sustainability

MDPI

Article

The Effect of Social Media-Enabled Mentoring on Online Tacit Knowledge Acquisition within Sustainable Organizations: A Moderated Mediation Model

Zhenjiao Chen [1,2,*], Douglas Vogel [3], Tianan Yang [1] and Jianwei Deng [1,2]

[1] School of Management and Economics, Beijing Institute of Technology, Beijing 100081, China; Tiananyang@bit.edu.cn (T.Y.); 111605@bit.edu.cn (J.D.)
[2] Sustainable Development Research Institute for Economy and Society of Beijing, Beijing 100081, China
[3] School of Management, Harbin Institute of Technology, Harbin 150001, China; isdoug@hit.edu.cn
* Correspondence: sharon2009@bit.edu.cn

Received: 5 December 2019; Accepted: 2 January 2020; Published: 14 January 2020

Abstract: Tacit knowledge is an important strategic resource to the sustainable development of organizations. Although scholars and practitioners have noticed the growing use of social media in transferring tacit knowledge, extant empirical research has been fairly mute about this phenomenon. This study is novel in that it explores when and how social media used for mentoring (i.e., an emerging electronic mentoring) promotes tacit knowledge acquisition in sustainable organizations. This study develops a framework and proposes six hypotheses, which predict how social media-enabled mentoring promotes tacit knowledge acquisition through two mediators. Furthermore, two social media characteristics moderate the two mediating processes. The authors conducted a three-wave longitudinal survey in 45 sustainable companies and obtained 156 valid cases. All of the hypotheses are supported. The findings show that the effects of social media-enabled mentoring on tacit knowledge acquisition are mediated by both an affective learning mechanism (i.e., liking) and cognitive learning mechanism (i.e., shared mental model). Moreover, the two mediation processes are moderated by two capabilities of social media (i.e., social presence and synchronicity). This research bridges extant e-mentoring literature and sustainable TK management literature. It also enlightens managers to effectively integrate social media and mentoring to improve TKA in sustainable organizations.

Keywords: social media-enabled mentoring; shared mental model; liking; synchronicity; social presence; tacit knowledge acquisition

1. Introduction

Tacit knowledge (TK) resides within human carriers in different units of a sustainable company and these units represent various stocks of TK [1]. TK is an important strategic resource for sustainable development of a company [2,3]. The sustainable development of a company relies on TK acquisition and integration across these units (i.e., subsidiary-subsidiary, parent-subsidiary, and subsidiary-parent) [1]. In general, a receiver acquires cross-unit TK by actively observing the role modeling of its carrier from other units through sustainable interactions based on apprentice-like relationship [1]. During the apprentice-like interaction process, only the receiver who appreciates or likes (i.e., has positive affection toward) the carrier will have motivation to actively observe the carrier as a role model. The receiver collects more observed practices and cognitively processes them to absorb TK [4]. For the receiver, the sustainable process of tacit knowledge acquisition (TKA) involves two interrelated mechanisms: affective mechanism that triggers the receiver's observation

motivation and cognitive mechanism that captures his information processing. However, most TK management studies [5,6] only focus on receivers' cognitive mechanism of TKA but pay little attention to their affective mechanism of TKA. Accordingly, to improve TKA, important research questions are considered: "How can affective mechanism be improved to motivate a receiver to actively observe TK carrier across units in a sustainable organization?" and "How can cognitive mechanism be improved to enable a receiver to effectively absorb TK in the sustainable observation?"

Most extant studies have examined how interpersonal interaction-related factors promote TKA by affecting receivers' cognitive mechanisms in a sustainable organization [6–8]. Interpersonal interaction is only a desirable context that facilitates TK senders, like mentors, to show role modeling for receivers to transfer TK. In this light, the senders' mentoring or role modeling embedded in interpersonal interaction might be more important than the interaction by itself in improving TKA in a sustainable company [9]. However, few studies are concerned on these effects. Furthermore, extant studies of TKA have mainly identified socio-contextual factors as predictors of TKA in an offline context [6–8,10]. Little attention has been paid on the effects of IT-enabled factors or IT artifacts on TKA in a sustainable organization. To fill these gaps, this study examines how social media-enabled mentoring affects TKA of a sustainable company by affecting receivers' affective and cognitive mechanisms.

