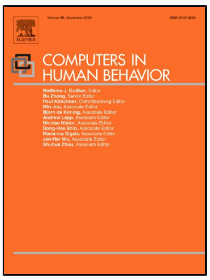
Accepted Manuscript



Mechanism to Enhance Team Creative Performance through Social Media: A transactive Memory System Approach

Ahsan Ali, Hongwei Wang, Ali Nawaz Khan

PII:	S0747-5632(18)30474-6
DOI:	10.1016/j.chb.2018.09.033
Reference:	CHB 5724
To appear in:	*Computers in Human Behavior*
Received Date:	26 February 2018
Accepted Date:	24 September 2018

Please cite this article as: Ahsan Ali, Hongwei Wang, Ali Nawaz Khan, Mechanism to Enhance Team Creative Performance through Social Media: A transactive Memory System Approach, *Computers in Human Behavior* (2018), doi: 10.1016/j.chb.2018.09.033

Mechanism to Enhance Team Creative Performance through Social Media: A transactive Memory System Approach

Ahsan Ali (Corresponding Author)
School of Economics and Management
Tongji University
Shanghai, 200092, P.R. China
ahsanali@mail.ustc.edu.cn
Tel: +86-15695656683

Hongwei Wang
School of Economics and Management
Tongji University
Shanghai, 200092, P.R. China
hwwang@tongji.edu.cn
Tel: +86-18939959750

Ali Nawaz Khan
School of Economics and Management
Tongji University
Shanghai, 200092, P.R. China
alisial@mail.ustc.edu.cn
Tel: +86-15695656712

Mechanism to Enhance Team Creative Performance through Social Media: A Transactive Memory System Approach

Abstract:

Research on social media as a source of knowledge coordination and communication has been flourishing. Organizations are increasingly focusing on teamwork as a creative solution for contemporary market challenges. In this study, we develop a mechanism to test the effects of the three dimensions of social media (social, cognitive, and hedonic use) on team creative performance in terms of knowledge management. Our survey data are collected from 382 members of 82 knowledge work teams. The analysis reveals that the three dimensions of social media have different effects on the transactive memory system. In addition, the dimensions of the transactive memory system enhance team creative performance through team creative efficacy. These findings bridge a literature gap by explaining the process and mechanism by which different social media uses influence team creative performance. This study has practical implications among organizations that aim to use social media to utilize each team member's expert knowledge to boost creative performance.

Keywords: social media, transactive memory system, team creative efficacy, team creative performance

1. Introduction

Social media has gone through rapid growth in recent years. Such growth holds great promises for interaction, communication, and organization performance. Mäntymäki and Riemer (2016) argued that the effective use of social media can increase the productivity of knowledge workers by about 20%–25%. Owing to the prevalence of team-based structures in the knowledge-based economy,

social media promises to contribute to knowledge management (Di Iorio & Rossi, 2018) and team performance (Nissen & Bergin, 2013). A recent report claims that social media has distinct purposes, such as maintaining social relations, managing knowledge, and relieving stress (Guo, 2017). Previous studies also acknowledged the diverse purposes of social media (Cao & Ali, 2018; Li et al., 2015; Zolkepli & Kamarulzaman, 2015). However, scholars overlooked how the different uses of social media facilitate knowledge management among teams. Knowledge is considered a critical source for organizations to promote innovation and tackle competitive challenges (Alavi & Leidner, 2001). The efficient flow and exchange of knowledge are considered vital factors for enhancing a team's creative abilities (Sung & Choi, 2012). Social media may have an impact on knowledge management and social learning among organizations (Zhang et al., 2015). Therefore, further research is needed to investigate the effect of social media on knowledge management processes (Sigala & Chalkiti, 2015). The present study uses the enabler–process–intermediate outcome–performance outcome framework (Lee & Choi, 2003) to fill this literature gap. It also explores the impact of social media dimensions on team creative performance (TCP) by improving knowledge coordination within teams.

Uses and gratifications theory (UGT), which has its roots in communication literature, is said to play an integral part in understanding the adoption of social media among organizations. The basic concept of UGT is that team members seek out media that might fulfill their needs and lead to their ultimate gratification (Whiting & Williams, 2013). Thus, UGT is relevant in understanding social media adoption. On the basis of UGT, literature describes three constituents of social media (Ali-Hassan et al., 2015). These constituents are theoretically distinct. Social use is related to developing social networks and maintaining social relations. Hedonic use is related to enjoyment and entertainment. Cognitive use is related to knowledge creation and sharing activities.

Previously, scholars suggested exploring the different uses and applications of social media (Aral et al., 2013; Cao & Ali, 2018). Sigala and Chalkiti (2015) recommended the identification of mechanisms by which social media can facilitate creative performance.

Knowledge is a resource distributed among team members (Farr et al., 2003). Ensuring the availability of the right knowledge to the right person is critical to team success. Wegner (1987) proposed the transactive memory system (TMS) to address efficient knowledge management among teams, as well as to coordinate and utilize such distributed knowledge. TMS is found to be useful in knowledge management to leverage team performance (Peltokorpi & Hasu, 2016; Whelan & Teigland, 2013). Specialization, credibility, and coordination are the distinct dimensions of TMS (Akgün et al., 2005; Moreland & Myaskovsky, 2000; Zhang et al., 2007; Zhong et al., 2012). A well-developed TMS enables team members to understand their individual expertise (specialization), increase their trust in other members' knowledge and expertise (credibility), and promote effective and well-coordinated knowledge processing (coordination) (Zhong et al., 2012). These facets have been integrated into a single factor (Choi et al., 2010; Fan et al., 2016). Scholars recognize the approach to measuring TMS as a single variable. However, such an approach comes with limitations. The dimensions of TMS may have different antecedents and effects on outcomes, which may be limited when TMS is analyzed as a single variable. The present study investigates these dimensions separately, thereby improving the understanding of such antecedents and effects.

Previous studies turned their focus toward another mechanism of intermediate outcome, namely, the emergent state. Recent research stated that team emergent states and processes affect team performance (Peltokorpi & Hasu, 2016). Team emergent state describes the activities performed interdependently by team members to utilize team resources for attaining common goals (Marks

et al., 2001). By contrast, team process describes the cognitive, motivational, and effective properties of the team (DeChurch & Mesmer-Magnus, 2010). Zhong et al. (2012) noted that team cognitive processes affect the team emergent state. Thus, Peltokorpi and Hasu (2016) recommended the integration of both team processes and team emergent state in a single model. Team creative efficacy (TCE) as an emergent state received less attention in previous studies, though it is significantly related to TCP (Shin & Eom, 2014). TCE refers to the faith of team members in their capabilities and potentials for novel ideas and creative performance (Bandura, 1997; Tierney & Farmer, 2011). Creative efficacy is an outcome of TMS (Fan et al., 2016) and a critical progenitor for creative performance (Gong et al., 2009; Puente-Diaz, 2016). Apart from its direct relationship with TMS and TCP, TCE may also act as a mediator in this relationship. Empirical investigations on the relationship between TMS and TCE remain insufficient. However, the present study may improve our understanding on the effects of TMS on TCE, as well as provide specific ways to enhance TCP.

In sum, this study aims to answer the following research questions: (1) How can the three dimensions of social media be utilized effectively in developing TMS? (2) How can TMS dimensions facilitate TCP by increasing TCE? This study contributes to the literature by defining how the facets of social media enable knowledge management processes. By employing the proposed coherent mechanism, this study also explains the significance of each social media dimension vis-à-vis the TMS dimensions that consequently affect TCE and TCP.

The remainder of the article is organized as follows. First, the article presents the theoretical background and hypothesis development. Second, the empirical data collected from knowledge work teams are discussed followed by the data analysis section. Finally, the article concludes with the discussion of findings and the recommendations for future research.

2. Theoretical background and research hypotheses

2.1. Three dimensions of social media

Social media is used for multiple disparate purposes of knowledge sharing and guidance seeking among professionals (e.g., LinkedIn), microblogging and sharing personal experiences (Facebook and WeChat), and video sharing and tagging among friends and the online community (YouTube and Youku). Social media is an open-source information repository that is accessible in offices and homes. It provides a platform for sharing, discussing, and co-creating knowledge and information (Sigala & Chalkiti, 2015), as well as enhancing team creativity (Cao & Ali, 2018). According to Cao et al. (2016), the performance of team communication at the workplace can be enhanced by connecting knowledge experts through different social media tools. Moreover, Ali-Hassan et al. (2015) suggested that the purpose of social media varies among individual employees; thus, the actual gain of the organization from using social media depends on the motivation of employees. A procession of models and theories conceptualizes and explains information systems. Therefore, conceiving that social media antecedents, processes, outcomes, and acceptance are not beyond our comprehension seems rational. However, the prevailing orthodox view of generalizing user behavior still concerns researchers and practitioners (Ali-Hassan et al., 2015; Barki et al., 2007; Go et al., 2016; Venkatesh et al., 2008). This situation raises the question on the magnitude of the effect of different social media usage motives on knowledge outcomes and TCP.

As a vibrant sociological paradigm in communication literature, UGT (Katz et al., 1973) perfectly describes the nature and intentions toward social media use. UGT proposes that team members are goal oriented in their choice of media use, and they analyze the value of benefits to gratify their specific needs (Hicks et al., 2012; Kasabov, 2016). According to UGT, the motive of team

members to use a particular media to interact with others depends on the capacity of the media to fulfill specific gratifications and needs (Ku et al., 2013). Scholars have applied UGT to examine the diverse areas of traditional mass media and mediated communications (Ancu & Cozma, 2009; Dunne et al., 2010). Recent literature has linked UGT in explaining social media adoption (Chang, 2015; Gan & Li, 2018; Gan & Wang, 2015; Heravi et al., 2018; Luo & Remus, 2014). Therefore, UGT is an appropriate framework to understand social media usage motives and their impact on team performance.

