Preface

As social networks continue to expand, their importance in professional as well as personal settings is becoming abundantly clear. The chapters within this compilation of theory, research, and application will provide researchers, practitioners, and users with the information necessary to make the most of virtual communities and social networks in their everyday activities. This book explores topics as diverse as Peer-to-Peer (P2P) networking systems, enterprise 2.0, social shopping, blogging, management, etc. The following paragraphs describe what readers should expect from each chapter in this crucial reference source.

The book opens with “Innovation Contests: Systematization of the Field and Future Research” by Angelika C. Bullinger and Kathrin Moeslein. The ability to generate innovative products and services is a critical success factor for organizations. The trend of open innovation has brought about many-faceted, IT-based tools (e.g., lead user method or online tool kits), among these, the innovation contest seems particularly promising and continuously gains in importance as a corporate practice. However, a deep understanding of this online innovation practice is still lacking. Contrary to other methods used to realize open innovation, research in the field of online innovation contests displays a growing but only rudimentarily intertwined body of publications. This chapter provides the quintessential systematization of the field by integration of academic knowledge and business deployment. Juxtaposing 33 relevant journal and conference publications with empirical basis and an analysis of 57 real-world innovation contests, interesting disruptions are pointed to and six pathways for future research are described. These cover the optimal degree of elaboration, the interplay of competition and community, the importance of community applications, the trajectory toward open evaluation, and the identification of additional design elements.

Next, Aku Valtakoski, Juhana Peltonen, and Mikko O. J. Laine describe “Peer-to-Peer Service Quality in Virtual Communities.” Virtual communities are an increasingly popular way to conduct business over the Internet. However, from the service provider’s point of view they pose special challenges. In particular, unless the provider itself engages in content or service provision, the service relies entirely on its members for provision of services. The members should thus be seen as resources for service provision. This type of networked service production system implies challenges in terms of service quality management and, subsequently, value creation for community members. This chapter explores these issues by revisiting service marketing and service operations literature on service quality. Analysis of the literature indicates that firms facilitating virtual communities need to ensure the quality of their service by not only ensuring technical quality but also by nurturing the social aspects of the community that have an impact on the willingness of community members to provide service to each other.
Following this is “Unfolding the Diminishing Image Control in Online Self Presentation: An Investigation of Virtual Community” by Chien-Nai Lin, Yu-Tzu Lin, and Ching-Cha Hsieh. As the young generations grow up using applications like Facebook and as fans of social networking technologies, understanding the presentations of self in a virtual community becomes a worthwhile topic to be addressed. Drawing on the theory of dramaturgical theory, this interpretive research was conducted to observe the self-presentation of the participants in a virtual community to analyze their online behaviors and interactions. The observations found that only in the early stage of interaction, can people have a high degree of control over the ideal images creation; however, the clues to reveal actual images are accumulated over time and across cyberspaces. This research suggested that personal control over image delivery in a virtual community weakens over time, which challenges the assumption made by prior literature regarding how people have greater control in creating ideal images in the virtual community. The findings of this research could provide insight for people who use virtual community to search for credible personal information or to build ideal images. Besides, this research suggests that although Internet technologies facilitate access to a rich source of information, the convenience in information acquisition and verification comes at the expense of personal privacy.

In “Enterprise 2.0 Management Challenges,” Karen P. Patten and Lynn B. Keane describe how the nature of the enterprise and the way people work is changing rapidly. The enabling power and competitive advantage of new social and participative technologies will benefit those that recognize the way work is changing. Web 2.0, the “second phase” of the Web, is the foundation of a new and improved Enterprise 2.0. Enterprise 2.0 provides, through a Web of interconnected applications, services, and devices, the capabilities for enterprise employees and vendors to be more competitive and productive and for enterprise customers to be more engaged and loyal by accessing the right information from the right people at the right time. This chapter describes Enterprise 2.0 management challenges and issues identified by Chief Information Officers, which include the unauthorized use of services and technologies, the integration of a myriad of technologies and capabilities, and the potential compliance and security implications. The authors have proposed a conceptual framework that explores the relationships of three Enterprise 2.0 dimensions—technology, its use, and how resulting user-generated content may lead to business value—with management implications affecting IT culture and policies within the enterprise. This chapter provides observations and suggestions for future research.

The purpose of the next chapter, “Understanding Users’ Continuance of Facebook: An Integrated Model with the Unified Theory of Acceptance and Use of Technology, Expectation Disconfirmation Model, and Flow Theory,” by Chia-Lin Hsu and Cou-Chen Wu, is to develop an integrated model designed to examine users’ continuance of Facebook based on the Unified Theory of Acceptance and Use of Technology (UTAUT), the Expectation Disconfirmation Model (EDM), and flow theory. Empirical data collected from 482 users who have experience with Facebook are subjected to structural equation modeling based on the proposed research model. Results show that users’ continuance intention of Facebook is determined by social influence, performance expectancy, effort expectancy, flow experience, and satisfaction. Satisfaction is significantly affected by flow experience and disconfirmation. Results also suggest that effort expectancy is positively related to flow experience. Based on the findings, managerial implications are discussed in this chapter and directions for future research are also highlighted.