Social media enabled-mentoring is a new type of e-mentoring that involves the use of IT (e.g., social media) to facilitate online interpersonal interactions in which knowledge senders provide support and role modeling to help receivers learn new knowledge [11–13]. This type of mentoring widely exists in universities, sustainable enterprises, and virtual communities [14–16]. For instance, teachers use social media, such as Facebook, as learning platforms to provide mentoring for students in distance sustainable learning [14,17–19]. In a sustainable company, cross-unit TK is difficult to be acquired as unit boundaries or geographical gap inhibits cross-unit interpersonal interaction [4]. Social media is a network technology-based social tool (e.g., WeChat, Facebook, Twitter, micro-blog, and instagram), which facilitates sustainable social interaction in online context [20]. Social media enables employees to have great flexibility in forming cross-unit mentorship [12]. Employees can use social media to contact colleagues in other units as "friends." By viewing one another's profiles and posters, they select appropriate mentors (or mentees) among these "friends" [13,21]. Furthermore, social media enables a mentor to implement sustainable mentoring by using "voice message" or "text" to provide feedback or support and use "pictures" or "video calls" to synchronously show role modeling without geographic restrictions and unit boundaries [13].

This study integrates cognitive and affective learning theory (CALT) [22,23] from the training evaluation field and media-dependent perspective (MDP) [24] of the IS field to investigate how and why social media-enabled mentoring improves sustainable TKA in a company. CALT describes how training-related factors affect learning outcomes through learners' sustainable cognitive learning (e.g., coping with cognitive states that are used to process learning content) and affective learning processes (e.g., coping with affective states that motivate learners to learn) [22,23]. We expect that social media enabled-mentoring affects employees' TKA by improving mentees' liking of mentors (i.e., affective learning) and shared mental model (SMM) (i.e., cognitive learning). According to MDP, the effectiveness of social media-enabled mentoring should depend on the fit between mentoring and information and communication technology (ICT) capabilities of social media [24]. Therefore, we propose two key ICT capabilities of social media, namely, social presence and synchronicity [21,24,25], to moderate the effects of social media-enabled mentoring on the two sustainable learning mechanisms (mediators) and TKA.

Our research suggests that the strengths of social media-mediated mentoring in facilitating TKA would not be practical offline. For instance, we have found that social media-enabled mentoring increases TKA through shaping SMM only when synchronicity is high. Synchronicity means that ICT supports fast information exchange [24]. In the offline context, two employees from different units with different locations cannot synchronously exchange information; thus, mentoring is less likely to increase SMM and TKA of a sustainable company in the offline context. We also have found that social

media-enabled mentoring increases TKA by improving liking (i.e., mentees' liking of mentors) only when social presence is high. Social presence refers to the atmosphere of intimacy created by ICTs [25]. In the offline context, a mentor with poor social and emotional expression skills often has difficulty in creating social presence when interacting with others. Under this context, his mentoring is less likely to improve the receiver's liking and decrease their TKA. However, many ICT functions, such as emotion icons, can help him easily create social presence online [26]. In a word, with the assistance of synchronicity and social presence, sustainable mentoring is more likely to increase TKA in the context of social media platform than in the offline context.

The remainder of this paper first introduces the theoretical background. Next, the research model and hypotheses are developed. Furthermore, sample, data collection, measure, data analysis are introduced. Finally, we discuss our findings, implications, and limitations.

2. Theoretical Development

2.1. TKA in Organizations

TK is defined as an unarticulated, inimitable, highly personal, and context-specific knowledge, which is an important strategic resource of sustainable firms [27]. Prior researchers mainly examined how various socio-contextual factors, including relational social capital, learning capabilities, exchange climate, engaging environment, and cultural differences, affect TKA in a sustainable organization [6,8–10,28]. TKA in a sustainable company is defined as TK in various areas (management, marketing, R&D, manufacturing, and technology), which is successfully transferred between two subsidiaries from parent firm to subsidiaries and vice versa within a sustainable company [4]. Once TK is successfully transferred across units within a sustainable company, it increases TK sustainable integration and enables the organization to create a sustainable competitive advantage [4,29].

How do units acquire TK from outside their boundaries? TK is embedded within individual carriers. TKA not only depends on sustainable interpersonal interaction across units, but it also relies on a two-way process requiring the senders' mentoring (e.g., role modeling) and receivers' learning during the sustainable interaction [9,30]. However, unit boundaries inhibit inter-unit sustainable interpersonal interaction in a company, which makes sustainable role modeling and learning TK across units difficult [4]. To solve this problem, a majority of extant empirical studies consistently adopt social capital theories to explain how to improve the quality of sustainable interpersonal interaction across units, including relational embeddedness, prior partner relationships, cross-unit conflict resolution and cooperation, and trusting relationship, so as to promote TKA in sustainable organizations [6–8]. Few of these studies focuses on the effects of training and learning in interpersonal sustainable interactions.

