

# A Conceptual Paper on Dark Social – Social Cognitive and Social Capital Theory Perspective

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## Abstract

Although knowledge sharing is highly researched topics, there is an entirely a new plain in the field of knowledge sharing. A phenomenon termed as ‘Dark Social’ is becoming more prevalent as the world is becoming more digital. As a result of dark social, very little is known about the source of information sharing, how information has reached and how this information will impact society and companies. The purpose of this article is to introduce the term dark social and understand the phenomena of dark social. Also, the paper establishes a link between dark social, social capital and social cognitive theory. Both social cognitive theory, which deals with personal factors, and social capital theory, which deals with community or social network, influence the information sharing, which is fundamental to dark social. In this article, first, the author presents general conceptual details about dark Social that will serve as a blueprint for discussing theoretical perspective and understanding the Individual and social network behavior. Second, the author establishes a relation between information sharing and both theories. Finally, the author conceptualizes the dark social phenomena using the social cognitive theory and social capital theory. The paper concludes by providing implications and directions for future research.

**Keywords:** Dark Social; Social Capital Theory; Social Cognitive Theory; Information Sharing; Knowledge Sharing

## Introduction

Information technology researchers have recognized that legitimate source of information is of prime importance in our digital world. With the development of Web 2.0, user-generated content (UGC) has grown exponentially. As an important form of electronic word of mouth, UGC has a crucial role in influencing the decision making of consumers (Duan, Gu, & Whinston, 2008; Davis and Khazanchi, 2008; Cheung and Thadani, 2012). Negative appraisal about a company is found to have more significant impact on consumer decision-making (Her, Kardes, & Kim, 1991; Park and Lee, 2009a,b). Also, for customer’s convenience and strengthen the brand of the company, companies invest in an interactive web platform. In the quest of being pervasive, companies spent a fortune on online advertisement. Although the number of visitors increases by online advertisement, it has become very difficult to trace the visitors as to by which medium they reached the website. This is important for knowledge management, knowledge sharing and company perspective as to acknowledge whether the amount spent is offering required results. Nowadays, people are increasingly visiting a website without leaving a trail to follow. Such

visits consist major part of the total visit, and such phenomena are known as Dark Social. Voluntarily involvement of people in personalized information sharing given rise to dark social.

Social Cognitive theory, as proposed by Bandura (1986), offers a framework for understanding the voluntary involvement of people in any activity. The theory is widely researched to explain the voluntarily behavior of individuals in various field of research including marketing (Young, Lipowski, & Cline, 2005), management (Wood and Bandura, 1989), education (Zimmerman, 1989), mass communication (Bandura, 2001), and information systems (Lowry, Zhang, & Wu, 2017; Hsu and Chiu, 2004a) literature to exhibit validity. The social cognitive theory emphasizes on maintenance of some behavior over a period by reinforcement and individual self-regulation (Lowry et al., 2017). This theory further stresses on the reciprocal interaction of personal factors (e.g., self-efficacy), behavior (e.g., positive/negative responses to behaviors) and the social network (e.g., facilitating conditions) (Chiu, Hsu, & Wang, 2006). Self-efficacy is a most examined dimension on establishing a relationship between personal cognition and Information system (Compeau, 1995; Hsu and Chiu, 2004a, b; Luarn and Lin, 2005). Social cognitive theory can explain personal cognition of individuals from virtual communities which involve in dark social. However, virtual communities are sustained by the social interaction and social network which can't be explained by social cognitive theory. Therefore, this paper draws support from the Social Capital Theory to explain the behavior of individuals involved in the social network.

Social Capital theory offers a powerful conceptual lens to look beyond the personal, cognitive, and general cultural factors (Van, Hendriks, & Romo-Leroux, 2016; Ghosh and Scott, 2009; Kirsch, Ko, & Haney, 2010; Mäkelä, Andersson, & Seppälä, 2012; Montazemi, Pittaway, Saremi, & Wei, 2012; Von Stetten, Beimborn, & Weitzel, 2012). Bourdieu (1986) defines the concept as 'the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutional relationship of mutual acquaintance or recognition' (Van et al., 2016). The social capital was conceptualized by Nahapiet and Ghoshal (1998) in three different dimensions: (a) Structural – The broad connections between individuals and entities, (b) Relational – History of personal interactions, and (c) Cognitive – Related to the common demonstration, understandings, and structures of meaning among agents.