Three categories of needs that can be satisfied through media have been identified, including enhancing social interaction (social need), seeking information (cognitive need), and pursuing enjoyment (hedonic needs) (Ifinedo, 2016; Katz et al., 1973). Apparently, social media can satisfy these needs (Gan & Wang, 2015; Whiting & Williams, 2013). Ali-Hassan et al. (2015) argued that particular dimensions of social media can indeed satisfy social, cognitive, and hedonic needs. These dimensions are social, cognitive, and hedonic use, respectively. Social use refers to connecting and interacting with people while expanding one's social circle and staying connected with existing friends (Correa et al., 2010; Quan-Haase & Young, 2010; Sheldon & Bryant, 2016) to share social activities and personal information (Tseng, 2017). Cognitive use is related to information seeking, assessing, and sharing user-generated content (Ali-Hassan & Nevo, 2009; Sheldon & Bryant, 2016), as well as learning from experts (Tseng, 2017). Hedonic use is associated with entertainment, fun, and relaxation (Bright et al., 2015; Pittman & Reich, 2016).

2.2. Transactive memory system

Wegner's (1987) proposal of TMS theory is an epoch-making phenomenon in understanding group interaction and coordination, thus benefiting individual knowledge in a group and solving

information memory problems. TMS is defined as "the shared division of cognitive labor with respect to the encoding, storage, retrieval, and the communication of information from different knowledge domains, which often develops in groups and can lead to greater efficiency and effectiveness" (Brandon & Hollingshead, 2004, p. 633). Liang, Moreland, and Argote (1995) described three aspects of TMS: specialization, credibility, and coordination. Specialization refers to the phenomenon wherein group members have expert knowledge of their unique domain of interest (Chen et al., 2013; Moreland & Myaskovsky, 2000) and understand "who knows what" (Choi et al., 2010). Specialization decreases the cognitive load of group members because each member can concentrate on his/her own domain of knowledge. It encourages members to focus on knowledge integration across multiple areas to increase knowledge application for the team. Credibility is the group members' trust and belief in the knowledge of other members (Lewis, 2003). Previous research on cognitive behavior suggests that having specialized knowledge of one's domain is not enough unless team members trust one another's capabilities to share their knowledge without explicit justifications (Kanawattanachai & Yoo, 2007). Coordination refers to a systematic, smooth, and efficient way to discuss, share, and retrieve knowledge within the group (Choi et al., 2010; Li & Huang, 2013).

Previous studies have investigated TMS as a 1D construct. TMS dimensions were assumed to share similar impacts on team performance. However, Chen et al. (2013) and Kanawattanachai and Yoo (2007) noted that TMS dimensions have various impacts on team performance and thus recommended individual investigations. Knowledge specialization and credibility improve coordination (Zhong et al., 2012), knowledge integration, and creative performance among team members mediated by TCE (Cheng & Yang, 2014). Figure 1 shows the research model and associated hypotheses of the present study.

2.2.1. Social media dimensions and specialization

Specialization is the differentiated structure of expertise and a meta-knowledge of the individual expertise of team members. Social media is adopted by organizations to facilitate interaction, communication, and information exchange among people via the virtual social and workplace environment (Cao & Ali, 2018). It provides a virtual social platform where organization members can connect, communicate, and interact with one another. It also gives access to the profiles of virtual connections (Correa et al., 2010). Social interaction, communication, and profile information may increase the mutual understanding of members' expertise and knowledge while creating a knowledge directory of individual expertise. Team members who are familiar with one another are more likely to share specialized knowledge and expertise than those who are not. Lefebvre et al. (2016) revealed that social interaction among members positively influences knowledge sharing.

Members of a group have multiple knowledge expertise. Members may enrich their own knowledge when they are cognitively engaged in content generation and knowledge exchange (Huang et al., 2013). Therefore the cognitive use of social media for collaborative knowledge creation, retrieval, and sharing can deepen specialized knowledge among team members who are engaged in the knowledge management process. When an employee shares content on LinkedIn, other employees with similar interests are likely to read and comment on this content. This discussion will facilitate knowledge creation and create an exchange process through which employees will discuss, communicate, and exchange their knowledge on specific content. This situation may lead to the enrichment of specialized knowledge among engaged members.

The hedonic dimension refers to the use of social media for recreation, enjoyment, and fun. Unlike online entertainment via television and computer-mediated gaming, recreation through social media is based on interaction with other people (Ali-Hassan et al., 2015). This hedonic interaction can facilitate knowledge sharing; however, actual work-related spark can be ignited by the social and cognitive use of social media (Cao et al., 2012; Leftheriotis & Giannakos, 2014; Skeels & Grudin, 2009). Employees are likely to disengage from their hedonic use of social media with other employees whom they do not know or with whom they have strictly professional interaction. We do not expect that hedonic use has a significant influence on expert knowledge-sharing behavior in the corporate environment. Therefore, we do not hypothesize a relationship between hedonic use of social media and specialization.

Based on the above arguments, we hypothesize the following:

H1a: Within teams, the social use of social media is positively associated with specialization.

H1b: Within teams, the cognitive use of social media is positively associated with specialization.

2.2.2. Social media dimensions and coordination

Coordination is a team process that consists of strategies and behavior patterns aimed at the integration and alignment of actions, knowledge, and objectives among team members to achieve mutual goals (Rico et al., 2008). When group members are identified and are familiar with one another, coordination should also improve because members can anticipate the behavior of other members (Moreland & Myaskovsky, 2000). Team members with strong social relationships are likely to enjoy enhanced coordination and cooperation for efficient task performance (Chen & Peng, 2008; Zhong et al., 2012). Communication is considered a primary ingredient of coordination among team members. Coordination by communication refers to the exchange of

information among team members through formal and informal means (Rico et al., 2008). Members who interact with others and facilitate social relations via social media can coordinate using their identification and awareness of knowledge and expertise of other members. Frequent interaction and work-related communication increases the members' understanding of the knowledge, expertise, and skills of one another, thereby increasing their trust in the knowledge resources of other members while reducing misunderstandings to facilitate coordination.

The cognitive use of social media focuses on instrumental ties, which facilitate the exchange of task-related knowledge and information (Liu et al., 2014). Communication also increases the mutual understanding of each member's knowledge to decrease conflict and misunderstanding. Interaction among members influences interpersonal coordination within teams (Gorman, 2014). Knowledge-sharing behavior and discussion about job-related tasks increase members' cognitive awareness of a situation and enable them to predict the behavior of other members. According to Bourbousson et al. (2015), the cognitive awareness of team members is related to team coordination.

Hedonic use refers to the use of social media for entertainment, relaxation, and leisure. It is related to expressive ties, which describe the frequent interaction among people who share similar characteristics (Ali-Hassan et al., 2015). Hedonic social interaction may encourage employees to share personal and general information. However, conceptual evidence on how hedonic use facilitates coordination among team members is lacking. Employees probably use social media for hedonic purposes during work breaks to relax their minds and interact informally with other employees. They may play online games with one another. Online gaming requires communication and cooperation among players, as well as interaction among competitors and partners (Domahidi et al., 2014). Along with entertainment, online games enrich the users' abilities to engage in

teamwork (Cole & Griffiths, 2007). Therefore, we propose that informal experiences of interaction, communication, and cooperation through online gaming may also contribute to formal interaction and coordination in work settings (Trepte et al., 2012). Several aspects of hedonic use likewise act as coordination tools among team members (Nevo et al., 2011). Therefore, we hypothesize the following:

H2a: Within teams, the social use of social media is positively associated with coordination.

H2b: Within teams, the cognitive use of social media is positively associated with coordination.

H2c: Within teams, the hedonic use of social media is positively associated with coordination.

2.2.3. Social media dimensions and credibility

Credibility in TMS is the achievement of confidence in the accuracy of each team member's knowledge. Khan et al. (2015) stated that credibility is similar to cognitive trust, which is developed through interaction and communication among employees. Social media allows employees to interact and communicate with one another. Along with general discussions, they share information about job-related tasks and issues and receive help from other employees. All of these benefits lead to the development of cognition-based trust (Kanawattanachai & Yoo, 2007; Zhong et al., 2012). Likewise, continuous interaction (Bharati et al., 2015) and regular communication are considered sources of trust (Jarvenpaa et al., 1998). In social media, fewer filters can check the credibility of information floating from one user to another. Therefore, credibility resides in the heuristics of the receiver's cognition. To logically analyze the credibility of information, structured personal details of the content generator and distributor are increasingly becoming critical. In this case, the social use of social media uncovers the knowledge and expertise of members via social interaction and communication to measure credibility (Metzger & Flanagin,

2013) while relying on knowledge and logical evaluation to generate cognitive trust among team members (Lee et al., 2012). Cao et al. (2012) recognized social media communication as an avenue to nourish interpersonal trust.

According to Go et al. (2016), online media use for information seeking increases interpersonal trust. Cognitive use encourages team members to create, share, and comment on user-generated content. The participation and involvement of team members in content generation and discussion with other members increase the mutual understanding of their expertise and knowledge, thereby expanding the display of trust in their abilities (Gulati & Sytch, 2008). Moreover, trust, interaction, and collaboration are correlated (Henttonen & Blomqvist, 2005).