Moreover, extant empirical studies have focused on TKA in the offline context rather than in the online context. One possible reason is that TK is hard to be codified in information systems (IS) to transfer online. Although some researchers have proposed that IS (e.g., social media) can indirectly facilitate TKA by creating multi-channel communication and interpersonal interaction environment in which online learning is embedded [13,31], few empirical studies have examined how ICTs affect TKA in the online context. To fill these gaps, this study adopts a training evaluation theory (i.e., CALT) to examine the effects of social media-enabled mentoring, which is a typical training, on TKA in a sustainable company. Furthermore, we incorporate MDP into CALT to explore how ICT capabilities of social media reinforce the effects of sustainable mentoring.

2.2. CALT and MDP

CALT evaluates the success of training programs, that is, whether trainees have learned the requisite knowledge being transferred in the training. Training is defined as a learning experience that brings about permanent change in an individual's knowledge, attitudes, or skills [22,23,32]. This theory seeks to explicate how individual, organizational, and training-related factors affect training outcomes through trainees' cognitive and affective learning processes [22]. CALT from the training evaluation

field is widely adopted by researchers in the education field [33–35]. We first introduce it to the IS field for evaluating whether employees have learned TK across units from social media-enabled mentoring.

Furthermore, social media-enabled mentoring means that mentoring tasks are supported by ICT capabilities of social media [12,13]. MDP [24] presumes that desirable task outcomes are determined by the fit between the tasks supported by media and media capabilities. Thus, the effects of social media-dependent mentoring on mentees' (learners) responses should be regulated by social media capabilities. Accordingly, we integrated MDP into CALT to examine how sustainable mentoring interacts with ICT capabilities of social media (i.e., synchronicity and social presence) and affect users' affective and cognitive learning states, which ultimately improve TKA.

The use of training evaluation theories and MDP in this study is advantageous for three reasons. First, it provides a parsimonious and theoretically justified way to examine the effects of IT-enabled training activities on TKA. Second, in addition to cognitive learning, it allows us to examine the role of affective learning in TK management in a sustainable organization, which has been ignored by prior literature. Third, it allows us to empirically test the effects of ICT capabilities on online TK management in sustainable organizations

2.3. E-Mentoring and ICT Capabilities

Mentoring has been researched in the management literature as a training that enhances individual learning by providing support and role modeling in interpersonal interactions [36,37]. Support can be work related (e.g., direct coaching of work value and expertise) and psychological related (e.g., empathic counseling, active listening, and affirmation). Role modeling pertains to demonstrating successful behaviors [37]. E-mentoring is an emerging phenomenon for the past 20 years, which means mentoring is supported by various ICTs (e.g., emails, instant messaging, and chat room) [12]. Haggard et al. [38] believe that the new types of e-mentoring will continue to occur with technological changes, such as social media, and urge researchers to focus on social media-enabled mentoring. Scholars [38] agree that few empirical studies have examined the effects of e-mentoring, which obviously differs from that of traditional face-to-face mentoring.

The effectiveness of social media-enabled mentoring depends on the fit between mentoring activities and ICT capabilities of social media. This study focuses on two key ICT capabilities of social media: social presence and synchronicity [21,24,39]. Social presence pertains to the extent on how social media create an atmosphere of intimacy in terms of warmth, sociable, and sensitive human contact [25]. Richer media create higher social presence than leaner media as they convey more social cues (e.g., visual, verbal, and textual cues). Social media tools can also create social presence [39,40]. For instance, multimedia symbols (videos, voices, and pictures) of social media can deliver vivid verbal (e.g., gentle tone) and visual (friendly facial expressions or body language) cues that convey immediacy in terms of warmth [41,42]. Rapid online response of social media also creates immediacy in terms of sociable [25]. Emoticons in social media, suggestive of intimate cartoon facial expressions and body languages, add an emotional component to a message and augment intimacy in communication. Emoticons also make online communicators feel that they are interacting with "real people" [26]. Synchronicity refers to the capabilities of social media to entail immediate information exchange and fast interpersonal interaction [21,25]. Multimedia symbols (i.e., videos, pictures, audios) and transmission velocity make synchronicity possible. Multimedia symbols entail fast encoding or decoding of information. In social media platforms, recording voice is faster than typing words (encode) and viewing video is easier than reading words (decode). Transmission velocity enables rapid information exchange and synchronous discussions [13,21].

