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Exploring User Motivations to Knowledge Contribution at the Creation Stage of Online Communities

Research-in-Progress

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Abstract

The motivation of online community users' contribution behavior has captured the attention of many scholars in various disciplines. But little empirical research has studied user behaviors according to the different stages of an online community. Based on Iriberry et al. (2009)'s life cycle model of online community, our study specifically focuses on the users' contribution behavior at the creation stage of an online community. Some constructs of previous studies like trust and online-identity are not able to explain users' behavior in our context, because identity and trust relationship are not established until growth and mature stage. Given the uniqueness of early participants and online community lifecycle, our study integrates three theoretical perspectives (need fulfillment theory, task-technology fit model and self-verification theory) to propose a research model to understand the participation motives. Furthermore, we introduced a moderator of group-level uniqueness to the self-verification theory.

Keywords: motivation, user-generated content, online community, creation stage, early users, task-technology fit model, need fulfillment, self-verification theory

Introduction

In the past several decades, many online communities have emerged and brought social, informational and monetary benefits to organizations and individuals. Online communities rely on the voluntary contribution of the members (Zhang et al. 2012), especially at the early stage when there are limited knowledge exchanges (Iriberry et al. 2009). Prior studies have explored different psychological motives to knowledge contribution, such as online identity (Kim et al. 2001; Ma et al. 2007; Tedjamulia et al. 2005), trust (Hsu, 2007; Wang, 2004; Zhou, 2011; Lin, 2008), satisfaction (Ma, 2007; Tedjamulia, 2005; Lin, 2008) and reciprocity (Xu, 2014; Wasko et al., 2005). Such motives were tested in online communities which have grown to reach a mature stage. For example, factors such as trust (Hsu, 2007) and reciprocity (Xu, 2014) are more likely to develop in the community that has grown to reach a mature

stage (Iriberry et al. 2009). However, it is not clear whether such motives are effective in online communities at their early stage.

Online communities are described to undergo five stages in the life-cycle (Iriberry et al. 2009): inception, creation, growth, maturity, and death. Each stage has unique characteristics. For example, the volume of knowledge creation is small at the creation stage. Further, as is claimed by Moore (1991), “there is a chasm between the early adopters and early majorities as the two groups have not the same expectancy and distinguished from each other by their characteristics.”

Thus, given the uniqueness of early participants and online community lifecycle, our study integrates three theoretical perspectives (need fulfillment theory, task-technology fit model and self-verification theory) to propose a research model to understand the participation motives.

In the rest of the paper, we explain the definition and lifecycle of the online community, and why we adopt three theoretical perspectives in the research model. Next, we discuss need fulfillment theory, task technology fit theory and self-verification theory respectively. Lastly, we propose our research model, research design, and the potential contribution to the theory and practice.

Literature Review

Online Community: definition and the lifecycle

Online communities evolve in stages. By matching information systems life cycle, Iriberry et al. (2009) identified five stages of the online community lifecycle: inception, creation, growth, maturity, and death. (Figure 1) Activities and needs of members change at each stage of the online community evolution (Iriberry et al., 2009). The first stage is inception. At inception, an online community starts from the specific needs for information, support, recreation, or relationship of a group of people (Malhotra et al. 1997; Wegner et al. 2002). For example, an online community on parenting may start from bringing a group of mothers together to discuss how to raise children. The community at inception stage begins with a set of specific need or vision that keeps it focus (Iriberry et al., 2009).

Online communities are technically established in the creation stage after inception stage. Lee et al. (2003) defined that online community refers to the online platform that is “supported by computer-based information technology, centered upon communication and interaction of participants to generate member-driven content, resulting in a relationship being built”. The creation of the online community begins when these technological components are in place, and an initial group of members can interact and invite new ones to join (Malhotra et al. 1997). In this stage, the initial group of members plays a critical role in leading the community by knowledge contribution. This study focuses on the participation motives of the initial group of members.