The purpose of this article is to understand the phenomena of dark social. The study draws upon both the social cognitive theory and social capital theory to investigate the social network and behavioral reason for individual's involvement in dark social. Specifically, the paper first introduces the concept of dark social, and the phenomena that will serve as a blueprint for discussing theoretical perspective. Next, the paper discusses the theoretical understanding of social cognitive theory and social capital theory in information sharing dimension. Next, the author proposes a conceptual model to investigate the reason for individuals' involvement in dark social phenomena. Finally, the paper concludes with direction for future research.

## **Background**

The dark social term is devised by Alexis C. Madrigal at The Atlantic, in Oct 2012 to discuss the sharing of social content that usually takes place beyond of what could be gauged by web analytics tools. In analyzing traffic to The Atlantic website, a web analytics firm mined into traffic that came devoid of a referrer and divided into two types: Those who visited the homepage or a topics page, and those who landed on a particular article page. Then, it was assumed that the latter must come from some referral because it is very unlikely that readers were typing lengthy, intricate and complicated URLs into browser bars. Based on the assumption, it was discovered that majority of The Atlantic's social traffic came from untraceable sources (Madrigal, 2012).

Madrigal (2012) also proposes that this has associations for users. Users believe that in using social media stages such as Facebook, they are giving up some private data in exchange for being part of the social facet of the Web. The popularity of dark social suggests that the Web is and always has been social, whether users connect over Web-based social platforms, or practice other technologies such as email or chat. It occurred when a user sent a link by the platform of online chat, Instant messaging or e-mail, rather than sharing it on social network systems, from which web analytic tool can measure the referrals. Madrigal turned to data experts to ask for real-time analytics, which led the discovery of a secretive source that accounted for approximately 60% of traffic on The Atlantic's site. Something Madrigal goes on to call "dark social,"

## **Definition of Dark-Social**

It is very easy to visit a website. To see how a person has visited a site, one has to look into the metadata where a little piece hitches a ride that communicates the origin of address (either by Facebook, Twitter, etc.) to the server. But there are situations in web analytics when there is no referrer data, and one can't trace the origin of that address. Such phenomenon is termed as Dark-Social. Therefore, this paper defines the term dark social as 'voluntarily involvement of individuals or groups in online information sharing for which no trail can be found to trace the origin of addresses. The term dark seems to have a negative connotation. But in such situation, dark refers to the unknowns and untraceable social data. Dark social describes (Parker, 2017) any web traffic that is not recognized to any known source, such as social networks or Google search results. In simple terms, referral traffic is typically recognized by certain "tags" attached to the link whenever it is shared.

## **Phenomenon of Dark-Social**

Dark traffic is puzzling because web editors like to be able to offer their advertisers concrete data on the quality of their visitors. And editors like to know which types of visitors are eager about their stories. Dark traffic threatens to undo all that. Many big organizations are undergoing this puzzling issue. For instance, the subject is a big deal for The Guardian because of its gigantic global footprint in the digital news industry. Ten years ago, The Guardian was an also competed as Britain's 11th most-read newspaper. More

people read regional newspapers such as Scotland's Daily Record and London's Evening Standard than the Guardian, which had only 383,000 readers. Due to the advancement of digital media, people are increasingly using digital platforms to read the news. For The Guardian, around 10-15% of mobile traffic to articles does not have a referrer. But of that, a significant proportion 'shadows' a known referrer (Parker, 2017). Dark traffic is a thorny topic for most organizations. But if companies don't at least endeavor to identify this activity they could be left with an imprecise understanding of how their content is being disseminated, which could, in turn, lead to misguided strategy and content marketing decisions.

### **Dark Social and Information Sharing**

Information sharing motivations are responsible for the genesis of dark social phenomena. Previous studies in knowledge management suggest that sufficient motivation is necessary for an individual to involve in an information sharing process as it requires time and effort (Zhang and Jiang, 2015; Hansen, Mors, & Løvås, 2005). Additionally, prior research in knowledge management found that important antecedent of information sharing involves organizational factors (Hansen, Nohria, & Tierney, 1999; Liebowitz, 2003; Nelson, Sabatier, & Nelson, 2006), interpersonal factors (Chowdhury, 2005; Mooradian, Renzl, & Matzler, 2006; Wu, Hsu, & Yeh, 2007), and individual factors (Judge and Bono, 2001). Similar to knowledge sharing, dark social behavior requires the involvement of at least of two agencies. These agencies may be motivated by self or social network to indulge in dark social.