Credibility judgment is usually based on personal knowledge about the reputation of the source and the authenticity of information. Social information processing theory (Walther, 1992) describes that, unlike in face-to-face interaction where nonverbal cues are used, individuals use alternative cues in computer-mediated communication to make judgments about others. The theory argues that an individual's opinion about other Web users is based on their perception of whatever information they derive from online channels (Walther & Parks, 2002). Online games allow users to interact, create, and share their profiles with other users. A profile influences the perceived expertise, trustworthiness, and credibility in online interactions (Shan, 2016). Cao et al. (2016) found that social media use helps increase trust among employees. Hedonic use influences social capital, thereby leading to the development of expressive ties (Ali-Hassan et al., 2015) that stimulate a shared understanding and clear communication among team members. Hence, they improve the credibility and acceptability of team information and knowledge.

Based on the discussions above, we hypothesize the following:

H3a: Among team members, the social use of social media is positively associated with credibility.

H3b: Among team members, the cognitive use of social media is positively associated with credibility.

H3c: Among team members, the hedonic use of social media is positively associated with credibility.

2.3. TMS dimensions and team creative efficacy

TCE is described as a shared belief among team members in the team's ability to produce synergetic and creative performance (Baer et al., 2008; Hon & Chan, 2013). It is an extension of creative self-efficacy, which refers to an individual's belief in his/her abilities to produce novel outcomes (Tierney & Farmer, 2002). The literature considers both as an interlocked phenomenon and supports the argument that individual efficacy eventually turns into team-level efficacy (Tasa et al., 2007). According to Cheng and Yang (2014), TCE is developed through group-level cognition. They also identified the cognitive processes that develop shared team efficacy, namely, accumulation, interaction, examination, and accommodation. Accumulation refers to the development of collective efficacy through knowledge acquisition. Interaction refers to the acquisition and sharing of information through social interactions. Examination allows members to develop shared efficacy through cooperation for knowledge integration. Accommodation describes the emergence of a particular shared efficacy. These cognitive processes suggest that collective knowledge management leads to the development and improvement of TCE.

The shared awareness of differentiated knowledge among members is likely to lubricate collective creative efficacy (Cheng & Yang, 2014). According to Wegner et al. (1985), knowledge

integration occurs when people become aware of the specialized knowledge of other people in relationships. Knowledge integration will optimize the generation of shared confidence, enrich task-related knowledge to deal with challenges, and produce novel ideas through the assimilation, combination, and application of specialized knowledge of team members (Bhandar et al., 2007). Specialization provides members with the opportunity to optimize their own specific knowledge. Given that each member must perform a specific task, specialized knowledge will contribute to individual member's creative efficacy, which will augment to TCE. If a member needs help in performing a task because of his/her awareness of another member's area of expertise, then they can contact the concerned person directly and seek advice. Therefore, differentiated knowledge generates a shared sense of efficacy among team members to efficiently deal with uncertain situations.

TCE is the shared collective efficacy of team members to perform creatively. It depends on group processes of interaction and coordination to acquire, share, and integrate knowledge. Damperat et al. (2016) demonstrated that individual creative efficacy directly influences team-level creative efficacy. Interaction and coordination among team members are considered essential ingredients to transform individual efficacy into team-level creative efficacy. The absence of these attributes may impede such a transformation (Alavi & McCormick, 2008). They also stated that teams develop the principle of task interdependence, where the contribution of each member is considered vital for the successful accomplishment of team objectives. Consequently, team members are encouraged to promote interpersonal relations to achieve coordination and assistance to realize shared goals (Saavedra et al., 1993). The interactional behavior develops an efficient collaborative environment to share resources and lead to the emergence of collective creative efficacy.

Organization citizenship behavior (Singh & Srivastava, 2009), knowledge creation, and sharing are related to interpersonal trust within teams (Abrams et al., 2003). These behaviors are also considered vital sources of creative efficacy. Credibility in the knowledge and expertise of each member enhances the members' confidence that the team has a sound repository of knowledge to support task performance and generation of creative ideas. By contrast, if team members lack interpersonal trust, then the team will be in a precarious situation where members hesitate to engage their efforts toward shared team goals (Dirks & Ferrin, 2001). The reduced interpersonal trust and joint efforts will significantly reduce team level efficacy of task accomplishment. Therefore, if team members trust and believe that each one of them has the necessary knowledge and ability to perform his/her part of the creative outcome, then TCE will increase. Therefore, we hypothesize the following:

H4a: Specialization is positively associated with team creative efficacy.

H4b: Coordination is positively associated with team creative efficacy.

H4c: Credibility is positively associated with team creative efficacy.

2.4. Team creative efficacy and team creative performance

Team creativity is the process of generating useful and novel ideas through collaboration and the exchange of knowledge and information among team members (Carmeli & Paulus, 2015). Individuals collectively act as catalysts for team creativity. However, Jain et al. (2015) stated that though team members provide the resources, the team processes of knowledge integration and members' interaction actually play the crucial role in increasing TCP.

In recent years, the relationship between specific team efficacy and relative team performance has been discussed in prior studies. TCE elevates TCP (Shin & Zhou, 2007; Shin & Eom, 2014)

through motivation and confidence in the abilities and demonstration of creativity among team members at work, thereby generating creative ideas for dealing with performance-related matters (Gong et al., 2009). The manner by which members interact and coordinate and the extent to which they listen and value the ideas of one another in team discussions are associated with confidence in the creative abilities of other members (Baer et al., 2008), thus aligning the prepositions to boost TCP (Cheng & Yang, 2014). Hon and Chan (2013) argued that a team with a strong shared belief in its abilities will increase its creative performance. Shin and Eom (2014) further rationalized the positive relationship between TCE and TCP. Therefore, consistent with previous research, we maintain the aforementioned relationship and postulate the following:

H5: Team creative efficacy is positively associated with team creative performance.

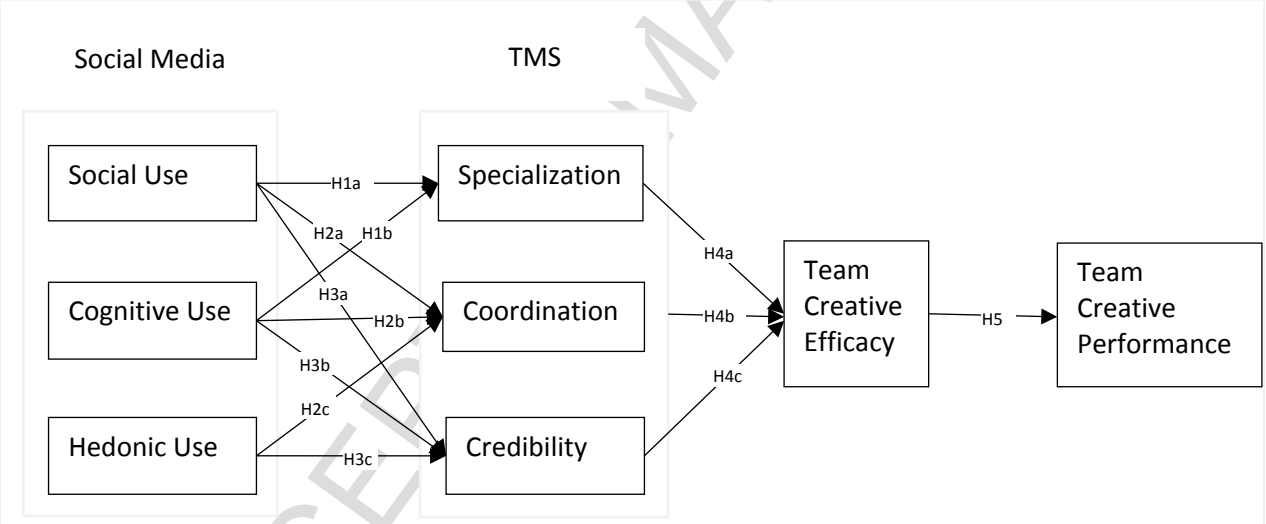


Fig. 1 Proposed research model and hypotheses

3. Methodology

3.1. Measures

We used survey method data to test the research model. This method allows broad quantitative description and analysis of hypotheses and assures an enhanced generalizability of the findings. Our questionnaire was based on previously validated measures. All items were measured via a seven-point Likert scale response format, ranging from 1 = "strongly disagree" to 7 = "strongly agree." The potential respondents are Chinese. Therefore, we invited three native Chinese who are experts in the English language to translate the questions. We also asked experts to back-translate the questionnaire to English to check the accuracy of translation. We used the scale developed by Ali-Hassan et al. (2015). This scale comprises five, five, and four items to measure the three facets of social media, social, cognitive, and hedonic use, respectively. The instruments to measure the three dimensions of TMS, specialization, and coordination were directly taken from Zhong et al. (2012). The four-item scale for credibility was taken from Huang et al. (2013), while the items used to measure TCE were adopted from Shin and Zhou (2007). Following the suggestion of Sykes and Venkatesh (2017), we asked team leaders to rate their team performance using the six-item scale adopted from Shin et al. (2016). Task interdependence, which describes the extent to which members of a team must exchange resources to complete a task together (Zhang et al., 2007), was used as a control variable. We adopted the scale from Zhang et al. (2007) to measure task interdependence. The survey items are listed in Appendix A.

3.1.1. Data collection

Initially, the organizations were located in different cities of China. They were identified through enterprise associations and executive MBA alumni groups, which engage teams to perform knowledge work. The social media adopted by these organizations comprised public and private platforms, such as WeChat, Weibo, Yammer, and Mingdao. We randomly interviewed 71 team members from selected organizations to confirm if they use social media at work for interaction,

communication, and knowledge sharing. We found that knowledge work teams heavily rely on social media to discuss team progress, share knowledge, and maintain close relationships among members. Therefore, these teams qualify as measures of the implications of social media on knowledge management and team performance (Wang et al., 2018).