Next, the online community comes to the stage of growth if the number of members keeps increasing. The culture and identity of the community begin to emerge and develop. Members start using a common vocabulary and forming normative rules, and select the roles they will play in the community (Iriberry et al., 2009).

As the online community matures, there is a need for a more explicit and formal organization with regulations, rewards. According to Iriberry et al (2009), in the stage of maturity, the community is strengthened, and trust and lasting relationships begin to emerge.

After the community reaches the maturity stage, it may change course or add new features to maintain user interest. Still, some of them lose momentum and member interest and begin to die when they face poor participation, lack of quality content, unorganized contribution, and transient membership (Jarvenpaa and Knoll 1998).

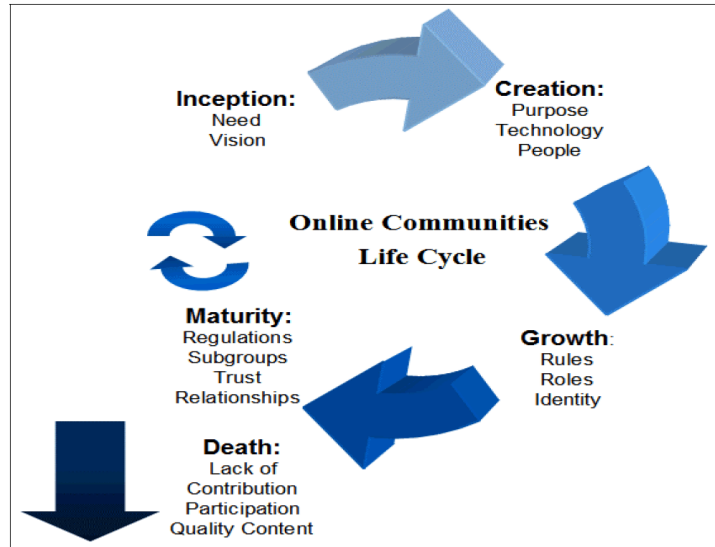


Figure 1: Lifecycle of online community (Iriberry et al. 2009)

Need fulfillment

To explore the knowledge contribution behavior of the initial group of members in the online community, first of all, we draw on the need fulfillment perspective. Reinforcement and need fulfillment is a primary function of a strong community (McMillan, 1986). At the initial stage, the idea for an online community emerges because of the needs of people for information, support, recreation, or relationship. Based on the types of needs, interested people begin form a vision for a community (Malhotra et al. 1999; Wegner et al. 2002). Because need fulfillment affects user behavior in an online community (Kim, 2004; Sangwan, 2005; Karapanos et al., 2016), it is vital to find the needs of potential users and form a focus idea at the beginning of an online community.

According to Sangwan (2005), there are three types of needs for the users of a virtual community: functional, emotive and contextual needs. Functional need is characterized by information need which related to informational requirements that a member expects from the online community. Emotive needs are categorized as virtual social interaction by participating and interacting with various people in the virtual environment, and personal fulfilment through self-expression to feel confident. Contextual needs relate to individual user specific expectations and experiences beyond and other than functional and emotive needs. At the creation stage of an online community, little information is available for the users, information need is hard to be fulfilled. So, we will focus on the emotive needs of the users.

Emotive needs are categorized as social interaction need and self-expression need. (Sangwan, 2005) A great number of online community studies emphasize that many people are drawn to the Internet for social interaction. (Iriberry et al, 2009) In online communities, various studies mentioned interaction impacts on contribution. (Zhu et al., 2013) As is claimed by Zhu et al (2013), “empirical research has demonstrated that peer feedback predicts the amount and quality of recipients’ subsequent contributions. Feedback can increase contribution.” Thus, it makes sense to claim that for the initial group of users, when little information is available, the need of social interaction impacts their contribution behavior. And self-expression is one of the main factors that studied by various articles to produce user-generated content. (Nardi et al., 2004; Lenhart & Fox, 2006; Schmidt & Wilber, 2005) Thus, based on Sangwan (2005)’s argument, we hypothesis that:

H₁: Interaction need fulfillment is positively related to the knowledge contribution behavior of users at the creation stage of an online community.

