Contributing to Wikipedia:
Through Content or Social Interaction?

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ABSTRACT

While the overall amount of user contributions in various namespaces has been discussed in previous research, the question of how and where users contribute, depending on their time spent in Wikipedia, is still open. This study analyzed contribution patterns in three namespaces of 685,897 active users of English Wikipedia since its inception. User editing behaviors were analyzed according to the amount of time spent within Wikipedia where contributions in content-oriented spaces were compared with social-oriented namespaces.

Keywords: Contributions, Longevity, Novice Users, Social Web, Sociotechnical Systems, Wikipedia

INTRODUCTION

User contribution through user-generated content to online environments has grown considerably in recent years. Internet content creators in the United States constituted 41% of Internet users in 2008 and this number is expected to grow to 52% in 2013, while consumers of user-generated content among all Internet users is expected to increase from 60% to 70% (Verna, 2009). Despite a high degree of active contribution by users to online environments, the true success of online collaborative projects cannot be taken for granted and requires a constant number of motivated contributors who remain engaged throughout the entire project.

Empirical evidence shows that volunteer contributions, in particular, are inherently dif-

ficult to predict, plan and manage, especially in the case of large-scale projects (Robles et al., 2005). Persistence of contributions remains a big challenge that impacts the success of the projects (Farzan et al., 2011; Liao-Troth, 2008; Wightman, 2010). Moreover, it has been argued that success of open access projects depends not only on constant but also constructive user contributions (Hertel et al., 2003; Koch & Schneider, 2002).

Thus, user participation in online environments has been addressed in previous studies by studying active and passive participation patterns (Ebner & Holzinger, 2005), factors influencing community member expertise, retention and motivation (Choi et al., 2010; Farzan et al., 2011; Ifenthaler, 2010). Dedication and active participation has been contrasted to lurking activities in online communities (Ebner & Holzinger, 2005). User involvement and retention has been achieved through highlighting

presence of the users within the community and strengthening ties with the community (Farzan et al., 2011). Feedback has also been tested as an important factor to reduce the differences between experts and novice users (Ifenthaler, 2010) and different socialization tactics have been tested with newcomers to Wikipedia in order to increase commitment and retention (Choi et al., 2010). User participation with different participation levels has been theorized in terms of legitimate peripheral participation (Lave & Wenger, 1991). Lave and Wenger (1991) described the mechanism of the theoretical framework known as legitimate peripheral participation (LPP) as a crucial part of learning in a community of practice where users start to contribute in a gradual ways. Initially, a member will participate in activities that are important (legitimate) to the community, but are perhaps not the central focus of that community's practices. This model predicts differentiating user behavior based on their levels of experience within a specific community and sociotechnical system. The model has been proposed to create collaborative systems that would provide inclusive system for novices and expert users (Zagal & Bruckman, 2010).

The general motivation for the study is to shed light on user contribution patterns and their editing patterns in various namespaces[1] based on the time spent on Wikipedia platform. This study aims to contribute to a better understanding of user contribution patterns in online environments. By providing a more fine-grained analysis of user participation patterns in online environments over their life span, the study provides theoretical and practical insights for the creation of online collaborative projects based on user contributions.

The article is organized as follows. The following section will provide an overview of the studies on user contributions within Wikipedia considering Wikipedia as a specific sociotechnical system; differences between novice and experienced user contributions will be presented followed by research questions. The method section will describe data and analytical procedures used in this study and

will be followed by the results section. The paper ends with the discussion, implications, and conclusion section.

Contributing to Wikipedia

The sociotechnical side of online environments has been found to have a profound impact on online participation (Kim & Sundar, 2011). Kim and Sundar (2011) analyzed user sharing in healthcare settings and found that interface cues could be used to increase perceived authority, bandwagon effects, sense of agency and sense of community – by which cues affect user experience to address the needs to various types of users. Similarly, it has been observed that users with different experience levels exhibited different search patterns. Novice users searching on the World Wide Web have been analyzed in an experimental task-based setting (Lazonder et al., 2011). Differences found between novice and experts were ascribed to the skills in previous experience acquired with web search engines. However, user level of experience did not differ in terms of information on a specific web site.

Wikipedia has been considered as an exemplar case of online encyclopedia based on volunteer work of millions of users coordinated via a single web site where up-to date resources are created (Bryant et al., 2005, Viégas et al., 2007). There have been recent reports that the rate of growth of Wikipedia pages and editors has started to decline, along with an increase in the exclusion of newcomers, and resistance to new edits (see e.g., Suh et al., 2009). Such a decline in contribution exemplifies a specific case of online project where the consistency of user contributions raises real challenges to the success of continuation of the project itself.

Given the challenges of contributions, the issue that is raised considers user contribution varies in different realms. By design, Wikipedia provides the main activity place – the article editing page, as well as other namespaces, which are less familiar to a general reader of Wikipedia. Thus, Wikipedia provides spaces for main activities (the main namespace) and secondary places (Article talk and User,

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