Among the 79 organizations we contacted, a total of 64 agreed to participate in our study. We explained the purpose of the study to potential survey respondents and guaranteed their privacy. We administered questionnaires in separate envelopes to each team leader and member from March to April 2017. We collected 398 responses from the members of 89 teams from selected organizations. After removing incomplete questionnaires, we ended up with 82 teams consisting of 382 members. The teams that did not provide at least three complete questionnaires—excluding the response of their leader—and have been together for less than three months were excluded as well. We adopted the method proposed by Gong et al. (2012) to collect individual member data and aggregate them to generate team-level data. The team response composition ranged from 3 to 12 in our survey. As shown in Table 1, the demographic characteristics of respondents show that the majority are male (68%). About 52% of respondents received undergraduate degrees and 42% had masters or above. Additionally, the respondents are scattered in all listed industries. No dominant industry was observed regarding response rate. Most of the respondents hold non-managerial positions (77%) in their organizations. Furthermore, over 70% of the respondents are aged 18 to 35 years old.

4. Data Analysis

Partial least squares (PLS) is used for structural equation analysis to test our measurement and structural model. As a structural equation modeling technique, PLS supports both exploratory and

confirmatory research (Gefen et al., 2000). It is an appropriate tool to calculate the reliability and validity of measures, as well as to estimate the relationships among constructs (Wold, 1982). Five doctoral students reviewed the measurement items to ensure content validity.

4.1. Aggregation

Our unit of analysis is team. We aggregated individual responses to derive the team-level score. We then calculated inter-team member agreement (r_{wg}) to ensure that aggregation was appropriate (James, 1982). An established absolute standard value for r_{wg} was not required (Avolio et al., 2004). However, the median r_{wg} of the scale equal to or exceeding 0.70 (George, 1990) was considered appropriate to aggregate individual data and thus derive team-level response. The results show that medians r_{wg} for social, cognitive, and hedonic use are 0.96, 0.98, and 0.96, respectively. Meanwhile, the medians r_{wg} for specialization, coordination, credibility, TCE, and task interdependence are 0.92, 0.92, 0.95, 0.91, and 0.83, respectively. These values were all greater than 0.70, thereby guaranteeing the validity of the aggregation approach. Such results provide statistical evidence that individual responses can be aggregated to derive team-level response. Thus, we aggregated every team member's response to generate the team-level score.

4.2. Measurement model

We performed confirmatory factor analysis on the constructs after aggregating the individual data. The results show that the loadings of each item of specialization, TCP, and task interdependence were lower than the acceptable level. Therefore, these items were eliminated for further analysis. All the weights and loadings (Table 2) of the measures were above the acceptable level of 0.70 (Chin, 1998).

We tested composite reliability and average variance extracted (AVE) to demonstrate the convergent validity of the constructs. Table 3 shows the composite reliability values from 0.85 to 0.97 and the Cronbach's alpha scores from 0.77 to 0.92. Both scores were above the recommended (Fornell & Larcker, 1981) level of 0.60. Meanwhile, AVE scores ranging from 0.59 to 0.88 were higher than the acceptable level of 0.50 (Flynn et al., 1990). Finally, we calculated the square root of the AVE for each construct to measure discriminant validity. The large values of these square roots and the correlation between constructs confirm the discriminant validity (Table 4). Higher loadings (Table 2) of items on their designated constructs further confirm the discriminant validity.

In addition, we examined the variance inflation factors (VIFs) to assess potential multicollinearity. VIF values ranging from 1.00 to 1.29 were well below the 10.0 threshold (Diamantopoulos & Siguaw, 2006). Thus, no significant multicollinearity issue was observed in this research.

Although we collected all the data at a similar time and source, common method bias (CMB) could still affect the validity of the study. Therefore, we used Harman's single-factor method to examine the data for CMB (Carr, 2007). A total of 27 constructs had eigenvalues higher than 1.0, which accounted for 96.24% of variance. The first construct caused 16.91% of the variance. Thus, CMB does not have a substantial effect on the results of the present research.

4.3. Structural model

Figure 2 depicts the results of the structural model analysis. Analysis results, in addition to the path coefficient of all the relationships, indicate that the lowest value (0.19) of variance explained (R^2) by each dependent variable is above the adequate level of .10 (Falk & Miller, 1992). However, these R^2 values are rather weak (Chin, 1998), and blindfolding assessment indicated that Q^2 values

(ranging from 0.10 to 0.21) are considerably above zero. Thus, the predictive relevance of the research model is confirmed (Ali & Park, 2016).

Hypothesis analysis indicates that both social and cognitive use have significant relationships with specialization (supporting H1a and H1b, respectively). The data also supported H2a, H2b, and H2c. Thus, the three dimensions of social media are significant predictors of coordination. Social and cognitive use have significant relationships with creativity (supporting H3a and H3b, respectively). By contrast, hedonic use does not have a significant relationship with credibility, thereby disproving H3c. The relationships among the three dimensions of TMS and TCE support H4b and H4c but disprove H4a. TCE was found to have a significant positive relation with TCP. The control variables, task interdependence and team size, are significantly related to TCP. However, the seven dummy variables for industry type are insignificantly related to TCP.

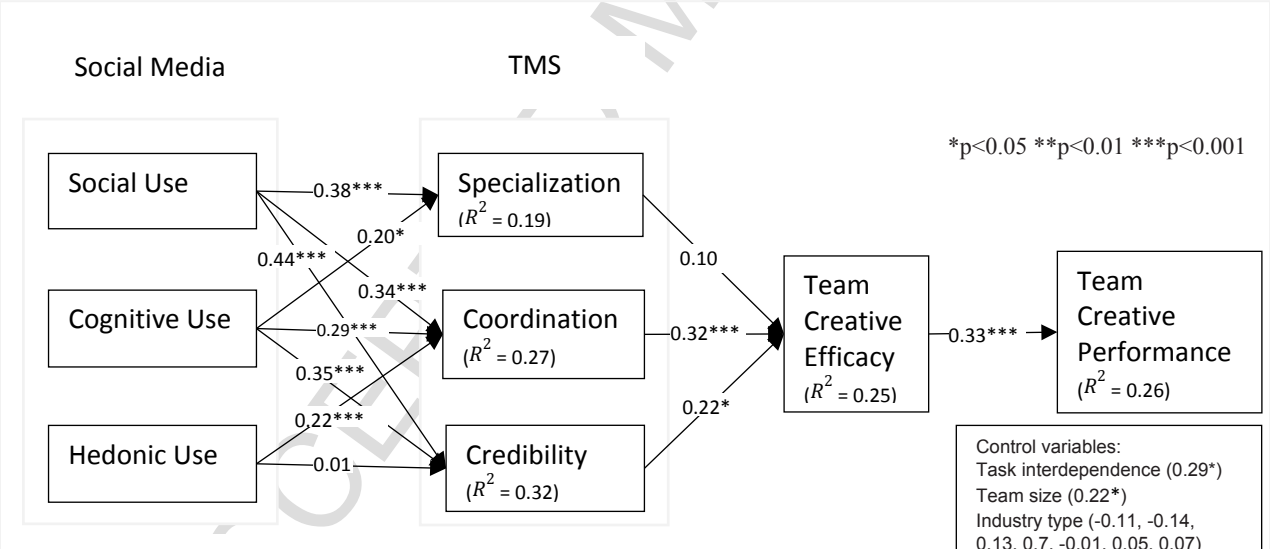


Fig. 2. Results of PLS analysis

4.4. Mediation analysis

The mediation effect of TCE among the three dimensions of TMS and TCP was tested using two approaches. First, we used PROCESS macro (Hayes, 2013). The Sobel test with a bootstrapping

95% confidence interval and normal theory test found that specialization, coordination, and credibility have indirect effects on TCP via TCE. The results of the mediation analysis are reported in Table 5. Second, we analyzed the partial or full mediation effect among the variables using the three-step approach by Baron & Kenny (1986). As shown in Table 6, TCE partially mediated the relationship between specialization and TCP. Moreover, full mediation effects were observed among coordination, credibility, and TCP.

5. Discussion and limitations

5.1. Theoretical implications

Our study has several important implications on social media and team creative behavior research from a knowledge management perspective. This research advances knowledge of social media applications on knowledge management among teams. With the use of UGT, the distinct uses of social media in teams are discussed for TMS. Despite the well-recognized importance of social media in organizations (Cai et al., 2018; Cao et al., 2012), research on different organizational uses of social media is limited. Cao and Ali (2018) and Sigala and Chalkiti (2015) claimed that further research is needed to understand the organizational applications of social media. The present study attempts to respond to this need.

Our results demonstrate that each social media aspect has varying impacts on the development of TMS dimensions. We explicitly explored the role that different social media uses play on the three dimensions of TMS. However, we found substantive path coefficients from social use to each dimension of TMS. Thus, even the social use of social media can enhance the effectiveness of knowledge management by significantly improving coordination and trusted knowledge map among teams. Social interaction plays a vital role in the development of TMS (Ryan & O'Connor,

2013). Thus, firms that implement tools aimed at facilitating interaction and communication among team members support the development of TMS among teams. Furthermore, cognitive use was found to be another strong predictor of TMS. Engagement in online information seeking, content creation, and information sharing increases the effectiveness of developing credibility among team members. In particular, cognitive engagement among team members on social media increases interpersonal credibility (Go et al., 2016). This finding does not negate the importance of cognitive use for specialization and coordination among team members. Hence, the path coefficients suggest that cognitive use is related to knowledge coordination (Gorman, 2014). Cognitive support of social media, alongside increasing credibility and coordination among team members, increases knowledge expertise as well. In addition, our findings show that the hedonic use of social media has a much weaker impact on credibility than coordination. Thus, although hedonic use can enhance coordination among team members, trust in member's knowledge requires other social media tools and applications. Extant literature states that credibility is a perception; it is not a quality of the source or the channel itself (Fogg & Tseng, 1999). Therefore, many things impact credibility while using social media (Lin et al., 2016; Liu, 2004; Westerman et al., 2014). Drawing on previous works, the present study opens a new perspective for future scholars to investigate further the effects of hedonic use to support the credibility dimension of TMS.