H₂: Self-expression need fulfillment is positively related to the knowledge contribution behavior of users at the creation stage of an online community.

Task-technology fit model

The ability of IT to support a task is expressed by the construct of task-technology fit (TTF), which implies the matching of the capability of the technology to the demand of the task. And according to its definition, task-technology fit is the degree to which a technology assists an individual in performing his or her portfolio of tasks. (Goodhue & Thompson, 1995)

Technologies are viewed as tools used by individuals in carrying out their tasks. (Goodhue & Thompson, 1995) The Internet and its applications enable global geographical reach, interaction, asynchronous, text editing capabilities, and photo and video uploading functions. Due to the technology, people can communicate with members at a distance at any time they want.

And tasks are defined as the actions carried out by individuals in turning inputs into outputs. (Goodhue & Thompson, 1995) In our context, task specifically refers to member's contribution behavior of knowledge sharing in the online community.

Different types of online communities have different purposes, requiring relevant technology components to support. For example, the technology features of Facebook, a platform which focused on sociality, are different to that of LinkedIn, a business-and employment-oriented social networking platform. Consequently, the technology fitness is important for the members to carry out their tasks. Goodhue et al. (1995) argue that there is a positive relationship between task-technology fit and individual performance. Moreover, as is claimed by Wagner (2004), one success factor of Wikipedia is due to Wiki technology enables collaboration of people similar to open source software development, while at the same time minimizing the effort of content publication. And the relevance and value of any particular technology is the key issue. Thus, based on the above argument, we propose that:

H₃: Degree of task and technology fit is positively related to the knowledge contribution behavior of the users at the creation stage of an online community.

Self-verification theory

Self-verification theory suggests that people are more satisfied and likely to participate in a relationship when their salient identities are confirmed by others in a group (Swann 1983, Swann et al. 1989). Burke and Stets (1998) find that successful verification of a group membership identity increases feelings of acceptance and self-esteem, resulting in positive behaviors in the group. Self-verification literature indicates that people prefer interacting with partners who verify their identities than with those who do not (e.g., Swann et al., 1989). On the other hand, when failed to gain self-verifying reactions after displaying the identity cues, people will behave in negative ways (Swann et al., 1992).

Acknowledgment from the group members increase the contribution efforts (Hertel et al. 2003, Stasser et al. 1995, Thomas-Hunt et al. 2003). According to Ma and Agarwal (2007), perceived identity verification, meaning the perceived confirmation from other community members of a focal person's belief about his identities, has the significant positive relationship with the knowledge contribution behavior in an online community. In the early stage of the online community, individuals' contribution to the community is more accessible to other members given the quantity of knowledge archive is not overwhelming. Users expect their efforts are likely to be recognized rather than being neglected by the community at earlier stage. Thus, we propose that:

H₄: Perceived identity verification motivates the knowledge contribution behavior of users at the creation stage of an online community.

For the relationship of perceived identity verification and the contribution behavior, we introduced group-level uniqueness as a moderator in the context of the creation stage of the online community.

In general, uniqueness is defined as someone or something is unlike anything else in comparison (Tayob, 2004). Uniqueness, which can be derived from new or niche experience, such as joining a new social group, motivates people to conduct creative behaviors (Beenen et al., 2004; Fromkin, 1971). A newcomer of an online community tends to examine the characteristics of the focal community members toward a “re-definition of self” (Fromkin, 1971). There are different levels of social identity: individual level and group level (Brewer 1991). Individuals seek for a balance between being similar and unique comparing with other members when staying in a social group (Brewer 1991).