We expect that social presence, which creates an atmosphere of intimacy, moderates the effects of mentoring on mentees' affective learning. Meanwhile, synchronicity, which facilitates immediate information exchange, moderates the effects of mentoring on mentees' cognitive learning.

2.4. Affective and Cognitive Learning

In accordance with CALT, mentoring is inevitable in triggering affective learning. After receiving training, trainees generally evaluate the trainer and have affective reactions toward him/her [22]. Positive affective reaction plays a critical role in improving human motivation and affects individual behaviors [43]. Affective learning pertains to coping with the affective reactions toward trainers and leads to an emotional state that may affect trainees' learning motivation. An example is that attaching subjective appraisals to trainers and motivating oneself [35]. After receiving and evaluating a mentoring session, a mentee normally has affective reaction toward his/her mentor (e.g., liking the mentor). This study uses liking, a well-established affective construct, to capture affective reaction toward mentors [37,44]. This construct reflects the extent to which a mentee feels comfortable and expects to build a long-term relationship with his mentor [37].

Mentoring affects mentees' cognitive learning. Cognitive learning refers to cognitive processing of learning contents and improving knowledge structure (i.e., the manner to interpret, organize, and integrate learning content) [22,35].Examples of cognitive learning are looking for relations among parts of the learning content (relating), distinguishing main and minor information points (selecting), and developing mental model to reserve new knowledge [35]. Mentoring delivers learning content, which reflects a mentor's knowledge structure. For instance, when the mentor explains how a thing is done, his explanation depends on his knowledge structure and cognitive system. A mentee processes the learning content and learns how his mentor interprets the content (i.e., his mentor's knowledge structure), which makes him develop a similar manner to organize the content as his mentor [45]. We use SMM, a robust construct for capturing the shared cognitive system, to represent cognitive learning outcome. SMM refers to the extent of the convergence between two individuals with regard to knowledge content and structure [46].

In TK management literature, many researchers have agreed that TKA is a cognitive learning process and cognitive psychology, cognitive behavior, and mental model are revealed in the process of TKA [5,45]. Some researchers argue that various socio-contextual factors, including relational embeddedness, prior partner relationships, cross-unit conflict resolution and cooperation, and trusting relationship, increase TKA by improving learners' cognitive abilities [6–8]. Few studies recognize that TKA is also an affective learning process. Therefore, we argue that cognitive and affective learning affects TKA. Liking mentors motivate mentees to actively learn TK from their mentors, and SMM is expected to improve a mentee's ability to absorb TK from a mentor.

3. Research Model and Hypothesis Development

3.1. Liking Links Social Media-Enabled Mentoring with Cross-Unit TKA

Similarity–attraction theory [44] claims that attitudinal similarity is a major determinant of interpersonal liking. An evaluator often believes that he has a correct attitude, so he infers good qualities and virtues about a target from the target's similar attitude, thus making him like the target. Mentoring (e.g., counseling, feedback, and role modeling) conveys a mentor's attitudes and values, which coach a mentee to deal with affairs in his work field and daily life. After a period of time, the mentee may form similar attitudes and values with his mentor and may infer that his mentor possesses good qualities and thus like the mentor [37]. Klohnen and Luo (2003) note that individuals may be attracted to those who have similar values and attitudes [47]. These similarities result in few disagreements and pleasurable interactions that improve liking of others.

Liking means that cross-unit mentors make their mentees feel comfortable and like them [37]. Empirical studies have found that positive emotions (e.g., enjoyment) are significant to improve learning motivation and learning outcomes [48]. Although liking is a typical positive emotion, few studies have tested whether liking affects learning motivation and outcomes. Tortoriello et al. (2012) propose that the more emotionally connected an individual is with the other, the more time and effort he/she is willing to give on that person, such as observing and learning from others [4]. When learners

are emotionally interested in learning a target, they will pay more attention to the target. They are motivated to emulate and learn from the mentors only when mentees like their mentors in other units [20]. The increased learning motivation drives mentees to be more active in information seeking, resulting in continuous observation (e.g., real-time tracking of updated posters of their mentors on social media platforms) and collection of learning materials, from which they acquire TK across units [37]. Hence, we propose the following hypothesis (see Figure 1).