### **Social Cognitive Theory and Dark Social**

Bandura (1986) offered a framework to understand voluntarily individual behavior. We understand that sharing of any information requires time and effort. Moreover, in dark social, it is very difficult to trace the source as it does not leave any trail behind. Therefore, we assume that there is the absence of any forced behavior and much of the dark social is a voluntary activity. The fundamental premise of the social cognitive theory is that individual factors, personal factors, and environmental factors constantly influence and determine each other (Kim, Lee, & Elias, 2015). Chiu et al. (2006) argue that social cognitive theory posits triadic reciprocal causation. However, it does not indicate that three construct has equal impact on each other (Bandura, 2001). Knowledge management studies (Wasko and Faraj, 2000; Kankanhalli, Tan, & Wei, 2005; Cheung and Lee, 2007) indicate that personal factors such as individual factors significantly influence voluntary information sharing. Figure 1 represents the conceptual model to understand dark social through the lens of social capital and social cognitive theory.

*Personal Factors* refer to the cognitive, affective or biological activity that can affect an individual's perception and action (Kim et al., 2015; Bandura, 2001). Studies suggest (Kim et al., 2015) that there is two key concepts of Self-Efficacy and Expected outcome that has received much attention in social cognitive theory.

'Self-efficacy' is defined as individuals' judgment of their capability to organize and execute courses of action which is required to perform certain activities' (Kim et al., 2015; Bandura, 1986). It deals with the judgment of what one can do with certain skills. Technology self-efficacy and information self-efficacy are two types of self-efficacy prevalent among knowledge sharing literature (Kim et al., 2015). Technology self-efficacy refers to the individuals' perception of their capabilities to accomplish a certain task; whereas information self-efficacy refers personal belief about one's capabilities to share valuable information with others. Prior research has indicated a positive relationship in information sharing and self-efficacy (Kim et al., 2015). Individuals involved in dark social certainly believe that one is capable of sharing and can accomplish the intended task of information sharing. Therefore, following proposition can be formulated:

Proposition 1: Individuals with self-efficacy are more likely to involve in dark social.

*Expected Outcome* is often cited as a reason for involvement in the voluntary activity. Prior research indicates that individuals are more likely to take certain action when it warrants positive and valued outcome (Bandura, 1986). Intrinsic motivations, for example, to be seen as an expert among the peer group, sharing enjoyment and altruism are an important driver for information sharing. Individuals involved in dark social may be motivated by one of such intrinsic motivations. Therefore, the article proposes that:

Proposition 2: Individuals with expected outcome are more likely to involve in dark social.

*Environmental factors* include the creation of new or maintenance of old social relations with people which can be classified based on the importance of relationships, duration, intimacy or frequency of contact (Kim et al., 2015). As the world is becoming more digital, environmental factors constantly evolve and incorporates new paradigm,

'Strength of social ties' indicates that strength has a profound impact on information sharing. Prior studies suggest that individuals are more willing to share information online if they feel a strong tie with the audience (Chiu et al., 2006). The frequency of interaction, familiarity level are determining factors for the strength of social ties and determine the extent of information sharing. Individuals' participation in the dark social activity is greatly influenced by the strength of social ties they have among their target audience. Therefore, the article proposes that:

Proposition 3: Individuals with great strength of social ties are more likely to involve in dark social.