Online communities at the creation stage tend to be small in membership size. Such communities need to set up unique goals or value propositions to succeed. Being small with a set of unique goals or value propositions implies a group identity of uniqueness. For example, users can derive a high sense of group-level uniqueness for being a member of Apple’s Mac discussion forum back in the days when Apple’s products were exclusive and not affordable to the majority. According to optimal distinctiveness theory (Pickett et al. 2001), when people appraise their group identities to be unique and minority, they are more likely to conduct pro-social behaviors to assimilate to the other group members. The intention to assimilate in unique group context reframes the understanding of reduces the positive relation between the need for individual uniqueness to contribution. Therefore, individuals become less motivated to contribute out of the need to set up individual level unique images.

However, if members do not appraise the online community at creation stage to be highly unique regarding the identity aspect, they are more likely to be motivated to contribute out of self-verification need for two reasons: first, members are more likely to fulfill their self-verification motives by making contribution because contributing to a newly-founded online community is more likely to shape the contents and get recognition by other members. Contributing behavior at creation stage is less constricted to social pressure, and thus self-verification can be more desirable. Second, in order to maintain a balance of being unique and similar to other members, individuals strive to maintain individual-level uniqueness when the group-level uniqueness is low (Pickett et al. 2001).

To sum up, we propose that group-level uniqueness moderate the relationship of perceived identity verification and the contribution behavior. When group-level uniqueness is low, the positive relationship between perceived identity verification and the contribution behavior becomes stronger. When group-level uniqueness is high, the relationship between perceived identity verification and the contribution behavior becomes insignificant.

H₅: Group level uniqueness moderates the relationship between perceived identity verification and knowledge contribution.

Research Model

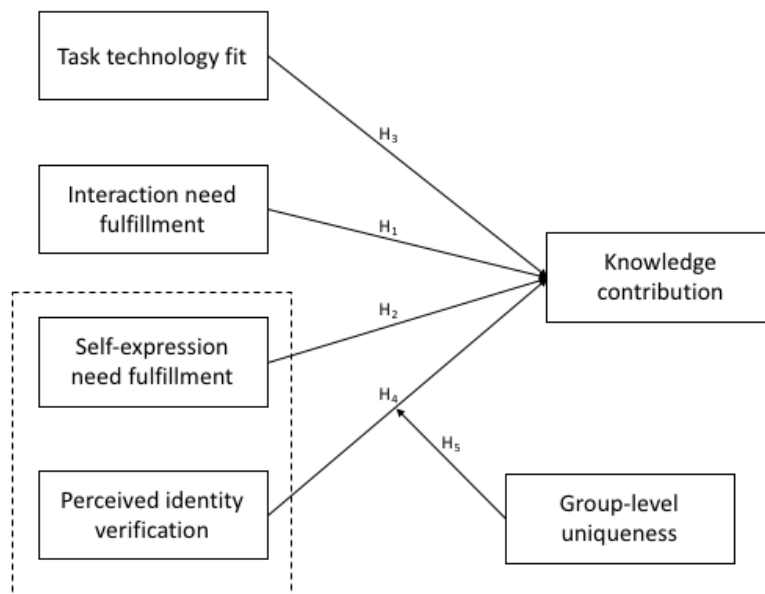


Figure 2: Research Model

Research Method

To test the model, we will distribute questionnaires to early joiners of several online communities, especially those started in 2017 or 2018.

Potential Contribution

In terms of theoretical contribution, drawing on Iriberry et al. (2009)'s life cycle model of online community, we focus on the online community user motivation of contribution at a specific stage of creation stage. Because previous studies seldom exam the user behaviors according to the different stages of an online community, many constructs cannot well explain user behavior in our context. Thus, we integrate three theoretical perspectives (need fulfillment theory, task-technology fit model and self-verification theory) to propose a research model to understand participation motives. Furthermore, we introduce a moderator to the self-verification theory.

For the practical contribution, for startup online communities, one challenge is how to gain the first group of content from the users, understanding the knowledge contribution motivations of the initial group during the creation stages is valuable for the online startup communities to encourage the early users to share knowledge and produce the content for the platform.

