer passively consume media contents; instead, they actively demand their preferred contents and try to create their own contents themselves.

Chin (2005) defined User Created Content (UCC or UGC: user generated contents) as contents created by the users themselves, whereas engineered content is created by established knowledge experts and contents owners. Actually, the origin of UCC is traced back to the Internet proliferation period around the early 90's. Netizens[2] boosted the power of their knowledge sharing activities through Usenet. Recently, the holy grail of UCC has been the "blog," a kind of webpage written by ordinary people, which has been popularized as a grassroots form of journalism by providing individual opinions or experiences to smaller audiences (Nardi 2004).

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[1] In 1940 in ancient caves in the south of France near Lascaux, some boys discovered 17,000-year-old paintings and artifacts made by our early ancestors.

[2] Derived from the term citizens, refers to users of the Internet. The term implies civic responsibility and participation.

UCC becomes the heart of some of the most relevant and fastest-growing applications we have seen on the web (Meeker et al. 2004).

At present, the online video market is now considered a lucrative market. Based on the ABI Research, the premium online video market will grow, on average, 89 percent annually through 2010. In addition, according to In-Stat, revenues from subscription and pay-per-view services delivering non-adult content is expected to grow to US$2.6 billion in 2009 from a projected US$745 million in 2006. Among many online services, video UCC is a newly emerging service and has great potential for growth (We will cover the types of online video services and video UCC in the next section). Not limited to traditional content providers, but also telecommunication carriers, web portal providers, and device vendors (who have had difficulty in securing video contents compare to conventional contents providers) are all considering video UCC as a useful tool to jumping into the online video market.

Some essential issues regarding UCC service are as follows: how to motivate participants and how to direct, sustain and influence their behaviors (Markus et al. 2000). Video UCC services may face more serious participation issues than conventional UCC services because of its difficulties in participating (especially amongst the novice users).

Unfortunately, relatively few studies have explored video UCC service itself and users' participation in video UCC. Therefore, this study attempts to discover some factors affecting user's participation decision in the video UCC service.

2. Overview of Video UCC

By and large, online video services are categorized into three types according to the providing method: Video search type, Hosting/Storage, Ready-made.

The first group, video search type, is provided by the search engine providers or web portals, such as Google and Yahoo, Empas, Naver, and Daum (the last two are Korean web portals). These players provide various video clips from the fee-based old movie to free live sport relay, including user created video clips. They secure Database through cooperating and contracting with major TV production and hosting/storage service providers, which will be addressed later.

Hosting/Storage is a relatively new type of online video service. In hosting/storage services, users upload and share their individual contents through the customized platform that hosting/storage service providers of-

fer. They also provide easy video editing tools and publishing functions, so users can easily create, edit, and share the video contents. Generally speaking, this service is free to everyone; however, the special offers, such as multi-channel view and high bandwidth charge a minimal fee. The Hosting/Storage group can be categorized into three sub-types: blog, video centered individual media, and personal casting. Blogs, the representative personal media, enable users to add video sections into the platform, so that users can upload the video clips beyond text and image (i.e., Paran Mbox, Yahoo Multimedia, Daumblog, Pran blog, Cyworld). Another sub-type, the video centered individual media, is more video-focused than blogs, thus it offers powerful video editing tools to users (i.e., YouTube, vSocial, Blinkx, Video Egg). The final sub-type, personal casting type, provides the multi-casting platform with which users can cast their contents saved in their computer or contents delivered from TV receiver card with modifications; on average, between 30 and 200 people can see this individual program at the same time (i.e., PandoraTV, Afreeca, Damoim Aura, Mgoon).

Ready-made contents services provide more specialized contents to users than hosting/storage service. The contents from ready-made content service is offered by professional productions, such as TV program makers or film production, while the contents from hosting/storage type is usually offered by amateur users. Service providers have stand-alone web portals through which they sell contents directly, partnering with key web portals and content aggregators (i.e., Google's Videos, Apple's iTunes Videos, AOL&WB's old drama VOD service).

Among the three types of the online video services, the Hosting/Storage type is the typical service for video UCC. However, this study considers all user activities amongst the three video service types as the participation of video UCC, since all services eventually provide tools for users to create and share their individually-made contents. Note that participation in this paper means the user's content creation (or at least duplicate other's contents) and sharing activities (casting or uploading their clips), and it does not include viewing activities from video UCC services.