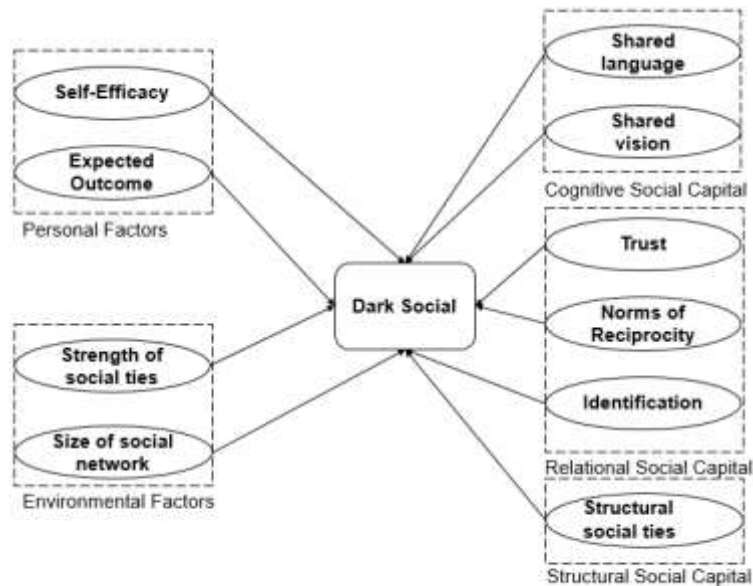


Figure 1: A General Conceptual Model on Dark Social

‘Size of social network’ is also a determining environmental factor in information sharing. Although little research is done on the relationship between the size of social network and frequency of information sharing, it represents an influential factor that impacts the individuals’ perception to the extent of a possible positive outcome generated by information sharing activity (Kim et al., 2015; Bandura; 1986). The initiator of dark social with a large social network with the more positive outcomes are perceived by the recipient of dark social to be associated with the given action; the more inclined the recipient of dark social will be to perform the same action. Therefore, the article proposes that:

Proposition 4: Individuals with the large size of the social network are more likely to involve in dark social.

### Social Capital Theory and Dark Social

Researchers define social capital differently. This paper chooses the definition by Nahapiet and Ghoshal (1998) because of its completeness. They define social capital as ‘sum of the actual and potential resources embedded within, available through, and derived from a network of relationships possessed by an individual or social unit. This paper draws the dimensions of social capital from van et al. (2016) which in turn draws from Nahapiet and Ghoshal (1998) are as follows: cognitive, relational and structural dimensions of social capital.

*Cognitive Social Capital* is related to the resources providing shared representations, interpretations, and systems of meaning among parties (Portes, 1998; van et al., 2016). These resources include ‘shared vision’ (Tsai and Ghoshal, 1998) and ‘shared language’ (Nahapiet and Ghoshal, 1998). Tsai and Ghoshal (1998) argues that shared vision deals with the collective goal and aspiration of the organization’s members. Nahapiet and Ghoshal

(1998) argues that shared language is not only a common language but also facilitates the universal understanding of the information that is to be exchanged.

It is very likely that people with shared vision and shared language will involve in information sharing activity, which is responsible for dark social. Therefore the following proposition can be formulated:

Proposition 5: Individuals having strong shared vision are more likely to involve in dark social.

Proposition 6: Individuals having strong shared language are more likely to involve in dark social.

*Relational Social Capital* refers to the relationship that has developed over a period of interactions. Tsai and Ghoshal (1998) argues that relational social capital is rooted in the relationships of trust (van et al., 2016), norms of reciprocity (van et al., 2016), and identification (van et al., 2016; Nahapiet and Ghoshal, 1998).

'Trust' is a concept that is based on the social judgments as well as an assessment of risk (van et al., 2016). Child (2001) define trust as 'the willingness of the person or a group of person to relate another in the belief that other's action will be beneficial rather than detrimental, even though it can't be ascertained.' People are more willing to involve in information sharing if there exist high trust among the people. It is ascertained that any amount of trust will lead to information sharing unless the trust is broken by some treacherous act. It is very likely that people involving in dark social have significant trust in a person with whom they involve in information sharing. Therefore, the following proposition can be formulated:

Proposition 7: Individuals having high trust among each other are more likely to involve in dark social.

'Norms of Reciprocity' refers to the mutual exchange between two social actors. Norms of reciprocity drive the information sharing behavior (van et al., 2016). The contingent action on rewarding reactions ceases when the expected reaction is not present. Individuals involving in dark social are contingent upon rewarding reaction, thereby flourishing growth of dark social. Therefore, the following proposition can be formulated:

Proposition 8: Individuals strongly complying with norms of reciprocity are more likely to involve in dark social.

'Identification' is a process in which individuals would like to associate themselves as one with another individual or group (Nahapiet and Ghoshal, 1998). Identification influences the motivation for information sharing and especially to those with whom the individual associates. Similarly, individuals with conflicting identities abrupt the flow of information sharing (van et al., 2016). Individuals with high influence on identification are participated more actively in information sharing thereby giving rise to in dark social. Therefore, the following proposition can be formulated:

Proposition 9: Individuals with strong Identification are more likely to involve in dark social.