Hypothesis 1 (H1). *Liking mediates the effect of social media-enabled mentoring on TKA.*

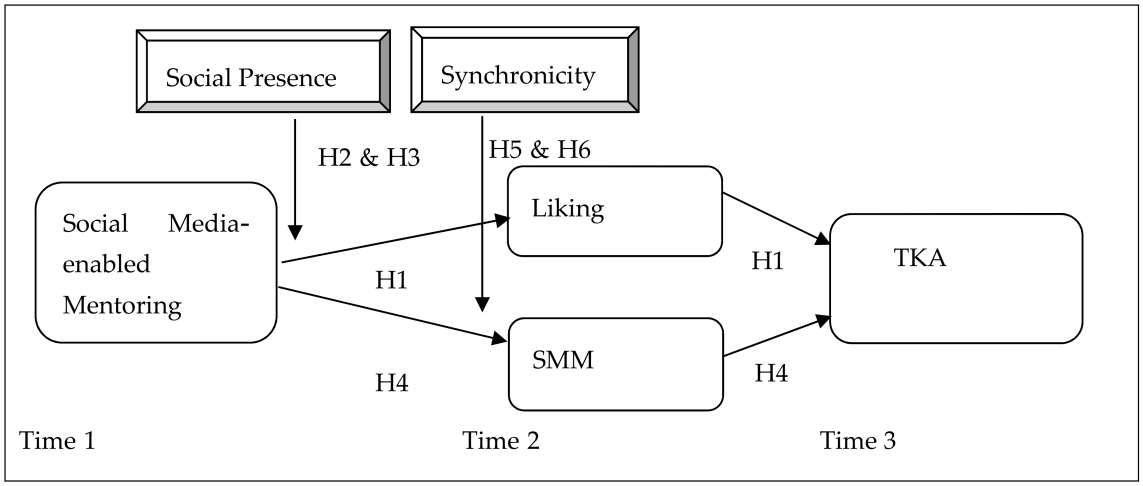


Figure 1. Research Model.

3.2. Moderating Effects of Social Presence

Although mentors and mentees in different units with less interaction have limited social presence offline, they can use multimedia symbols (i.e., video, audio, and text) to synchronously convey social cues (e.g., friendly facial expression, tone, or voice) when creating intimacy as they do in face to face (FtF) communication [41,42]. For introverted mentors who are not good at expressing emotions to create intimacy offline, emoticons help them build their social presence online [26].

Accordingly, this study defines social presence as the extent social media convey social cues to create an atmosphere of intimacy, in terms of warm, sociable, and sensitive human contact [20,25]. Social presence leads to normative influence that makes communicators adhere to the priority of harmony. They tend to seek common grounds and reserve differences [42]. In social media platforms with high social presence, mentoring should be performed in a more agreeable way to avoid destroying an intimate atmosphere. Mentoring is implemented according to mentees' preferences, which may convey more positive feedbacks and attitudes that are more acceptable by the mentees [42]. Accordingly, the mentees will perceive more attitudinal similarities from the mentoring and more likely the mentors [37,44]. Furthermore, high social presence encourages more emotional expressions. People are more likely to express emotions in a social–emotional atmosphere than in a task-oriented atmosphere [26]. In social media with high social presence, mentoring should be provided with more emotional cues that convey intimacy. For instance, a mentor can provide affirmation or positive feedback by using an emotional icon (e.g., a cartoon character with head nodding, smiling, and applauding) to a mentee. This method efficiently transmits attitudinal identification with the mentee than only typing the text "I agree with you." As a result, the mentee is more likely to believe that his mentor has a similar attitude with him and then like his mentor [37,44].

By contrast, in the context of low social presence, mentoring may be implemented in a less agreeable way as mentors are not worried that disagreements will deteriorate intimate atmosphere. Mentoring may be provided not based on the mentee's preference. For example, mentoring may convey criticism or different attitudes to mentees [42], which may make the mentees perceive less

attitudinal similarity from the mentoring and are less prone to like the mentors. Moreover, low social presence inhibits emotional expressions [26]. Mentoring should be provided with less emotional cues of intimacy. For instance, a mentor in a mentoring provides affirmative feedback by typing the text "I agree with you" without any verbal or visual cues, his mentee is not sure whether his mentor honestly has a similar attitude with him. This situation decreases the possibility of the mentee liking his mentor [37,44]. Given these arguments, the following hypothesis is proposed:

Hypothesis 2 (H2). *Social presence moderates the positive effect of social media-enabled mentoring on liking: the positive effect is stronger when social presence is high than when it is low.*