The main difference between conventional UCC and video UCC is that video UCC requires a high level of the user's endeavor to participate; usually, it requires production of video contents using their own devices, editing, encoding, storing, and finally sharing their contents via appropriate channels. Thus, this paper investigates the factors influencing user participation issue in video UCC service.

3. Theories and Research hypotheses

Technology Acceptance model (TAM) has been modified and widely applied to many studies on IT adoption of individual since Davis et al. (1989) proposed this model. TAM has also been also adapted for research on e-commerce and Internet auctions that are similar to video UCC in that participatory traits of users are founded in common. Therefore, this study adopts three main constructs from the original TAM model: perceived usefulness, ease of use, and intention constructs.

Although the TAM model is convenient to use in this study, it does not cover all the unique properties of Video UCC. To set up the model participation behavior, TAM is not enough for this study, since users in UCC service are not only the customers who adopt and use the new service, but also the ones who actively contribute and participate in the service, that is, new aspects of user behavior. To consider this participatory aspect, we should adopt a motivation theory that considers the people's reason for participation.

Davis et al. (1992) propose the motivational model (MM) that integrates the TAM with two key motivational constructs to investigate factors influencing usage of computers in the workplace: extrinsic motivation and intrinsic motivation. Venkatesh et al. (1999) also introduced an integrated TAM, which integrates the intrinsic motivation factor from the motivational model with the original TAM. Davis et al. (1992) also emphasize perceived usefulness as an example of extrinsic motivation. Thus, we may use extrinsic motivation as a construct that contains the concept of perceived usefulness in TAM.

At present, trust with TAM has been studied with the intention of using online shopping (Gefen 2000), E-commerce (Pavlou 2003), and On-line tax (Wu and Chen 2005). Likewise, trust of a UCC service provider might take an important role in user participation by giving out their contents and making them public via a service provider. Therefore, this paper also borrows the trust construct that a service provider will provide stable and confident tools to protect their contents.

3.1 Intrinsic Motivation

Intrinsic motivation has been linked to the satisfaction of human needs for autonomy and competence (Deci 1975). Intrinsically motivating activities are those in which people will engage for no reward other than the interest and enjoyment that accompanies them. Thus, intrinsic value describes the perceived enjoyment associated with the use of a particular technology it-

self, rather than the possible performance outcome of the use. There is strong empirical evidence supporting the relationship between intrinsic motivation and extrinsic motivation (perceived usefulness) influencing intention to perform an activity, such as technological use. (Davis et al. 1992; Vallerand et al. 1997).

Research in psychology suggests that higher levels of intrinsic motivation typically lead to willingness to spend more time on a given task (Dici 1975), facilitating perception of ease of usefulness. More intrinsically motivated users may tend to underestimate the difficulty associated with using new technology. Prior research has proposed enjoyment as a determinant of behavioral intention (Davis et al. 1992) and as a determinant of ease of use (Venkatesh 2000).

On the other hand, the relation between intrinsic motivation and behavioral intention to use technology was not supported by empirical tests of the integrated model (Venkatesh 2002). By adopting this integrated model, we put forward our hypothesis that intrinsic motivation indirectly affects Intention to Participation (IP), mediated by Extrinsic Motivation (EM), and Perceived Easy of Participation (PEOP):

H1: Intrinsic Motivation will positively affect Extrinsic Motivation.
H2: Intrinsic Motivation will positively affect Perceived Ease of Participation in video UCC service.

3.2 Extrinsic motivation (Perceived Usefulness)

Extrinsic motivation is when people are motivated by external factors, as opposed to the internal drivers of intrinsic motivation. Extrinsic motivation drives users to do things for tangible rewards or pressures, rather than for the fun of it. It has been linked to the operant conditioning literature that advocates the use of incentives to reinforce desired behavior (Skinner 1953). Perceived Usefulness in TAM also regards the actual benefits that can be rewarded by using a system. In that sense, in our model, we regard the term extrinsic motivation as the Perceived Usefulness of TAM. Therefore, strong empirical studies between Perceived Usefulness (PU) and Intention to use also support the relationship between Extrinsic Motivation (EM) and Intention to Participation (IP).