This study also demonstrates that each dimension of TMS has a different originating contribution in supporting TCE. Therefore, they should be treated separately. The impact of the three dimensions of TMS on TCE shows that coordination is the strongest contributor, whereas credibility is a slightly weaker facilitator of TCE. Therefore, coordination is the most important part of TMS (Kanawattanachai & Yoo, 2007). Surprisingly, the study did not find a significant

relationship between specialization and TCE. Gong et al. (2009) argued that individual creative efficacy is a combination of personal knowledge and skills. Cheng and Yang (2014) noted that TCE is developed when team members combine their knowledge and expertise in a coordinative manner. Therefore, any member having specialized knowledge may enhance their personal creative efficacy. However, the collective creative efficacy of a team depends on well-coordinated and trusted knowledge sharing among members. Thus, specialized knowledge is not enough. Well-coordinated activities and trusted belief in other members inspire members to perform creative tasks by promoting the motivational state within the team. TCE is a significant predictor of TCP. The mediation effects of TCE indicate that even if team members have a well-structured TMS but lack the confidence to achieve their creative goals, then they may not exert full efforts to benefit from the expertise of other members. The efforts of the members are essential to achieving team creative goals (Bandura, 1997).

5.2. Managerial implications

This study also has several practical implications among managers. First, the substantial impact of social media use was confirmed. The three types of social media uses were found to have different effects on the three dimensions of TMS. In particular, managers are urged to concentrate on developing a knowledge management system that is supported by social, cognitive, and hedonic dimensions of social media. These three types of social media use have their own unique contributions toward the development of an effectively coordinated and trusted knowledge management system. Managers must carefully consider how social media tools support the different aspects of TMS among teams. They can encourage employees to engage in the social use of social media within work teams and arrange hedonic activities on social media to promote emotional attachment among team members, thereby facilitating enhanced coordination within the

team. Furthermore, previous studies have found that other factors, such as training and feedback, affect TMS development (Lewis, 2004; Liang et al., 1995). Therefore, managers must consider these factors first. Merely adapting a dimension of social media and ignoring such factors might decrease the return on investment.

Second, the present study demonstrates the effect of TCE on TCP. Organizations should pay attention to developing creative efficacy within their teams. Organizations that employ teams for knowledge-oriented activities should consider the development of smooth coordination mechanisms within their teams using social media for easy sharing of knowledge, skills, and expertise. Teams must also understand the opportunities hidden in social media usage, which may be different for each aspect of knowledge management. This might lead them to gain benefits from using social media, such as development of TMS and increasing TCP.

5.3. Limitations and conclusion

Our study has left many unanswered questions that can be investigated by future studies. First, we focused on subjective measures that may not cover full objective reality. Second, this study is based on cross-sectional data. TMS cannot be developed at a single point in time, instead of evolving over time (Kanawattanachai & Yoo, 2007) with interaction and coordination among individuals. Therefore, future researchers should use longitudinal data in investigating the effect of social media use on TMS. In addition, future studies must examine how social media can help develop TMS over time. Third, social media communication is not limited to a single team. It may facilitate communication with individuals and experts around the world from diverse fields and countries to share and exchange knowledge and expertise. Therefore, future researchers should conduct a multi-level study to investigate how individual social media use can help develop TMS

among knowledge-oriented teams. This study likewise views social media through the lenses of interaction and communication, as well as act as a repository of information (Sigala & Chalkiti, 2015). Thus, future researchers should investigate the information-storage aspect of social media. Finally, this study was conducted in China and was therefore influenced by the Chinese culture. Thus, the generalizability of this study may be questioned. Future studies should generalize the findings to the cultural context of other countries.

In conclusion, this study has shown that diverse social media uses can be helpful for increasing TCE and TCP. Such an effect can be achieved by triggering trust in specialized knowledge and expertise among members via a well-established coordination mechanism. When organizations allow team members to use different tools of social media according to their motives, the specialized knowledge of the team members increases. Besides, Social media tools allow team members to develop trusted knowledge coordination within teams. Such knowledge coordination benefits collective creative efficacy, which eventually increases the creative performance of the team.

References

Abrams, L.C., Cross, R., Lesser, E., & Levin, D.Z. (2003). Nurturing interpersonal trust in knowledge-sharing networks. *The Academy of Management Executive,* 17(4), 64-77.

Akgün, A.E., Byrne, J., Keskin, H., Lynn, G.S., & Imamoglu, S.Z. (2005). Knowledge networks in new product development projects: A transactive memory perspective. *Information & Management,* 42(8), 1105-1120.

Alavi, M., & Leidner, D.E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *Mis Quarterly,* 25(1), 107-136.

Alavi, S.B., & McCormick, J. (2008). The roles of perceived task interdependence and group members' interdependence in the development of collective efficacy in university student group contexts. *British Journal of Educational Psychology,* 78(3), 375-393.

Ali-Hassan, H., & Nevo, D. (2009). Identifying social computing dimensions: A multidimensional scaling study. *ICIS 2009 Proceedings*, 148.

Ali-Hassan, H., Nevo, D., & Wade, M. (2015). Linking dimensions of social media use to job performance: The role of social capital. *The Journal of Strategic Information Systems,* 24(2), 65-89.

Ali, M., & Park, K. (2016). The mediating role of an innovative culture in the relationship between absorptive capacity and technical and non-technical innovation. *Journal of Business Research,* 69(5), 1669-1675.

Ancu, M., & Cozma, R. (2009). MySpace Politics: Uses and Gratifications of Befriending Candidates. *Journal of Broadcasting & Electronic Media,* 53(4), 567-583.

Aral, S., Dellarocas, C., & Godes, D. (2013). Introduction to the special issue—social media and business transformation: a framework for research. *Information Systems Research,* 24(1), 3-13.

Avolio, B.J., Zhu, W., Koh, W., & Bhatia, P. (2004). Transformational leadership and organizational commitment: mediating role of psychological empowerment and moderating role of structural distance. *Journal of Organizational Behavior,* 25(8), 951-968.

Baer, M., Oldham, G.R., Jacobsohn, G.C., & Hollingshead, A.B. (2008). The personality composition of teams and creativity: The moderating role of team creative confidence. *The Journal of Creative Behavior,* 42(4), 255-282.

Bandura, A. (1997). *Self-efficacy: The exercise of control*: Macmillan.

Barki, H., Titah, R., & Boffo, C. (2007). Information system use–related activity: an expanded behavioral conceptualization of individual-level information system use. *Information Systems Research,* 18(2), 173-192.

Bhandar, M., Pan, S.-L., & Tan, B.C.Y. (2007). Towards understanding the roles of social capital in knowledge integration: A case study of a collaborative information systems project. *Journal of the American Society for Information Science and Technology,* 58(2), 263-274.

Bharati, P., Zhang, W., & Chaudhury, A. (2015). Better knowledge with social media? Exploring the roles of social capital and organizational knowledge management. *Journal of Knowledge Management,* 19(3), 456-475.

Bourbousson, J., R'Kiouak, M., & Eccles, D.W. (2015). The dynamics of team coordination: A social network analysis as a window to shared awareness. *European Journal of Work and Organizational Psychology,* 24(5), 742-760.

Brandon, D.P., & Hollingshead, A.B. (2004). Transactive memory systems in organizations: Matching tasks, expertise, and people. *Organization Science,* 15(6), 633-644.

Bright, L.F., Kleiser, S.B., & Grau, S.L. (2015). Too much Facebook? An exploratory examination of social media fatigue. *Computers in Human Behavior,* 44, 148-155.

Cai, Z., Huang, Q., Liu, H., & Wang, X. (2018). Improving the agility of employees through enterprise social media: The mediating role of psychological conditions. *International Journal of Information Management,* 38(1), 52-63.

Cao, X., & Ali, A. (2018). Enhancing team creative performance through social media and transactive memory system. *International Journal of Information Management,* 39, 69-79.

Cao, X., Pan Wang, P.S.C.P., Guo, X., Vogel, D., & Zhang, X. (2016). Exploring the influence of social media on employee work performance. *Internet Research,* 26(2), 529-545.

Cao, X., Vogel, D.R., Guo, X., Liu, H., & Gu, J. (2012). Understanding the Influence of Social Media in the Workplace: An Integration of Media Synchronicity and Social Capital Theories. 3938-3947.

Carmeli, A., & Paulus, P.B. (2015). CEO Ideational Facilitation Leadership and Team Creativity: The Mediating Role of Knowledge Sharing. *The Journal of Creative Behavior,* 49(1), 53-75.

Carr, C.L. (2007). The Fairserv model: consumer reactions to services based on a multidimensional evaluation of service fairness. *Decision Sciences,* 38(1), 107-130.

Chang, C.-M. (2015). Determinants of continued use of social media: the perspectives of uses and gratifications theory and perceived interactivity.

Chen, X.-P., & Peng, S. (2008). Guanxi Dynamics: Shifts in the Closeness of Ties Between Chinese Coworkers. *Management and Organization Review,* 4(01), 63-80.