Furthermore, we propose that social media-enabled mentoring improves liking, which in turn, improves TKA only when social presence is high. We contend that social presence may enhance the positive effects of social media-enabled mentoring on TKA, because under the context of social presence, the mentoring is more likely to elicit positive affective responses (in our case, mentees liking of mentors). In summary, we believe that the mediation of liking on the relationship between the mentoring and TKA may vary according to whether social presence is high or low. We also believe that social presence may affect the relationship between social media-enabled mentoring and TKA in the same way it influences the relationship between social media-enabled mentoring and liking. Therefore, we hypothesize the following hypothesis:

Hypothesis 3 (H3). *Social media-enabled mentoring improves TKA through liking only when social presence is high rather than when it is low.*

3.3. SMM Links Social Media-Enabled Mentoring with TKA

TKA is a cumulative process where receivers learn new TK by associating TK with what they already know. TK is acquired by receivers from senders when TK is related to prior knowledge overlap, and common cognitive system or knowledge structure is used as the basis for interpreting TK [7]. TKA process ends once the receivers understand the original meaning of TK that the senders really intend to convey [4]. In line with these arguments, scholars [49] have found that shared language and shared cognitive capital improve knowledge sharing in virtual communities. Fang et al. (2009) suggest that homophily, the degree to which two interacting parties share common meanings and mutual language, increases receivers' absorptive abilities of knowledge [1]. However, senders and receivers working in different units often have different knowledge base, developed distinct heuristics, and coding different schemes that makes TKA difficult. Thus, we follow the aforementioned studies to propose that SMM in cross-unit mentorship is especially critical to improve TKA. SMM reflects the extent of the convergence between mentors and mentees with regard to task-related knowledge content and knowledge structure in a domain [46].

We further argue that mentoring trigger mentees' cognitive learning process in which SMM reveals. Before mentoring, a mentor compiles explicit or tacit information (i.e., learning content) into knowledge objects. The compilation depends on his knowledge structure [45]. In mentoring, the mentor conveys the knowledge objects reflecting his mental model and triggers his mentee's cognitive learning process. In this process, the mentee not only learn the learning content but also learn his mentor's knowledge structure. The cognitive learning process changes mentees' knowledge reserve and make them develop similar mental models as their mentors. The SMM enhances mentees' absorptive ability of TK from other units and thus improve TKA [4]. Given these arguments, we hypothesize the following:

Hypothesis 4 (H4). *SMM mediates the effect of social media-enabled mentoring on TKA.*

3.4. Moderating Effects of Synchronicity

With limited FtF interaction, mentoring cannot be timely implemented for mentees across units. Synchronicity of social media helps solve this problem. Mentoring activities mainly include counseling and role modeling [37]. Counseling can be provided through "one-to-one chat" or "audio call." These social media tools enable a mentor to synchronously listen and give feedbacks. Role modeling can be provided through updated posters or video calls [13,21]. Specifically, mentors encode their successful behaviors into pictures or videos and timely upload them as posters, which can be synchronously tracked by their mentees in a remote distance. Compared with FtF mentoring, synchronicity makes social media-enabled mentoring implemented across units at anytime and anyplace. Statistics show that most social media users spend 1/3 of their daytime on social media. Synchronicity of social media also provides a mentee more time and convenience to observe and emulate his role model at anytime and anyplace.

Synchronicity entails immediate information exchange and fast online interpersonal interaction between mentors and mentees across units without location dependence [21]. People's knowledge content and structure are dynamically changing [46]. On a social media platform affording high synchronicity, a mentor can quickly encode his new knowledge in terms of appropriated symbols (regarded as knowledge objects) and immediately deliver them to his mentee across units during mentoring. Moreover, the mentor can synchronously discuss how he interprets the knowledge objects (reflecting his updated knowledge structure) with his mentee so that the two of them can converge into the manner to interpret the knowledge objects [21]. This situation improves the formation of SMM. For instance, when a mentor has learned new information, he can timely update the information as a poster, which can be synchronously read by his mentee in other units. Moreover, he can timely discuss with his mentee through "one-to-one chat" function to help the mentee understand how he interpret the information. The new information and interpretation update the mentee's mental model to improve the shaping of SMM.