*Structural social ties* refer to the overall pattern of connections between actors (van et al., 2016).

Nahapiet and Ghoshal (1998) argues structural social ties as an impersonal array of linkages between individuals. In this dimension existence or non-existence of network ties between social actors, network configuration describing pattern on density, hierarchy, and connectivity are most important facets (van et al., 2016; Nahapiet and Ghoshal, 1998). Individuals with a denser pattern of connections and network connection will lead to more information sharing. Therefore, the following proposition can be formulated:

Proposition 10: Individuals with strong structural social ties are more likely to involve in dark social.

### **Implications and future research**

Social cognitive theory and social capital theory helps us to understand better for motivation for people involving in dark social. Companies are spending a huge amount to ensure their presence online that includes online advertisement on aggregator's web portal, and several other web portals. The advertisement is closely associated with the increase in revenue. Unless the organization realizes and measures the outcome from each advertising, it is difficult to ascertain whether the indented investment on different portals has resulted positively. This would provide meaningful practical implications. Also, with the growth of technology, individuals have different avenues to register their presence online. Also, the medium of sharing information becoming more diverse and, therefore, account for more time, money and effort to reach the goal. Additionally, the advertising organizations can decide on which kind of advertisement is shared more via dark social than other social networking. Accordingly, these organizations can design the advertisement that is in congruence with target audience of that particular social network.

This article is the first step in understating the dark social phenomena and relate it to social theories. Dark social concept opens a vast new field of research. The discussion on dark social phenomena from a recipient's perspective may add new dimensions to the model, so there are many possible new explorations in this direction. For example, first, the future study may develop a more comprehensive understanding of the recipients' characteristics that are meaningful in knowledge sharing as well as how organizations could encourage these characteristics through some practice. Second, the future study may draw from more social theories to strengthen the theory and build a more robust model for dark social.

### **Reference**

- Bandura, A. (1986), *Social Foundations of Thought and Action: A Social Cognitive Theory*, Prentice Hall, Upper Saddle River, NJ
- Bandura, A. (2001). Social cognitive theory of mass communication. *Media psychology*, 3(3), 265-299.



- Bourdieu, P. (1986). The Forms of Capital, Chapter Handbook of Theory and Research for the Sociology of Education. *New York: Greenwood Press, 4*, 241-258.
- Cheung, C. M., & Lee, M. K. (2007). Understanding User Intention to Continue Sharing Knowledge in Virtual Communities. In *ECIS*, 635-646.
- Cheung, C. M., & Thadani, D. R. (2012). The impact of electronic word-of-mouth communication: A literature analysis and integrative model. *Decision support systems, 54*(1), 461-470.
- Child, J. (2001). Trust—the fundamental bond in global collaboration. *Organizational dynamics, 29*(4), 274-288.
- Chiu, C. M., Hsu, M. H., & Wang, E. T. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision support systems, 42*(3), 1872-1888.
- Chowdhury, S. (2005). The role of affect-and cognition-based trust in complex knowledge sharing. *Journal of Managerial issues, 310-326*.
- Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test. *MIS quarterly, 189-211*.
- Davis, A., & Khazanchi, D. (2008). An empirical study of online word of mouth as a predictor for multi-product category e-commerce sales. *Electronic Markets, 18*(2), 130-141.
- Duan, W., Gu, B., & Whinston, A. B. (2008). Do online reviews matter?—An empirical investigation of panel data. *Decision support systems, 45*(4), 1007-1016.
- Ghosh, B., & Scott, J. E. (2009). RELATIONAL ALIGNMENT IN OFFSHORE ISM OUTSOURCING. *MIS Quarterly Executive, 8*(1).
- Hansen, M. T., Nohria, N., & Tierney, T. (1999). What's your strategy for managing knowledge?. *The knowledge management yearbook 2000–2001*, 1-10.
- Hansen, M. T., Mors, M. L., & Løvås, B. (2005). Knowledge sharing in organizations: Multiple networks, multiple phases. *Academy of Management journal, 48*(5), 776-793.
- Herr, P. M., Kardes, F. R., & Kim, J. (1991). Effects of word-of-mouth and product-attribute information on persuasion: An accessibility-diagnostics perspective. *Journal of consumer research, 17*(4), 454-462.
- Hsu, M. H., & Chiu, C. M. (2004). Internet self-efficacy and electronic service acceptance. *Decision support systems, 38*(3), 369-381.
- Hsu, M. H., & Chiu, C. M. (2004). Predicting electronic service continuance with a decomposed theory of planned behaviour. *Behaviour & Information Technology, 23*(5), 359-373.
- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of applied Psychology, 86*(1), 80.
- Kankanhalli, A., Tan, B. C., & Wei, K. K. (2005). Contributing knowledge to electronic knowledge repositories: an empirical investigation. *MIS quarterly, 113-143*.
- Kim, J., Lee, C., & Elias, T. (2015). Factors affecting information sharing in social networking sites amongst university students: Application of the knowledge-sharing model to social networking sites. *Online Information Review, 39*(3), 290-309.