H3: Extrinsic Motivation will positively affect Intention to Participation in video UCC services.

3.3 Perceived Ease of Participation

Perceived Easy of Use (PEOU) in TAM is defined as the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). PEOU also has a positive influence on Perceived Usefulness (Venkatesh and Davis 1996; Pavlou 2003). In addition, PEOU significantly affects Trust in service providers (Gefen et al. 2003; Wu and Chen 2005); Trust construct is further illustrated in next subsection. Much previous research has established that PEOU is also an important factor influencing user acceptance and usage behavior of information technologies; PEOU is one of the major factors that antecede behavioral intention (Davis 1989; Morris and Dillon 1997; Venkatesh and Davis 1996).

In our model, the concept of PEOU is transferred to the concept of Perceived Ease of Participation (PEOP). Thus, we can also expect a strong relationship between PEOP and Extrinsic Motivation (or Perceived Usefulness); and between PEOP and Intention to Participate (IP); between PEOP and Intention to Participate (IP); and examine the following hypothesis under video UCC context.

> H4: *Perceived ease of Participation positively affects Extrinsic Motivation.*
> H5: *Perceived ease of Participation positively affects Perceived Trust in a video UCC service provider.*
> H6: *Perceived ease of Participation positively affects Intention to Participate in video UCC services.*

3.4 Perceived Trust

Trust is one of the determinants of Perceived Usefulness (PU). For example, in an on-line environment, the more guaranteed parts that users are provided by the web site and behind vendors, the more the perceived usefulness is expected (Wu and Chen, 2005). Although the domain is slightly different from participation in video UCC, we expect that this relationship will still be effective in video UCC services.

Trust is also a significant antecedent of participation in conventional commerce environments – even more so in online settings because of the greater ease with which vendors can behave in an opportunistic manner (Reichheld and Schefter 2000). Thus, users' trust of video UCC service providers may be an important factor in deciding whether they give out their contents and make it public via UCC services or not. If the users cannot guarantee the service providers will protect their video contents from

misuse, they will not cast their contents to the public. Thus, this paper examines the Trust issue in terms of participation in video UCC as well.

> *H7: Perceived Trust in a video UCC service provider will positively affect Extrinsic Motivation.*
> *H8: Perceived Trust in a video UCC service provider will positively affect Intention to Participation in video UCC services.*

Fig. 1 illustrates the research model that summarizes the constructs and hypothesis developed by this study.
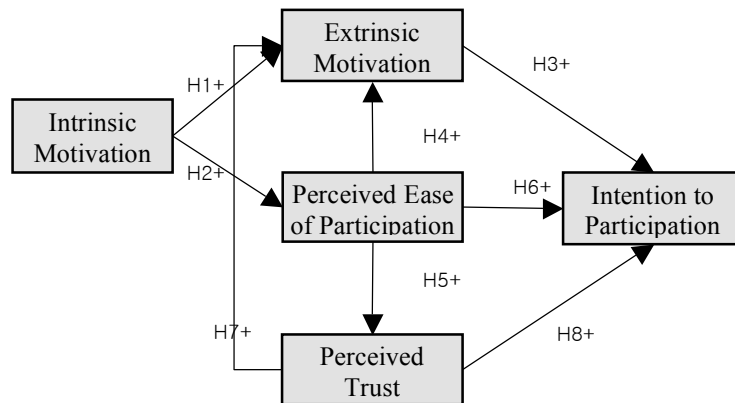
Fig. 1. Research Model

4. Samples and Data Collection

This study selects the measurement items whose reliability and validities have been verified from previous studies; some are modified to align with this study. The items and related literatures are listed in Table 1. The final questionnaire consists of 27 items, including 5 general questions, such as sex, age, education level, view frequency, and participation frequency in video UCC. All items were measured by using a five-point Likert-type scale (ranging from 1=strongly disagree to 5=strongly agree), except for 5 general questions.

The sample was obtained through a professional market research company named Pollever (www.poller.co.kr). The main data collection was conducted from June 12 to 15 in 2006, targeting Korean individuals, from

15 to 35 years old. In total, 1,000 despondences were gathered, and among them, 353 responses are identified to have experience in participate in video UCC services. However, the frequency of the participation is very low (only 30.9 % of users participate in video UCC more than once a week). On the contrary, 58.6% of users view the video UCC more than once a week. Other demographic profiles of respondents are illustrated in Table 2.