References

- Arvenpaa, S. L. & Knoll, K. 1998. "Is anybody out there? Antecedents of trust in global virtual teams," *Journal of Management Information Systems* (14:4), pp. 29-65.
- Beenen G., Ling K., Wang X., Chang K., Frankowski D., Resnick P., and Kraut R. E., 2004. "Using Social Psychology to Motivate Contributions to Online Communities," *Journal of Computer-mediated Communication* (10:4)
- Brewer. M. B. 1991. "The Social Self: On Being the Same and Different at the Same Time," *Personality and Social Psychology Bulletin*, vol. 17, pp. 475-482

- Burke P. J. and Stets J. E. 1999. "Trust and Commitment through Self-Verification," *Social Psychology Quarterly* (62: 4), pp. 347-366
- Butler, B., Sproull, L., Kiesler, S., Kraut, R. 2002. "Community Effort in Online Groups: Who Does the Work and Why," In *Leadership at a Distance* (Weisband, S. A., L., Ed).
- Goodhue D. L. and Thompson R. L. 1995. "Task-Technology Fit and Individual Performance," *MIS Quarterly* (19: 2), pp. 213-236
- Howard L. Fromkin, 1971. "A Social Psychological Analysis of the Adoption and Diffusion of New Products and Practices From a Uniqueness Motivation Perspective," in *SV - Proceedings of the Second Annual Conference of the Association for Consumer Research*, eds. David M. Gardner, College Park, MD: Association for Consumer Research, pp. 464-469.
- Hsu M. H., Ju T. L., Yen C. H., Chang C. M. 2007. "Knowledge sharing behavior in virtual communities: The relationship between trust, self-efficacy, and outcome expectations," *International Journal of Human-Computer Studies* (65:2), pp. 153-169
- Iriberry A., Leroy G. 2009. "A life-cycle perspective on online community success," *ACM Computing Surveys* (41:2), pp. 1-29.
- Karapanos E., Teixeira P., Gouveia R. 2016. "Need fulfillment and experiences on social media: A case on Facebook and WhatsApp," *Computers in Human Behavior* (55), pp.888-897
- Kim H. W., Zheng J. R., Gupta S. 2011. "Examining knowledge contribution from the perspective of an online identity in blogging communities," *Computers in Human Behavior* (27:5), pp. 1760-1770
- Kim W. G., Lee C., Hiemstra S. J. 2004. "Effects of an online virtual community on customer loyalty and travel product purchases," *Tourism Management* (25:3), pp.343-355
- Lee, F. S. L., Vogel, D. and Limayem, M. 2003. "Virtual community informatics: A review and research agenda," *Journal of Information Technology Theory and Application* (5:1) pp. 47-61.
- Lenhart, A., Fox, S. 2006. "Bloggers: A portrait of the internet's new storytellers"
- Lin H. F. 2008. "Determinants of successful virtual communities: Contributions from system characteristics and social factors," *Information & Management* (45:8), pp. 522-527
- Ma M. and Agarwal R. 2007. "Through a Glass Darkly: Information Technology Design, Identity Verification, and Knowledge Contribution in Online Communities," *Information Systems Research* (18:1), pp. 42-67
- Ma M. and Agarwal R. 2007. "Through a Glass Darkly: Information Technology Design, Identity Verification, and Knowledge Contribution in Online Communities," *Information Systems Research* (18: 1), pp. 42-67
- Malhotra, A., Gosain, S. and Hars, A. 1997. "Evolution of a virtual community: understanding design issues through a longitudinal study," *Proceedings of the Eighteenth International Conference on Information Systems*, Atlanta, GA, USA
- McLure Wasko, M., Faraj, S. 2000. "It is what one does: why people participate and help others in electronic communities of practice," *The Journal of Strategic Information Systems* (9:2), pp. 155-173
- McLure, W. M., Faraj, S. 2000. "It is what one does: why people participate and help others in electronic communities of practice," *Journal of Strategic Information Systems* (9:2/3), 155-173.
- McMillan D. W., Chavis D. M., 1986. "Sense of Community: A Definition and Theory," *Journal of Community Psychology* (14:1), pp. 6-23
- Moore, G. A. 1991. *Crossing the chasm: Marketing and selling technology products to mainstream customers*. New York, N.Y.: Harper Business
- Nardi, B. A., Schiano, D. J., Gumbrecht, M. 2004. "Blogging as social activity, or, Would you let 900 million people read your diary?" In *ACM conference on Computer Supported cooperative work*, pp. 222-231, Chicago.
- Pickett C. L. and Brewer. M. B. 2001. "Assimilation and Differentiation Needs as Motivational Determinants of Perceived In-group and Out-Group Homogeneity," *Journal of Experimental Social Psychology*, vol. 37, pp. 341-348.
- Ridings, C. M., Geffen, D. 2004. "Virtual Community Attraction: Why People Hang Out Online," *Journal of Computer-Mediated Communication* (10:1)
- Sangwan S. 2005. "Virtual Community Success: a Uses and Gratifications Perspective," *Proceedings of the 38th Hawaii International Conference on System Sciences*