Distributed network researchers are trying to address one important issue concerning networked structures and how the network came into existence, i.e., dynamics of network evolution. From the
knowledge of social science, it is observed that trust is one such metric that evolves with the network particularly where human interaction is involved. “Evolution of Trust and Formation of Preference Clusters in Distributed Networked Structure” by Purnendu Karmakar and Rajarshi Roy presents a “trust” model of the authors’ studies and its various properties. In virtual (and “real”) communities (chat rooms, blogs, etc.) behavioral segregation over time is observed. Differences in identities of interacting agents result in evolution of various degrees of “trust” (and “distrust”) among them over a period of time. This process ultimately leads to emergence of self-segregation in behavioral kinetics and results in formation of preference clusters.

Next, Chingning Wang writes about “social shopping” (or social commerce), combining shopping and social networking to create an application of Web 2.0 in electronic commerce to benefit from users’ social networks. “Social Shopping Development and Perspectives” explores the development of the emergent “social shopping” and related perspectives. It incorporates comparisons between social shopping marketing and search engine marketing. For example, search engine marketing assumes shoppers are certain of their shopping goal; social shopping marketing assumes shoppers are uncertain of their shopping goals and gather shopping ideas from their peers. In this chapter, the challenges in social shopping development are identified, including governing shopper communities and retrieving content from social networking sites. The author concludes that social shopping and e-commerce are not dichotomous concepts. Social shopping can be an evolutionary concept, meaning a singular EC site advancing with social networking functions, or a synergistic concept, meaning EC sites connecting with the other social networking sites to form strategic alliance.

In the next chapter, “Impact of Blogs on Sales Revenue: Test of a Network Model,” Guoying Zhang, Alan J. Dubinsky, and Yong Tan collected blog data and captured network parameters to represent three common measurements of online Word-Of-Mouth: intensity, influence level, and dispersion. These parameters were then analyzed using a General Estimating Equation (GEE) model to test their effects on average weekly movie box office receipts. Findings indicated that all three parameters were significant in the model. The aggregated degree, representing WOM intensity, was positively significant, which was consistent with results from extant research. Further, diameter of a network, representing WOM dispersion, was observed to be positively significant, which validated the importance of spreading WOM as far as possible. Counter-intuitively, the aggregated size node, representing WOM influence level, was ascertained to be negatively significant, which might be explained by the possible negative stance from opinion leaders with high influence level. Applying network analysis methodology to blog entries, the present chapter differentiated itself from extant WOM literature that has focused chiefly on content analysis. The findings also provided managerial insights to companies interested in utilizing blogs as online WOM for marketing initiatives and implications for future research.

Kanna AlFalahi, Saad Harous, and Yacine Atif then present “A Comparative Study of Clustering Algorithms.” Clustering is a major problem when dealing with organizing and dividing data. There are multiple algorithms proposed to handle this issue in many scientific areas such as classifications, community detection, and collaborative filtering. The need for clustering arises in Social Networks where huge data generated daily and different relations are established between users. The ability to find groups of interest in a network can help in many aspects to provide different services such as targeted advertisements. The authors surveyed different clustering algorithms from three different clustering groups: Hierarchical, Partitional, and Density-based algorithms. They then discuss and compare these algorithms
from Social Web point view and show their strength and weaknesses in handling Social Web data. They also use a case study to support our finding by applying two clustering algorithms on articles collected from Delicious.com and discussing the different groups generated by each algorithm.

Recently, the impact of social networks in customer buying decision is rapidly increasing due to effectiveness in shaping public opinion. “Identifying Opinion Leaders for Marketing by Analyzing Online Social Networks” by Niyoosha Jafari Momtaz, Abdollah Aghaie, and Somayeh Alizadeh helps marketers analyze social network’s members based on different characteristics and choose the best method for identifying influential people among them. Then, marketers can use these influential people as seeds to market products/services. Considering the importance of opinion leadership in social networks, a comprehensive overview of existing literature has been done. Studies show different titles (such as opinion leaders, influential people, market maven, and key players) are used to refer to the influential group in social networks whom we know as opinion leaders. All the properties presented for opinion leaders in the form of different titles are classified into three general categories including structural, relational, and personal characteristics, and based on studying opinion leader identification methods; appropriate parameters are extracted in a comprehensive chart to evaluate and compare these methods accurately.

Norsuhada Shiratuddin, Shahizan Hassan, Nor Laily Hashim, Mohd Fo’ad Sakdan, and Mohd Samsu Sajat have developed the “Blog Influence Index: A Measure of Influential Weblog.” Although Weblogs are a popular medium of communication, their influence on society is unclear. In particular, studies that investigate the impact and influence of blogosphere on the community and government have not been fully exploited. Such studies are important, especially to the government in reshaping and realigning the policies related to new media. This chapter presents the outcomes of a study to identify measures on how to assess the influence of Weblogs. At least four dimensions are critical for measuring Weblog influence, which are recognition (number of in links and number of visitors), activity generation (number of comments and number of posts), novelty (number of out links), and credibility of a blog (number of information presentation type, number of factual errors, and number of hyperlink citations). It is hereby proposed that these dimensions make up a measure called the Blog Influence Index.