Chen, X., Li, X., Clark, J.G., & Dietrich, G.B. (2013). Knowledge sharing in open source software project teams: A transactive memory system perspective. *International Journal of Information Management,* 33(3), 553-563.

Cheng, H.-H., & Yang, H.-L. (2014). The antecedents of collective creative efficacy for information system development teams. *Journal of Engineering and Technology Management,* 33, 1-17.

Chin, W.W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research,* 295(2), 295-336.

Choi, S.Y., Lee, H., & Yoo, Y. (2010). The impact of information technology and transactive memory systems on knowledge sharing, application, and team performance: a field study. *Mis Quarterly,* 34(4), 855-870.

Cole, H., & Griffiths, M.D. (2007). Social interactions in massively multiplayer online role-playing gamers. *CyberPsychology & Behavior,* 10(4), 575-583.

Correa, T., Hinsley, A.W., & de Zúñiga, H.G. (2010). Who interacts on the Web?: The intersection of users' personality and social media use. *Computers in Human Behavior,* 26(2), 247-253.

Damperat, M., Jeannot, F., Jongmans, E., & Jolibert, A. (2016). Team creativity: Creative self-efficacy, creative collective efficacy and their determinants. *Recherche et Applications en Marketing (English Edition),* 31(3), 6-25.

DeChurch, L.A., & Mesmer-Magnus, J.R. (2010). The cognitive underpinnings of effective teamwork: a meta-analysis. *Journal of Applied Psychology,* 95(1), 32-53.

Di Iorio, A., & Rossi, D. (2018). Capturing and managing knowledge using social software and semantic web technologies. *Information Sciences,* 432, 1-21.

Diamantopoulos, A., & Siguaw, J.A. (2006). Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration. *British Journal of Management,* 17(4), 263-282.

Dirks, K.T., & Ferrin, D.L. (2001). The Role of Trust in Organizational Settings. *Organization Science,* 12(4), 450-467.

Domahidi, E., Festl, R., & Quandt, T. (2014). To dwell among gamers: Investigating the relationship between social online game use and gaming-related friendships. *Computers in Human Behavior,* 35, 107-115.

Dunne, Á., Harridge-March, S., Lawlor, M.A., & Rowley, J. (2010). Young people's use of online social networking sites – a uses and gratifications perspective. *Journal of Research in Interactive Marketing,* 4(1), 46-58.

Falk, R.F., & Miller, N.B. (1992). *A primer for soft modeling*: University of Akron Press.
Fan, H.-L., Chang, P.-F., Albanese, D., Wu, J.-J., Yu, M.-J., & Chuang, H.-J. (2016). Multilevel influences of transactive memory systems on individual innovative behavior and team innovation. *Thinking Skills and Creativity,* 19, 49-59.
Farr, J.L., Sin, H.-P., & Tesluk, P.E. (2003). Knowledge management processes and work group innovation. In *The international handbook on innovation* (pp. 574-586): Elsevier.
Flynn, B.B., Sakakibara, S., Schroeder, R.G., Bates, K.A., & Flynn, E.J. (1990). Empirical research methods in operations management. *Journal of Operations Management,* 9(2), 250-284.
Fogg, B., & Tseng, H. (1999). The elements of computer credibility. In *Proceedings of the SIGCHI conference on Human Factors in Computing Systems* (pp. 80-87): ACM.
Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research,* 18(1), 39-50.
Gan, C., & Li, H. (2018). Understanding the effects of gratifications on the continuance intention to use WeChat in China: A perspective on uses and gratifications. *Computers in Human Behavior,* 78, 306-315.
Gan, C., & Wang, W. (2015). Uses and gratifications of social media: a comparison of microblog and WeChat. *Journal of Systems and Information Technology,* 17(4), 351-363.
Gefen, D., Straub, D., & Boudreau, M.-C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the association for information systems,* 4(7), 1-70.
George, J.M. (1990). Personality, affect, and behavior in groups. *Journal of Applied Psychology,* 75(2), 107.
Go, E., You, K.H., Jung, E., & Shim, H. (2016). Why do we use different types of websites and assign them different levels of credibility? Structural relations among users' motives, types of websites, information credibility, and trust in the press. *Computers in Human Behavior,* 54, 231-239.
Gong, Y., Huang, J.C., & Farh, J.L. (2009). Employee Learning Orientation, Transformational Leadership, and Employee Creativity: The Mediating Role of Employee Creative Self-Efficacy. *Academy of Management Journal,* 52(4), 765-778.
Gong, Y., Kim, T.Y., Lee, D.R., & Zhu, J. (2012). A Multilevel Model of Team Goal Orientation, Information Exchange, and Creativity. *Academy of Management Journal,* 56(3), 827-851.
Gorman, J.C. (2014). Team Coordination and Dynamics. *Current Directions in Psychological Science,* 23(5), 355-360.
Gulati, R., & Sytch, M. (2008). Does familiarity breed trust? Revisiting the antecedents of trust. *Managerial and Decision Economics,* 29(2-3), 165-190.
Guo, M. (2017). Social Media Impact Report 2017. In. China: Kantar.
Hayes, A. (2013). Introduction to Mediation, Moderation, and Conditional Process Analysis. A Regression-Based Approach. 2013. *New York: Guilford,* 1609182308.
Henttonen, K., & Blomqvist, K. (2005). Managing distance in a global virtual team: the evolution of trust through technology-mediated relational communication. *Strategic Change,* 14(2), 107-119.
Heravi, A., Mubarak, S., & Raymond Choo, K.-K. (2018). Information privacy in online social networks: Uses and gratification perspective. *Computers in Human Behavior,* 84, 441-459.

Hicks, A., Comp, S., Horovitz, J., Hovarter, M., Miki, M., & Bevan, J.L. (2012). Why people use Yelp.com: An exploration of uses and gratifications. *Computers in Human Behavior,* 28(6), 2274-2279.

Hon, A.H.Y., & Chan, W.W.H. (2013). Team Creative Performance. *Cornell Hospitality Quarterly,* 54(2), 199-210.

Huang, Q., Liu, H., & Zhong, X. (2013). The impact of transactive memory systems on team performance. *Information Technology & People,* 26(2), 191-212.

Ifinedo, P. (2016). Applying uses and gratifications theory and social influence processes to understand students' pervasive adoption of social networking sites: Perspectives from the Americas. *International Journal of Information Management,* 36(2), 192-206.

Jain, R., Jain, C., & Jain, P. (2015). Team Creativity at Work: A Conceptual Framework. *South Asian Journal of Management,* 22(1), 50.

James, L.R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology,* 67(2), 219.

Jarvenpaa, S.L., Knoll, K., & Leidner, D.E. (1998). Is anybody out there? Antecedents of trust in global virtual teams. *Journal of management information systems,* 14(4), 29-64.

Kanawattanachai, P., & Yoo, Y. (2007). The impact of knowledge coordination on virtual team performance over time. *Mis Quarterly,* 31(4), 783-808.

Kasabov, E. (2016). Unknown, surprising, and economically significant: The realities of electronic word of mouth in Chinese social networking sites. *Journal of Business Research,* 69(2), 642-652.

Katz, E., Haas, H., & Gurevitch, M. (1973). On the use of the mass media for important things. *American sociological review,* 38(2), 164-181.

Khan, M.S., Breitenecker, R.J., Gustafsson, V., & Schwarz, E.J. (2015). Innovative entrepreneurial teams: The give and take of trust and conflict. *Creativity and Innovation Management,* 24(4), 558-573.

Ku, Y.-C., Chen, R., & Zhang, H. (2013). Why do users continue using social networking sites? An exploratory study of members in the United States and Taiwan. *Information & Management,* 50(7), 571-581.

Lee, H., & Choi, B. (2003). Knowledge management enablers, processes, and organizational performance: An integrative view and empirical examination. *Journal of management information systems,* 20(1), 179-228.

Lee, J., Lee, J.-N., & Tan, B.C.Y. (2012). Antecedents of cognitive trust and affective distrust and their mediating roles in building customer loyalty. *Information Systems Frontiers,* 17(1), 159-175.

Lefebvre, V.M., Sorenson, D., Henchion, M., & Gellynck, X. (2016). Social capital and knowledge sharing performance of learning networks. *International Journal of Information Management,* 36(4), 570-579.

Leftheriotis, I., & Giannakos, M.N. (2014). Using social media for work: Losing your time or improving your work? *Computers in Human Behavior,* 31, 134-142.

Lewis, K. (2003). Measuring transactive memory systems in the field: Scale development and validation. *Journal of Applied Psychology,* 88(4), 587-604.

Lewis, K. (2004). Knowledge and Performance in Knowledge-Worker Teams: A Longitudinal Study of Transactive Memory Systems. *Management science,* 50(11), 1519-1533.

Li, H., Liu, Y., Xu, X., Heikkilä, J., & van der Heijden, H. (2015). Modeling hedonic is continuance through the uses and gratifications theory: An empirical study in online games. *Computers in Human Behavior,* 48, 261-272.

Li, Y.-H., & Huang, J.-W. (2013). Exploitative and exploratory learning in transactive memory systems and project performance. *Information & Management,* 50(6), 304-313.

Liang, D.W., Moreland, R., & Argote, L. (1995). Group versus individual training and group performance: The mediating role of transactive memory. *Personality and Social Psychology Bulletin,* 21(4), 384-393.

Lin, X., Spence, P.R., & Lachlan, K.A. (2016). Social media and credibility indicators: The effect of influence cues. *Computers in Human Behavior,* 63, 264-271.