Table 1. Measurement Items of the Related Constructs

Construct	Operational Definition	Latent variables	Reference
Intrinsic motivation (IM)	The performance of an activity for no apparent reinforcement other than the process of performing the activity.	Enjoyment Creativity Interest	Davis et al.(1992) deCharms, (1968) White, (1959)
Extrinsic motivation (EM)	The performance of an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself	Anticipated reciprocity Increased reputation Sense of community material rewards Self efficacy	Calder&Straw (1975) Deci (1975) Pinder (1976) Porac&Meindl (1982) Pritchard&Campbell (1977)
Perceived ease of participation (PEOP)	The degree to which person believes that participating Video UCC would be free of effort	Capturing Editing Saving Sharing Overall	Davis et al.(1992)
Perceived Trust (PT)	Willingness to depends	Ability Caring Overall trust Legal risk Criticism	Ganesan (1994) Gefen (2000, 2003,2004) Jarvenpaa et al. (2000)
Intention to participate	The degree of a person's willingness to participate in the Video UCC in the future	Willingness Plan General intention	Davis et al. (1992)

Table 2. Demographic Profile

	Measurement	Frequency	Percentage (%)
Sex	Male	568	56.8
	Female	432	43.2
Age	15-19	74	7.4
	20-24	236	23.6
	25-29	340	34.0
	30-34	350	35.0
Education	Middle School	37	3.7
	High School	215	21.5
	College graduated	681	68.1
	Advanced degree	67	6.7

5. Data analysis and result

To test the proposed hypotheses, a structural equation model (SEM) approach was chosen. SEM provides researchers to model the relationships among multiple independent and dependent constructs simultaneously in a single, systematic, and comprehensive analysis (Gefen et al. 2000). In this study, the principal software Amos 4.0 is utilized for measurement assessment and overall goodness of model fit, with SPSS 10.0 for the supplementary use.

5.1 Reliability and Validity Test

Individual reliability of each item is evaluated by examining the loadings or simple correlations of the indicators with their respective constructs. At first test, the loading of item EM4 (0.508) did not fulfill the accepted condition of 0.707 (Carmines and Zeller 1979); therefore, we removed this item from our analysis.

In exploratory research, Cronbach's alpha should exceed equal or over 0.6 (Nunnaly 1978). Cronbach alpha coefficient of all the constructs in our model resulted in greater than 0.7. After this test, reliability was re-examined by a composite reliability test; this has been considered a more exact measurement than Cronbach's alpha (Fornell and Larcker 1981). The composite reliability value should exceed the threshold of 0.7 and even the strictest one of 0.8 (Nunnaly 1978) to be accepted as reliable constructs. All of the constructs are reliable as they above 0.8. The results of Cronbach's alpha and composite reliability test are shown in Table 3.

Table 3. Reliability and Validity Test

Construct and indicators		Esti-mate	t-value	Standardized Estimate	Construct reliability	Cronbach alpha
Construct	Item					
Intrinsic motivation (IM)	IM1(Enjoyment)	1.000		0.814	0.985	0.871
	IM2(Creativity)	1.075	29.671	0.841		
	IM3(Interest)	1.077	29.580	0.839		
Extrinsic motivation (EM)	EM1(Anticipated reciprocity)	1.000		0.786	0.980	0.844
	EM2(Increased reputation)	0.967	23.370	0.723		
	EM3(Sense of community)	0.992	24.300	0.748		
	EM5(Self efficacy)	0.913	23.231	0.719		
Perceived ease of participation (PEOP)	PEOP1(Capturing)	1.000		0.755	0.979	0.882
	PEOP2(Editing)	1.029	24.792	0.785		
	PEOP3(Saving)	0.976	24.678	0.782		
	PEOP4(Sharing)	0.931	23.034	0.734		
	PEOP5(Overall)	0.998	25.691	0.812		
Perceived Trust (PT)	PT1(Ability)	1.000		0.816	0.986	0.886
	PT2(Caring)	1.044	30.710	0.865		
	PT3(Overall trust)	1.112	30.519	0.871		
Intention to participate (IP)	IP1(Willingness)	1.000		0.846	0.986	0.883
	IP2(Plan)	1.033	30.075	0.820		
	IP3(General intention)	1.072	32.145	0.866		