In the next chapter, “Analyzing Persian Social Networks: An Empirical Study,” Leila Esmaeili, Mahdi Nasiri, and Behrouz Minaei-Bidgoli explain how analysis of data in social networks is very important for researchers, sociologists, and academics. Given the size and diversity of Web data in a Web 2.0 environment, analyzing this data has been a challenge. Since data act as inputs in such projects, the accuracy of the output is directly related to the input. Good data allows for extraction of valuable knowledge. In this chapter, the authors present their experiences with preparation and preprocessing of data in a Persian social network. The authors also report on the analysis of the data and findings.

Nana Adu-Pipim Boaduo then investigates “Action Research in Virtual Communities: How Can This Complement Successful Social Networking?” Contextually, all tertiary institutions have four major responsibilities – teaching, research, publication, and community service. The adage “publish or perish” has become a thorn in the flesh of many university academic staff who rest on their laurels and do nothing about research, publication, and community engagement. Practising university academic staff are required by the nature of their profession to engage in regular research be it in their daily lecturing and supervision of students’ research thesis or writing for publication. Currently, research has become the buzzword in all tertiary institutions, but not all of them take the pains to school academic staff in the practice of research in terms of the virtual communities where the institution is located. In the context of
this chapter, the author looks at action research through the eyes of teachers of all categories in virtual communities and how their involvement can complement successful social networking. The approaches used in this discussion are purely from empirical and exploratory perspectives and provide detailed discussion with emphasis on the application of action research for effective and efficient social networking considering the social, cultural, organizational, and human-cognitive perspectives.

In Chapter 14, “Enhancing the Trust of Members in Online Social Networks: An Integrative Technical and Marketing Perspective,” Sandra A. Vannoy, B. Dawn Medlin, and Charlie C. Chen explore an element of social networking essential to the development of e-business: trust between members. Unlike other business models, the success of online social networks is highly dependent upon the growth rate of social network size. In order to accelerate and continue the growth rate, online social networks need to be able to continuously roll out diversified services and use them to interest existing and new members. However, the nature of this business model can expose online social networks to ubiquitous security threats such as spam, viral marketing, and viruses. In order to convince users to adopt social network services, cultivation of brand equity and trust in the online social networks is essential. This study integrates technical and marketing perspectives to examine the potential influence of Website quality and brand equity on user satisfaction, thereby influencing users’ formation of trust. A survey was conducted with 385 subjects to understand the causal relationships between the studied constructs. Regression analysis indicates that Website quality, brand loyalty, brand association, and brand quality have a positive influence on user satisfaction, thereby increasing the trust of members in online social networks. Brand awareness shows no significant influence on user satisfaction. These findings lead us to derive theoretical and practical implications on the sustainable operation of online social networks.

Research conferences provide an important platform for idea exchange and validation as well as for social networking and talent hunt. Online social networks and collaborative Web tools can make conferences budget friendly for sponsors, flexible for attendees, and environmentally friendly for the society without loss of effectiveness. While many conferences have adopted such tools during pre and post conferencing stages, their use during actual meeting hours is very limited. “Virtual Research Conferences: A Case-Based Analysis” by Kamna Malik deliberates on the current and potential use of such technologies on various stages of a conference. It then presents the case of a pure virtual conference in comparison with a face-to-face conference with an aim to analyze the immediate benefits that virtual conferencing brings for organizers and participants. Perceived deterrents and potential benefits for various stakeholders are discussed. Suggestions are made for educational institutions to review their norms for conference sponsorships.

The final chapter of this book, “Retaining and Exploring Digital Traces: Towards an Excavation of Virtual Settlements” by Demosthenes Akoumianakis, Giannis Milolidakis, George Vlachakis, George Vlachakis, and Giorgos Ktistakis, elaborates on the assumption that social technologies are increasingly turned into computer-mediated virtual settlements, thereby allowing the excavation of a variety of enacted cyber-phenomena such as ad hoc online ensembles, informal social networks, and virtual communities on the grounds of “digital” traces or remains. In this vein, the authors motivate and present a method for virtual excavations that is tightly coupled to a transformational technology such as knowledge visualization. The analytical and explanatory value of the method is assessed using two case studies addressing representative genres of social technologies, namely Websites augmented with social plug-ins and social networking services. Analysis reveals intrinsic aspects of “digital” traces and remains, the form they
take in today’s Social Web, and the means through which they can be excavated and transformed to useful information. It turns out that such virtual excavations, when organized and conducted carefully, can be of benefit to enterprises, service organizations, and public sector institutions. In addition, their tight coupling with knowledge visualization eliminates extensive data analysis, as much of this work can be done using the visualization. On the other hand, and depending on the size of digital trace data, the choice of visualizations and the underlying toolkit are of paramount importance.

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