Liu, H., Chen, Z., Ke, W., & Chen, X. (2014). The Impact of Enterprise Social Networking Use on Team Performance: transactive Memory System as an Explanation Mechanism. In *PACIS* (pp. 70).

Liu, Z. (2004). Perceptions of credibility of scholarly information on the web. *Information Processing & Management,* 40(6), 1027-1038.

Luo, M.M., & Remus, W. (2014). Uses and gratifications and acceptance of Web-based information services: An integrated model. *Computers in Human Behavior,* 38, 281-295.

Mäntymäki, M., & Riemer, K. (2016). Enterprise social networking: A knowledge management perspective. *International Journal of Information Management,* 36(6), 1042-1052.

Marks, M.A., Mathieu, J.E., & Zaccaro, S.J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review,* 26(3), 356-376.

Metzger, M.J., & Flanagin, A.J. (2013). Credibility and trust of information in online environments: The use of cognitive heuristics. *Journal of Pragmatics,* 59, 210-220.

Moreland, R.L., & Myaskovsky, L. (2000). Exploring the performance benefits of group training: Transactive memory or improved communication? *Organizational Behavior and Human Decision Processes,* 82(1), 117-133.

Nevo, S., Nevo, D., & Kim, H. (2011). From recreational applications to workplace technologies: an empirical study of cross-context IS continuance in the case of virtual worlds. *Journal of Information Technology,* 27(1), 74-86.

Nissen, M.E., & Bergin, R.D. (2013). Knowledge Work Through Social Media Applications: Team Performance Implications of Immersive Virtual Worlds. *Journal of Organizational Computing and Electronic Commerce,* 23(1-2), 84-109.

Peltokorpi, V., & Hasu, M. (2016). Transactive memory systems in research team innovation: A moderated mediation analysis. *Journal of Engineering and Technology Management,* 39, 1-12.

Pittman, M., & Reich, B. (2016). Social media and loneliness: Why an Instagram picture may be worth more than a thousand Twitter words. *Computers in Human Behavior,* 62, 155-167.

Puente-Diaz, R. (2016). Creative Self-Efficacy: An Exploration of Its Antecedents, Consequences, and Applied Implications. *Journal of Psychology,* 150(2), 175-195.

Quan-Haase, A., & Young, A.L. (2010). Uses and Gratifications of Social Media: A Comparison of Facebook and Instant Messaging. *Bulletin of Science, Technology & Society,* 30(5), 350-361.

Rico, R., Sánchez-Manzanares, M., Gil, F., & Gibson, C. (2008). Team implicit coordination processes: A team knowledge–based approach. *Academy of Management Review,* 33(1), 163-184.

Ryan, S., & O'Connor, R.V. (2013). Acquiring and sharing tacit knowledge in software development teams: An empirical study. *Information and Software Technology,* 55(9), 1614-1624.

Saavedra, R., Earley, P.C., & Van Dyne, L. (1993). Complex interdependence in task-performing groups. *Journal of Applied Psychology,* 78(1), 61.

Shan, Y. (2016). How credible are online product reviews? The effects of self-generated and system-generated cues on source credibility evaluation. *Computers in Human Behavior,* 55, 633-641.

Sheldon, P., & Bryant, K. (2016). Instagram: Motives for its use and relationship to narcissism and contextual age. *Computers in Human Behavior,* 58, 89-97.

Shin, S.J., & Zhou, J. (2007). When is educational specialization heterogeneity related to creativity in research and development teams? Transformational leadership as a moderator. *Journal of Applied Psychology,* 92(6), 1709-1721.

Shin, Y., & Eom, C. (2014). Team Proactivity as a Linking Mechanism between Team Creative Efficacy, Transformational Leadership, and Risk-Taking Norms and Team Creative Performance. *The Journal of Creative Behavior,* 48(2), 89-114.

Shin, Y., Kim, M., & Lee, S.-H. (2016). Reflection Toward Creativity: Team Reflexivity as a Linking Mechanism Between Team Goal Orientation and Team Creative Performance. *Journal of Business and Psychology,* 32(6), 655-671.

Sigala, M., & Chalkiti, K. (2015). Knowledge management, social media and employee creativity. *International Journal of Hospitality Management,* 45, 44-58.

Singh, U., & Srivastava, K.B. (2009). Interpersonal trust and organizational citizenship behavior. *Psychological Studies,* 54(1), 65-76.

Skeels, M.M., & Grudin, J. (2009). When social networks cross boundaries: a case study of workplace use of facebook and linkedin. In *Proceedings of the ACM 2009 international conference on Supporting group work* (pp. 95-104): ACM.

Sung, S.Y., & Choi, J.N. (2012). Effects of team knowledge management on the creativity and financial performance of organizational teams. *Organizational Behavior and Human Decision Processes,* 118(1), 4-13.

Sykes, T.A., & Venkatesh, V. (2017). Explaining post-implimentation employee system use and job performance: Impacts of the content and source of social network ties. *Mis Quarterly,* 41(3).

Tasa, K., Taggar, S., & Seijts, G.H. (2007). The development of collective efficacy in teams: a multilevel and longitudinal perspective. *Journal of Applied Psychology,* 92(1), 17.

Tierney, P., & Farmer, S.M. (2002). Creative Self-Efficacy: Its Potential Antecedents and Relationship to Creative Performance. *Academy of Management Journal,* 45(6), 1137-1148.

Tierney, P., & Farmer, S.M. (2011). Creative self-efficacy development and creative performance over time. *Journal of Applied Psychology,* 96(2), 277-293.

Trepte, S., Reinecke, L., & Juechems, K. (2012). The social side of gaming: How playing online computer games creates online and offline social support. *Computers in Human Behavior,* 28(3), 832-839.

Tseng, M.-L. (2017). Using social media and qualitative and quantitative information scales to benchmark corporate sustainability. *Journal of Cleaner Production,* 142, 727-738.

Venkatesh, V., Brown, S.A., Maruping, L.M., & Bala, H. (2008). Predicting different conceptualizations of system use: the competing roles of behavioral intention, facilitating conditions, and behavioral expectation. *Mis Quarterly,* 32(3), 483-502.

Walther, J.B. (1992). Interpersonal effects in computer-mediated interaction a relational perspective. *Communication research,* 19(1), 52-90.

Walther, J.B., & Parks, M.R. (2002). Cues filtered out, cues filtered in. *Handbook of interpersonal communication,* 3, 529-563.

Wang, Y., Huang, Q., Davison, R.M., & Yang, F. (2018). Effect of transactive memory systems on team performance mediated by knowledge transfer. *International Journal of Information Management,* 41, 65-79.

Wegner, D.M. (1987). Transactive memory: A contemporary analysis of the group mind. In *Theories of group behavior* (pp. 185-208): Springer.

Wegner, D.M., Giuliano, T., & Hertel, P.T. (1985). Cognitive interdependence in close relationships. In *Compatible and incompatible relationships* (pp. 253-276): Springer.

Westerman, D., Spence, P.R., & Van Der Heide, B. (2014). Social Media as Information Source: Recency of Updates and Credibility of Information. *Journal of Computer-Mediated Communication,* 19(2), 171-183.

Whelan, E., & Teigland, R. (2013). Transactive memory systems as a collective filter for mitigating information overload in digitally enabled organizational groups. *Information and Organization,* 23(3), 177-197.

Whiting, A., & Williams, D. (2013). Why people use social media: a uses and gratifications approach. *Qualitative Market Research: An International Journal,* 16(4), 362-369.

Wold, H. (1982). systems under indirect observation using pls. en c. fornell (ed.), a second generation of multivariate analysis (Vol. 1, pp. 325-347). In: New York: Praeger Publishers.

Zhang, X., Gao, Y., Yan, X., de Pablos, P.O., Sun, Y., & Cao, X. (2015). From e-learning to social-learning: Mapping development of studies on social media-supported knowledge management. *Computers in Human Behavior,* 51, 803-811.

Zhang, Z.X., Hempel, P.S., Han, Y.-L., & Tjosvold, D. (2007). Transactive memory system links work team characteristics and performance. *Journal of Applied Psychology,* 92(6), 1722-1730.

Zhong, X., Huang, Q., Davison, R.M., Yang, X., & Chen, H. (2012). Empowering teams through social network ties. *International Journal of Information Management,* 32(3), 209-220.

Zolkepli, I.A., & Kamarulzaman, Y. (2015). Social media adoption: The role of media needs and innovation characteristics. *Computers in Human Behavior,* 43, 189-209.