Note: Construct reliability was calculated as suggested by Bagozzi and Yi (1988)

Confirmatory factor analysis was conducted to verify the convergent validity of each construct. The convergent validity was tested with λ estimates and its significance of t-value. Convergent validity is indicated by the fact that items factor loading significantly (i.e. t>1.96) on their corresponding latent construct, with the lowest t-value being 23.034 (Bagozzi et al., 1991). The results of the discriminant validity test are shown in Table 4. In order to verify the discriminant validity of the constructs, we investigated the covariance of the construct and its standardized deviation. If the measurement model satisfies the discriminant validity test, the confidence interval for each pairwise correlation estimate (i.e. plus or minus two standard errors) does not include the value of 1.0 (Anderson and Gerbing 1988). As shown in Table 4, all constructs satisfied this criterion.

Table 4. Discriminant Validity

	IM	EM	PEOP	PT
EM	.372 (0.023)			
PEOP	.264 (0.022)	.243 (0.020)		
PT	.216 (0.019)	.208 (0.018)	.244 (0.021)	
IP	.352 (0.023)	.271 (0.020)	.279 (0.021)	.264 (0.020)

Note: Covariance± 2*Standard Deviation should not contain 1.0 (Anderson and Gerbing 1988)

5.2 Overall Model Fit

To test the model, there are many overall goodness-of-fit measurements; however, in this study, chi-square ($\chi 2$), GFI, AGFI, RMSR, NFI, CFI, RMSEA are used as the model fit indices (see Table 5). All values met the recommended values and the whole model fit is reasonable enough to assess the results for the structural model.

**Table 5.** Overall Model Fit Indices

Model goodness of fit indexes	Values	Recommended Value
Chi-square	808.202	-
P-value	0.000	>0.05
Degree of Freedom	127	-
Goodness of Fit Index(GFI)	0.913	>0.80
Adjusted Goodness of Fit Index (AGFI)	0.883	>0.80
Root Mean Square Residual (RMSR)	0.042	<0.08
Normed Fit Index (NFI)	0.930	>0.90
Comparative Fit Index (CFI)	0.940	>0.90
Root Mean Square Error of Approximation (RMSEA)	0.073	<0.05 -0.08

5.3 Results and Implications

Overall results are summarized in Fig.2. All eight hypotheses examined are accepted; all are significant at the level of 99.9% except for H4. The constructs, EM, PEOP and PT, have a significant effect on IP (i.e., H3, H6,

H8). The most significant impact on Intention to Participate is Extrinsic Motivation (β=0.514), while PT and PEOP have relatively less impact on IP (β=0.223, β=0.199).

H1, which examines the positive relationship between IM and EM, was the most significantly (β =0.705) supported, that is, it is also proved by the previous motivational model. H2 to examine the causality of IM is also supported (β =0.570). H5, explaining that PEOP positively affects PT, was also significantly (β =0.495) supported. Lastly, PEOP, PT both have causality with EM, β=0.071 under the level of p<.01 and β =0.124 under level of p<.001, respectively. (i.e, H4 and H7 are also supported). In sum, the effects of EM, PEOP and PT explained 56.2% of the variance of intention of participation in video UCC services.
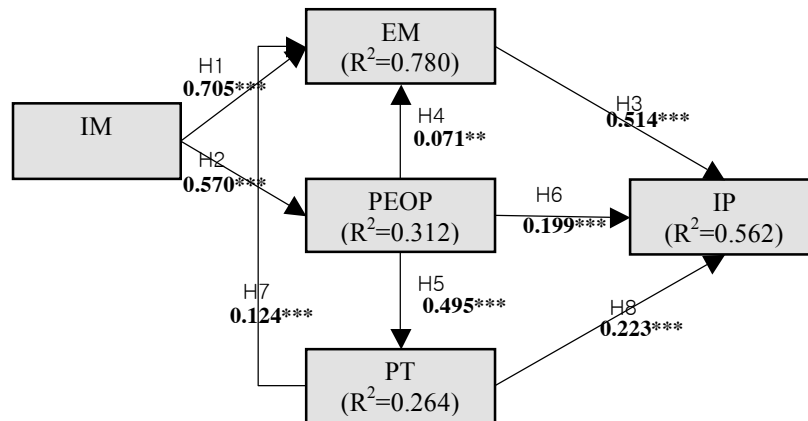
***P<.001, **P<.01

Fig. 2. Standardized path coefficients and explained variance for the model.