- Kirsch, L. J., Ko, D. G., & Haney, M. H. (2010). Investigating the antecedents of team-based clan control: Adding social capital as a predictor. *Organization Science*, 21(2), 469-489.
- Liebowitz, J. (2004). A knowledge management strategy for the Jason organization: A case study. *Journal of Computer Information Systems*, 44(2), 1-5.
- Lowry, P. B., Zhang, J., & Wu, T. (2017). Nature or nurture? A meta-analysis of the factors that maximize the prediction of digital piracy by using social cognitive theory as a framework. *Computers in Human Behavior*, 68, 104-120.
- Luarn, P., & Lin, H. H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computers in human behavior*, 21(6), 873-891.
- Madrigal, A. (2012). Dark social: We have the whole history of the web wrong. *The Atlantic*, 12
- Mäkelä, K., Andersson, U., & Seppälä, T. (2012). Interpersonal similarity and knowledge sharing within multinational organizations. *International Business Review*, 21(3), 439-451.
- Montazemi, A. R., Pittaway, J. J., Saremi, H. Q., & Wei, Y. (2012). Factors of stickiness in transfers of know-how between MNC units. *The Journal of Strategic Information Systems*, 21(1), 31-57.
- Mooradian, T., Renzl, B., & Matzler, K. (2006). Who trusts? Personality, trust and knowledge sharing. *Management learning*, 37(4), 523-540.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of management review*, 23(2), 242-266.
- Nelson, A., Sabatier, R., & Nelson, W. (2006). Toward an understanding of global entrepreneurial knowledge management (EKM) practices: A preliminary investigation of EKM in France and the US. *Journal of Applied Management and Entrepreneurship*, 11(2), 70.
- Parker, S. (2017, February 6). Retrieved from <https://blog.hootsuite.com/everything-you-need-to-know-dark-social/>
- Park, C., & Lee, T. M. (2009). Information direction, website reputation and eWOM effect: A moderating role of product type. *Journal of Business research*, 62(1), 61-67.
- Park, D. H., & Lee, J. (2009). eWOM overload and its effect on consumer behavioral intention depending on consumer involvement. *Electronic Commerce Research and Applications*, 7(4), 386-398.
- Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual review of sociology*, 24(1), 1-24.
- Tsai, W., & Ghoshal, S. (1998). Social capital and value creation: The role of intrafirm networks. *Academy of management Journal*, 41(4), 464-476.
- Van Dijk, A., Hendriks, P., & Romo-Leroux, I. (2016). Knowledge sharing and social capital in globally distributed execution. *Journal of Knowledge Management*, 20(2), 327-343.
- von Stetten, A., Beimborn, D., & Weitzel, T. (2012). Analyzing and Managing the Impact of Cultural Behavior Patterns on Social Capital in Multinational IT Project Teams. *Business & Information Systems Engineering*, 4(3), 137-151.

- Wasko, M. 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), 155-173.
- Wood, R., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of management Review*, 14(3), 361-384.
- Wu, W. L., Hsu, B. F., & Yeh, R. S. (2007). Fostering the determinants of knowledge transfer: a team-level analysis. *Journal of Information Science*, 33(3), 326-339.
- Young, H. N., Lipowski, E. E., & Cline, R. J. (2005). Using social cognitive theory to explain consumers' behavioral intentions in response to direct-to-consumer prescription drug advertising. *Research in Social and Administrative Pharmacy*, 1(2), 270-288.
- Zhang, X., & Jiang, J. Y. (2015). With whom shall I share my knowledge? A recipient perspective of knowledge sharing. *Journal of Knowledge Management*, 19(2), 277-295.
- Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of educational psychology*, 81(3), 329-339.