- Schmidt, J., Wilber, M. 2005. Wie ich blogge?! "Erste Ergebnisse der eblogbefragung 2005 How I blog?! First results of the weblog survey 2005," Berichte der Forschungsstelle "Neue Kommunikationsmedien" (Nr. 06-01)
- Swann, W. B. 1983. "Self-verification: Bring social reality into harmony with the self," *Social Psychological Perspectives on the Self*. Erlbaum, Hillsdale, NJ, pp. 33–66.
- Swann, W. B., A. Stein-Seroussi, R. B. Giesler. 1992. "Why people self-verify," *J. Personality Soc. Psych.* (62:3), pp. 392–401.
- Swann, W. B., B. W. Pelham, D. S. Krull. 1989. "Agreeable fancy or disagreeable truth? Reconciling self-enhancement and self-verification," *J. Personality Soc. Psych.* (57:5), pp. 782–791.
- Swann, W. B., L. P. Milton, J. T. Polzer. 2000. "Should we create a niche or fall in line? Identity negotiation and small group effectiveness," *J. Personality Soc. Psych.* (79:2) pp: 238–250.
- Tayob, Abdulkador. 2004. "Maintaining Apartheid or Promoting Change?" pp. 85.
- Tedjamulia S.J.J., Dean D.L., Olsen D.R., Albrecht C.C. 2005 "Motivating Content Contributions to Online Communities: Toward a More Comprehensive Theory," *38th Hawaii International Conference on System Sciences*
- Wagner C. 2004. "Wiki: A technology for conversational knowledge management and group collaboration," *The Communications of the Association for Information Systems* (13:1), pp.58
- Wang W., Fesenmaier D. R., 2004. "Towards understanding members' general participation in and active contribution to an online travel community," *Tourism Management* (25:6), pp. 709-722
- Wegner, E., Mcdermott, R. and Snyder, W. 2002. *Cultivating Communities of Practice: A Guide to Managing Knowledge*. Harvard Business Review.
- Xu B. and Li D. 2014 "An empirical study of the motivations for content contribution and community participation in Wikipedia," *Information & Management* (52:3)
- Zhang K. F., Evgeniou T., Padmanabhan V., Richard E. 2012. "Content Contributor Management and Network Effects in a UGC Environment," *Marketing Science* (31: 3), pp. 433-447
- Zhou T. 2011. "An empirical examination of initial trust in mobile banking," *Internet Research* (21:5), pp. 527-540
- Zhu, H., Zhang, A., He, J., Kraut, R.E., and Kittur, A. 2013. "Effects of peer feedback on contribution: a field experiment in Wikipedia," Proc of CHI '13. ACM Press