The study gives implications for video UCC service providers to design and implement strategy. To encourage the users to participate and use continuingly, the service management needs to 1) emphasize both extrinsic and intrinsic motivation of the participation to the users, 2) focus on decreasing the difficulty of video UCC processes, such as capturing, editing, uploading, and sharing, and 3) focus on building a trust-based relationship with users.

According to the intrinsic motivation, there is old proverb, "You can drag a horse to the waterside, but you can't make it drink water." However, if we make the horse lick a pouch of salts, it will feel thirsty and would like to drink water. Likewise, users should be motivated internally

on the video UCC participation. One strategy to enhance users' intrinsic motivation is segmentation users based on their interests. By doing this, interesting events can be provided to segmented users who might like to join in. For example, fans of Britney Spears might be interested in making her relevant video clips. In this case, that users' intention to participate will increase by holding Britney Spears' fan-made video contest.

Concerning extrinsic motivation, this research does not contain monetary rewards; rather we have self satisfaction or social related items. As shown in the results, we still get a higher relationship between extrinsic motivation and intention to participate in video UCC. This result may accord with other psychological results considering that monetary incentives are usually underperformed than other source of incentives. Therefore, service providers should not have the wrong idea that money or prize showering will affect motivation of users, causing them to participate. Rather than this strategy, they should develop an elaborate communication system that could motivate users by making them realize that they are influential people in their community, so that can satisfy themselves.

In terms of perceived ease of participation, service providers should provide the sophisticated functions of editing, so creators will skim up the barrier of difficulty in the creation and editing of their contents. Most of the video UCC that is currently available is modified contents rather than newly created ones. In order to encourage users to become real creative producers, it is important to remind users that creating video contents is not hard work, once they use the tools provided by the service provider.

Building the strong trust can influence and motivate to user participation in UCC. Thus UCC service provider should make effort to intensifying the trust. Prompt action for the users' request and stable circumstances for creation will promote trust in the users' minds. Trust is also related the extrinsic motivation. User's anticipation of usefulness of participation (i.e., the extrinsic rewards that user can obtain by participating UCC) can be intensified by building up the strong trust.

On the other hand, once a user chooses a video UCC provider, s/he may be locked in the first provider since his or her human network will be built and the database of video source will be settled down. Therefore, the early stage of the service will be the critical point in terms of users' choice for settlement. In this sense, trust can also play a crucial role for users in choosing a service provider.

6. Conclusions

This study is of interest from both theoretical and practical perspectives. Theoretically, it examined the user participation in video UCC, using integrated TAM and Motivational theory as theoretical frameworks. This study may also provide a useful guideline for practitioners, how to design the service that effectively motivate users to take part in.

However, this study has some limitations. TAM model is devised for predicting the adoption behavior of innovative technology based services. As mentioned earlier, participation and adoption are different dimensional behaviors. Our proposed model may be missing some constructs to be added since users' participation is a much more complex system than technological adoption. Although this study tried to compensate the properness of TAM adaptation by integrating motivational theory and other constructs, further research future to highlight the blindside is necessary.

Therefore, the following future research is recommended. Firstly, in order to have robustness of the proposed model, more empirical tests in other contexts are required. Secondly, other constructs that fit with participation study should be examined. Service quality and actual behavior constructs could be added on the model if we can collect the actual participation data and service quality, as many new video UCC services are launched in the near future. Thirdly, differentiated studies for general users and intensive participants are also needed. Earlier works defined participants called "lurkers", who do not post any messages (Takahashi et al. 2003) and participations called "lions", who are the small fraction of the members contribute the most messages in an online community (Butler, 1999). Therefore, how to motivate "lurkers" to appear and to keep "lions" actively participating could be other interesting issues of relevance.