By contrast, on social media with low synchronicity, a mentor fails to timely deliver his new knowledge and discuss his interpretation of the knowledge with his mentee in other units. The change of his knowledge content and structure does not keep pace with that of his mentee [46]. The cognitive gap inhibits the formation of SMM. For example, during a mentoring, if a mentor fails to timely transmit a new task procedure to his mentee, then the mentee has no shared knowledge content to perform the task. If the mentor cannot synchronously discuss with the mentee about his understanding of the task procedure, then the mentee may have a different understanding of this, which leads to a lack of shared knowledge structure [21]. This situation inhibits the formation of SMM. Hence, we propose the following hypothesis:

Hypothesis 5 (H5). *Synchronicity moderates the positive effect of social media-enabled mentoring on SMM: the positive effect is stronger when synchronicity is high than when it is low.*

Further, we propose that social media-enabled mentoring improves SMM, which in turn, increases TKA only when synchronicity is high. We contend that synchronicity may enhance the positive effects of mentoring on TKA because on social media with high synchronicity, the mentoring is more likely to elicit positive cognitive responses (in our case, SMM). In summary, we believe that the mediation of SMM on the relationship between the mentoring and TKA may vary according to whether synchronicity is high or low. We also believe that synchronicity may affect the relationship between social media-enabled mentoring and TKA in the same way it influences the relationship between social media-enabled mentoring and SMM. Therefore, we hypothesize the following:

Hypothesis 6 (H6). *Social media-enabled mentoring improves TKA through SMM only when synchronicity is high rather than when it is low.*

4. Sample and Procedure

Data was gathered from 45 companies, 66% of the 68 randomly selected companies. We surveyed Chinese employees of the 45 companies. Survey instructions were mailed to human resource (HR) managers of these companies who helped with the survey logistics. Similar with many mentoring studies, we asked each employee to assess whether he/she has a closet mentor from other units within his/her company. Mentorship was split into informal and formal mentorship. This study focused on informal mentorship as mentors and mentees based on their own voluntary choice (i.e., informal mentorship), which were more active in interacting with each other than those assigned by their companies (i.e., formal mentorship) [37]. All of these informal mentorships lasted for at least three months. Therefore, mentees had enough information to evaluate the mentoring activities. Participation was voluntary and all participants were offered gifts (RMB 40) as an incentive for participation in the online survey.

Three-wave longitudinal survey has been conducted to reduce common-method bias and provide evidence for the causal directions proposed [50]. The same set of respondents was invited to finish the three waves of the online survey. Initially, 212 mentees of 53 companies completed the items for the control variables, social media-enabled mentoring, synchronicity, and presence. After six weeks, 178 individuals of 51 companies participated in the second-wave survey and completed the items for liking and SMM. After six weeks, a total of 156 mentees from 45 companies provided valid data and completed the items for TKA, resulting in a response rate of 73.6%. Table 1 shows the demographics of the participants. The companies were distributed across various industries mainly including manufacturing, information technology services, high technology, wholesale and retail, real estate, business services, which improved sample representative.

Table 1. Demographics.

Gender	Male	46.20%
	Female	53.80%
Age	20–29	21.80%
	30–39	65.40%
	40–49	11.50%
	≥50	1.30%
Position	First-class employee	41.70%
	Team leader	8.30%
	Department leader	26.90%
	Middle-level manager	21.20%
	Top-level manager	1.90%
Education	Junior College	7.10%
	Bachelor	57.00%
	Graduate or above	35.90%

We assessed the possibility of non-random attrition through multiple logistic regression analysis [51]. A dichotomous variable (1 = attrition case, who responded in the first or first two waves; 2 = respondent) was regressed on the principal variables collected in the first wave. No significant regression coefficients were found, thus suggesting no serious non-random attrition problem.

5. Measures

The items for all studied variables were adopted from the English literature. The survey was executed in China, and thus, the questionnaire was translated into Chinese and back translated into English to ensure equivalence of meaning. The measures for the studied variables included 21 questions. All the items were measured by a seven-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree.

