

## DOCTORAL THESIS

### Fostering knowledge contribution in online communities: and examination of social capital, social capital building, and the role of IT artifacts

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**Fostering Knowledge Contribution in Online Communities:  
An Examination of Social Capital, Social Capital Building, and  
the Role of IT Artifacts**

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**A thesis submitted in partial fulfillment of the requirements  
for the degree of  
Doctor of Philosophy**

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## ABSTRACT

Online communities have great potential for being an ongoing source of knowledge and learning support nowadays. However, this potential cannot be realized unless individuals are motivated to contribute their knowledge there. Despite the growing application of the social capital theory to studying knowledge contribution behavior in online communities, the extant research has focused on examining the direct linkage between social capital and knowledge contribution, neglecting the suggestion that social capital only provides favorable conditions for knowledge sharing but does not incorporate the motivational content needed to induce an intention to act within a person. Moreover, even if social capital is widely regarded as an important driver of knowledge contribution, no systematic research has been conducted to examine the way to build social capital in online communities, and especially, to find out how IT artifacts can support the development of social capital. This thesis attempts to address the above issues by proposing and testing a research model that analyzes the mediating mechanism between social capital and knowledge contribution, as well as the IT-enabled interventions to build social capital in online communities.

Using Nahapiet and Ghoshal's (1998) social capital model as the starting point, we have incorporated the insights derived from different theoretical perspectives to formulate our research model. First, drawing upon the work of Portes and colleagues (1998; 1993), the social exchange theory, the social identity theory, the literature on social network and status attainment, and prior research on group identification, we propose anticipated status enhancement and community identification as the motivational forces behind individuals' knowledge contribution behavior and theorize their roles in explaining the linkage between social capital and knowledge contribution. Second, drawing upon prior research on social capital and supplementing it with the literatures of self-disclosure, homophily, language games, and the reasoning about incentives and sanctions, we propose four IT-enabled social capital builders, including identity profiling, sub-community building, feedback mechanism, and regulatory practice, and theorize their potential in supporting the formation of social capital in online communities.

The proposed model was empirically tested with survey data from 448 members of different online communities. Results from PLS analyses suggest that anticipated status enhancement and community identification are significant motivators of knowledge contribution and that they mediate the effects of different social capital factors (instrumental network ties, expressive network ties, community trustworthiness, and norms of cooperation) on knowledge contribution. Also, our results confirm the hypothesized role of all IT-enabled social capital builders and demonstrate their potential to support social capital-building in online communities. Overall, this thesis makes two main contributions. First, by analyzing the mediating mechanism that underlies the social capital-knowledge contribution linkage, we enhance the understanding of how and why social capital facilitates knowledge contribution. Second, by theorizing and confirming the role of IT artifacts in supporting social capital-building in online communities, we provide the theoretical directions for identifying other useful social capital builders in online contexts and the pragmatic guidelines for designing online communities that are conducive to knowledge sharing among individuals.

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