7. Acknowledgements

8. References

Anderson JC, Gerbing DW (1988) Structural equation modeling in practice: A review and recommended two-step approach. Psychological Bulletin 103 (3) : 411-423

Bagozzi RP, Yi Y (1988) On the evaluation of structural equation models. Journal of the Academy of Marketing Science 16 : 74-94

Bagozzi RP, Yi Y, Phillips LW (1991) Assessing construct validity in organizational research. Administrative Science Quarterly 36(3) : 421-58

Butler B (1999) The dynamics of cyberspace: Examining and modeling the dynamics of online social structure. Ph.D. thesis, Carnegie Mellon University

Carmines EG, Zeller RA (1979) Reliability and validity. Beverly Hills, CA: Sage Publications

Calder BJ, Staw BM (1975) Self perception of intrinsic and extrinsic motivation. Journal of Personality and Social Psychology 31 : 599-603

Davis FD, Bagozzi RP, Warsahw PR (1989) User acceptance of computer technology: A comparison of two theoretical medels. Management Science 35 : 982-1001

Davis FD, Bagozzi RP, Warsahw PR (1992) Extrinsic and intrinsic motivation to use computers in the workplace. Journal of Applied Social Psychology 22 : 1111-1132

Deci EL (1975) Intrinsic motivation. Plenum Press, New York

Fornell C, Larcker D (1981) Structural equation models with unobservable variables and measurement error. Journal of Marketing Research 18(1) : 39-50

Gefen D (2000) E-commerce: The role of familiarity and trust. Omega: The International Journal of Management Science 28(6) : 725-737

Gefen D (2004) What makes an ERO implementation relationship worthwhile: linking trust mechanisms and ERP usefulness. Journal of Management Information Systems 21(1) : 263-288

Ganesan S (1994) Determinants of long-term orientation in buyer-seller relationships. Journal of Marketing 58 : 1-19

Gefen D, Karahanna E, Straub D (2003) Trust and TAM in online shopping: an integrated model. MIS Quarterly 27(1) : 51-90

Markus L, Manvile B, Agres C (2000) What makes a virtual organization work? MIT Sloan Management Review 42(1) : 13-26

Meeker M et al. (2004) Industry overview, An update from the digital world. MrganStanley Research, Internet-October 26

Morris M, Dillon A (1997) How user perceptions influence software use. IEEE Software 14: 58-65

Nardi B et al. (2004) Why We Blog. Communications of the ACM 47 : pp. 41-46

Nunnaly JC (1978) Psychometric theory. McGraw Hill, New York

Chin P (2005) The value of user-generated contents part I. Intranet Journal, http://www.intranetjournal.com/articles/200603/ij_03_07_06a.html

Pavlou PA (2003) Consumer acceptance of electronic commerce-integrating trust and risk with the technology acceptance model. International Journal of Electronic Commerce 7(3) : 69-103

Reichheld FF, Schefter P (2000) E-Loyalty: your secret weapon on the Web. Harvard Business Review 78(4) : 105-113

Takahashi M, Fujimoto M, Yamasaki N (2003) The active lurker: influence of an in-house online community on its outside environment. In Proceedings of GROUP03, Sanibel Island, FL., pp. 1-10

Vallerand RJ, Fortier M, Gua F (1997) Self-determination and persistence in a real life setting: Toward a motivational model of high school dropout. Journal of Personality and Social Psychology 72 : 1161-1177

Venkatesh V, Davis FD (1996) A model of the antecedents of perceived ease of use: Development and test. Decision Sciences 27(3) : 451-481

Venkatesh V (1999) Creation of favorable user perceptions: Exploring the role of intrinsic motivation. MIS Quarterly 23 : 239-160

Venkatesh V (2000) Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. Information Systems Research 11(4) : 342-365

Venkatesh V (2002) User acceptance enablers in individual decision making about technology: Toward an integrated model. Decision Sciences 33(2) : 297-316

Von Hippel E (1986) Lead users: A source of novel product concepts. Management Science 32(7) : 791-805

Wu IL, Chen JL (2005) An extension of trust and TAM model with TPB in the initial adoption of on-line tax: An empirical study. International Journal of Human-Computer Studies 62 : 784-909