Table 1. Demographic characteristics

Measure	Items	Frequency	Percent	Measure	Items	Frequency	Percent
Gender	Male	259	67.8	**Age range**	18-25	187	49.0
	Female	123	32.2		26-35	131	34.2
Education level	Primary school	2	0.5		36-45	56	14.7
	Intermediate	20	5.2		46 or above	8	2.1
	Undergraduate	200	52.4				
	Masters or above	160	41.9	**Position**	Non managerial employee	293	76.7
Industry type	Manufacturing	41	10.7		Manager	72	18.8
	IT industry	103	27.0		Senior manager / Executive manager	17	4.5
	Education	54	14.1	**Team size**	5 or below	92	24
	Construction	40	10.5		6-10	90	23.6
	Finance and banking	83	21.7		11-20	121	31.7
	Logistics and transportation	43	11.3		21-30	45	11.8
	Others	18	4.7		31 or above	34	8.9

Table 2. Cross loadings of research constructs

Constructs	Items	1	2	3	4	5	6	7	8	9
1. Social use	SU1	**0.82**	0.05	0.04	0.42	0.26	0.34	0.38	0.33	-0.02
	SU2	**0.79**	0.03	0.13	0.26	0.20	0.31	0.15	0.18	0.05
	SU3	**0.79**	-0.01	0.06	0.26	0.32	0.29	0.39	0.35	0.16
	SU4	**0.73**	-0.08	0.12	0.27	0.30	0.39	0.25	0.35	0.00
	SU5	**0.86**	0.06	0.03	0.33	0.34	0.42	0.33	0.24	-0.01
2. Cognitive use	CU1	0.01	**0.82**	0.11	0.17	0.34	0.23	0.08	-0.06	-0.12
	CU2	0.03	**0.92**	0.01	0.16	0.23	0.35	0.05	0.08	0.00
	CU3	0.00	**0.90**	0.01	0.22	0.20	0.28	0.02	0.05	0.03
	CU4	0.00	**0.86**	0.02	0.13	0.27	0.40	0.12	-0.02	-0.05
	CU5	0.03	**0.84**	0.10	0.21	0.31	0.29	0.08	0.11	-0.05
3. Hedonic use	HU1	-0.03	-0.02	**0.83**	-0.06	0.07	-0.07	-0.18	0.08	0.02
	HU2	0.14	0.04	**0.97**	0.06	0.27	0.09	0.05	0.18	0.00
	HU3	0.07	0.06	**0.96**	0.06	0.26	0.06	0.06	0.25	0.00
	HU4	0.07	0.09	**0.98**	0.04	0.26	0.08	0.05	0.15	0.01
4. Specialization	SP1	0.39	0.23	-0.05	**0.87**	0.20	0.26	0.16	0.23	-0.07
	SP2	0.25	0.11	0.03	**0.78**	0.14	0.24	0.23	0.34	0.07
	SP3	0.32	0.15	0.16	**0.88**	0.03	0.16	0.16	0.24	0.05
5. Coordination	COO1	0.18	0.34	0.29	0.04	**0.80**	0.39	0.33	0.06	-0.16
	COO2	0.23	0.33	0.22	0.13	**0.77**	0.34	0.34	0.13	-0.10
	COO3	0.28	0.13	0.14	0.12	**0.76**	0.31	0.33	0.24	-0.22
	COO4	0.42	0.14	0.16	0.17	**0.75**	0.27	0.34	0.32	-0.12
6. Credibility	CR1	0.41	0.35	-0.02	0.31	0.35	**0.85**	0.32	0.15	-0.08
	CR2	0.41	0.30	0.11	0.21	0.38	**0.89**	0.37	0.31	-0.28
	CR3	0.36	0.33	0.08	0.20	0.32	**0.83**	0.32	0.10	-0.11
	CR4	0.31	0.24	0.08	0.17	0.42	**0.84**	0.31	0.25	-0.13
7. Team creative efficacy	TCE1	0.36	0.03	0.03	0.11	0.37	0.33	**0.91**	0.31	-0.01
	TCE2	0.30	0.10	0.05	0.11	0.44	0.37	**0.86**	0.23	-0.20
	TCE3	0.35	0.10	0.03	0.34	0.33	0.32	**0.87**	0.22	-0.11
8. Team creative performance	TCP1	0.23	0.09	0.09	0.22	0.16	0.17	0.30	**0.80**	0.20
	TCP2	0.30	0.00	0.02	0.32	0.16	0.15	0.16	**0.82**	0.22
	TCP3	0.37	-0.05	0.33	0.19	0.27	0.28	0.23	**0.73**	0.12
	TCP4	0.40	0.05	0.20	0.32	0.19	0.21	0.23	**0.91**	0.29
	TCP5	0.22	0.03	0.18	0.26	0.23	0.18	0.27	**0.86**	0.23
9. Task interdependence	TSKI1	0.04	-0.15	-0.04	-0.02	-0.28	-0.25	-0.19	0.12	**0.78**
	TSKI2	0.02	0.00	0.04	0.04	-0.10	-0.11	-0.10	0.23	**0.91**
	TSKI3	0.05	-0.06	0.03	0.04	-0.19	-0.19	-0.11	0.26	**0.93**
	TSKI4	0.03	0.00	-0.03	-0.03	-0.17	-0.13	-0.07	0.26	**0.90**

Table 3. Results of confirmatory factor analysis

Constructs	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Social use	0.86	0.90	0.64
Cognitive use	0.92	0.94	0.75
Hedonic use	0.96	0.97	0.88
Specialization	0.80	0.88	0.71
Coordination	0.77	0.85	0.59
Credibility	0.88	0.92	0.73
Team creative efficacy	0.85	0.91	0.77
Team creative performance	0.88	0.91	0.68
Task interdependence	0.91	0.93	0.78

Table 4. Inter-construct correlations

Constructs	Mean	Std. Deviation	1	2	3	4	5	6	7	8	9
1. Social use	4.91	0.38	**0.80**								
2. Cognitive use	5.84	0.42	0.01	**0.87**							
3. Hedonic use	2.76	0.86	0.09	0.06	**0.94**						
4. Specialization	4.36	0.44	0.39	0.20	0.05	**0.84**					
5. Coordination	4.85	0.43	0.36	0.31	0.27	0.15	**0.77**				
6. Credibility	5.47	0.39	0.44	0.36	0.07	0.26	0.43	**0.85**			
7. Team creative efficacy	2.64	0.75	0.38	0.08	0.04	0.21	0.43	0.39	**0.88**		
8. Team creative performance	4.65	0.92	0.36	0.04	0.19	0.32	0.24	0.24	0.29	**0.82**	
9. Task interdependence	4.96	0.74	0.04	-0.04	0.00	0.01	-0.19	-0.18	-0.12	0.26	**0.88**

Table 5. Results for simple mediation

	Effect	SE	LL 95% CI	UL 95% CI	*Z*
Indirect effect of specialization on team creative performance	0.12	0.09	0.01	0.39	
Normal theory test for indirect effect	0.12	0.08			1.52**
Indirect effect of credibility on team creative performance	0.23	0.11	0.07	0.51	
Normal theory test for indirect effect	0.23	0.12			1.94***
Indirect effect of coordination on team creative performance	0.20	0.09	0.06	0.42	
Normal theory test for indirect effect	0.20	0.11			1.81***

Note: N = 190. Unstandardized regression coefficients are reported. Bootstrap sample size = 5000.LL = lower limit; CI = confidence interval; UL = upper limit; **p < .05; ***p < .01.

Table 6. Results of mediation analysis

IV	M	DV	Coefficient in regressions				Mediating
			IV-DV	IV - M	IV+M - DV		
					IV - DV	M - DV	
Specialization	Team creative efficacy	Team creative performance	0.32***	0.21**	0.22**	0.28***	Partial
Coordination	Team creative efficacy	Team creative performance	0.25**	0.44***	0.16	0.21**	Full
Credibility	Team creative efficacy	Team creative performance	0.25**	0.39***	0.16	0.22**	Full

Note: **po0.05; ***po0.01

Appendix A

Survey items

Construct	Items	Measures
Social Use	SU1	In my team, I use social media to create new relationships at with my team members.
	SU2	In my team, I use social media to get to know team members I would otherwise not meet at work.
	SU3	In my team, I use social media to maintain close social relationships with team members at work.
	SU4	In my team, I use social media to get acquainted with team members who share my interests.
	SU5	In my team, I use social media to discover team members with interests similar to mine.
Cognitive Use	CU1	In my team, I use social media to share content with team members.
	CU2	In my team, I use social media to create content in collaboration with team members.
	CU3	In my team, I use social media to create content for work.
	CU4	In my team, I use social media to disseminate content in team.
	CU5	In my team, I use social media to access content created by my team members.
Hedonic Use	HU1	In my team, I use social media to enjoy my break.
	HU2	In my team, I use social media to take a break from work.
	HU3	In my team, I use social media to entertain myself.
	HU4	In my team, I use social media to relax at work.
Specialization	SP1	Each member of my team has specialized knowledge of some aspect of our projects.
	SP2	Different team members are responsible for expertise in different areas.
	SP3	I know which team members have expertise in specific areas.
Credibility	CR1	I am comfortable accepting procedural suggestions from other team members.
	CR2	I trust that other members' knowledge about our projects is credible.
	CR3	I am confident relying on the information that other team members bring to the discussion.
	CR4	I do not have much faith in other members' expertise.
Coordination	CO1	Our team members have a global perspective that includes each other's decisions and the relationship among them.
	CO2	Our team members carefully interrelate action to each other to the teamwork done.
	CO3	Our team members carefully make their decision to maximize an overall team performance.
	CO4	Our team members have developed a clear understanding of how each business function should be coordinated.
Team Creative Efficacy	TCE1	Our team has confidence in our ability to solve problems creatively.
	TCE2	Our team feels that we are good at generating novel ideas.
	TCE3	Our team has a knack for further developing the ideas of others.
Team Creative Performance	TCP1	My team members' work is original, adaptive, and practical.
	TCP2	My team members generated creative idea.
	TCP3	My team members promote and champions idea to others.
	TCP4	My team members search out new technologies, processes, techniques, and/or product ideas.
	TCP5	My team members investigate and secures resources needed to implement new idea.
Task Interdependence	TSKI1	I work closely with others in doing my work.
	TSKI2	I frequently must coordinate my efforts with others.
	TSK13	My own performance is dependent on receiving accurate information from others
	TSKI4	The way I perform my job has a significant impact on others.

Highlights

- A framework to enhance team creative performance through social media is defined.
- Social media dimensions differ in their impact on knowledge management in knowledge work teams.
- A well-developed transactive memory system is essential for team creative efficacy to generate creative solutions.
- Effective coordination and trust among team members enhances the team creative efficacy.