Specifically, to improve participants understanding of social media-enabled mentoring, its definition was introduced. Mentoring activities (i.e., work support, psychological support, role modeling) and social media platforms (e.g., Wechat, facebook, twitter, microblog, instagram, etc.) were enumerated, respectively. Every participant was asked to recall his most recent (in the past four weeks) experience of a mentoring mediated by the social media that is most frequently used by his mentor and himself. Each respondent was asked to fill out the instrument based on his most recent experience of the social media-enabled mentoring. The instrument explained to the respondents that all the questions related to "this social media" referred to the one most frequently used by his mentor when giving mentoring for him. Three items for the social media-mediated mentoring construct (i.e., social media usage for mentoring) were adapted from the scale of instant message usage at work in Ou and Davison's (2011) study [52]. Three items that were used to measure mentee liking of mentors were adapted from Jehn (1995)'s liking scale [53]. Four items were adapted from Xiang et al. (2013) study to measure SMM [54]. Following Ou et al. (2014), synchronicity was measured by using a two-item scale [25]. Social presence was measured by a four-item scale adapted from Ou et al. (2014). TKA was measured using five items adapted from the TKA scale of Lyles and Salk's (1996) study [9]. After development of the measures, three Chinese mentees with experience of receiving social media-enabled mentoring reviewed the questions and provided feedback. A pilot test of 46 subjects was conducted to test the wordings of the instrument. Cronbach's alpha of all studied scales ranged from 0.78 to 0.92, which indicated that the studied scales had acceptable reliabilities (>0.70). The main survey was then initiated. Appendix A lists the final items used in the questionnaire.

6. Data Analysis

LISREL (version 8.70) [55] and SPSS (version 17.0) were used to conduct the data analysis.

6.1. Measurement Model

The Cronbach's alpha and composite reliability of all studied scales are higher than the acceptable value (>0.70) (see Table 2). The results indicate that the reliability of the measures are satisfactory. We calculated the AVE (average variance extracted) of all studied variables to test convergent validity of all variables. The AVE for each variable was above the acceptable value (>50), indicating good convergent validity [56]. Discriminant validity of all variables was tested by comparing the square root of AVE with the correlations of all studied variables. The square root of the AVE was larger than the correlations, indicating good discriminant validity for all variables [56]

Table 2. Results of the validity and reliability.

		1	2	3	4	5	6	AVE	Cronbach's Alpha	Composite Reliability
1	Cross-unit TKA	0.80						0.64	0.86	0.86
2	Liking	0.51	0.82					0.68	0.76	0.77
3	SMM	0.48	0.54	0.86				0.75	0.89	0.89
4	Social media-enabled mentoring	0.27	0.29	0.27	0.90			0.81	0.89	0.89
5	Social presence	0.38	0.50	0.47	0.48	0.93		0.87	0.95	0.95
6	Synchronicity	0.09	0.29	0.39	0.34	0.62	0.94	0.89	0.91	0.91

Note. the square root of AVE is on the diagonal, and the correlation coefficients of studied variables are below the diagonal.

Second, CFA was conducted to assess the overall goodness of fit of the measurement model. We used six model-fit indices: the ratio of χ^2 to degrees of freedom (df), Non-Normed Fit Index (NNFI), Normed Fit Index (NFI), comparative fit index (CFI), incremental fit index (IFI) and root mean square error of approximation (RMSEA). The results demonstrated that the measurement model containing six factors (i.e., Social media-enabled mentoring, social presence, synchronicity, SMM, liking, TKA)

yielded a good fit (χ^2/df = 1.84; CFI = 0.96; NFI = 0.93; NNFI = 0.96; IFI = 0.96; RMSEA = 0.07), and fit the data very well.

In addition, we adopted the chi-square difference test [57] to compare the six-factor model with five alternative models that increase in complexity. The results in Table 3 show that the fit of the six-factor model is significantly better than each of the five alternative models. This procedure demonstrates that our measures have good discriminant validity and exhibit a good fit with the data collected. Furthermore, the results minimize the possibility of common method bias, as a simple model does not fit the data as well as a more complex model [50]. Moreover, we used "temporal separation of measures" method to create time lags between the predictors and dependent variables. This technique is particularly useful to reduce common method bias in the study of attitude-attitude relationships [50].

Table 3. Results of measurement model comparison.

	Factor	df	χ^2	CFI	NFI	NNFI	IFI	RMSEA	$\triangle\chi^2$
Model 1	six-factor	174	320.78	0.96	0.93	0.96	0.96	0.07	
Model 2	five-factor	179	540.17	0.93	0.89	0.91	0.93	0.11	219.39 **
Model 3	four-factor	183	708.69	0.89	0.86	0.88	0.89	0.14	387.91 **
Model 4	three-factor	186	925.77	0.85	0.82	0.83	0.85	0.16	604.99 **
Model 5	two-factor	188	1229.05	0.81	0.78	0.79	0.81	0.19	908.27 **
Model 6	one-factor	189	1787.54	0.75	0.72	0.72	0.75	0.23	1466.76 **

Note. CFI = comparative fit index, NFI = Normed Fit Index, NNFI = Non − Normed Fit Index, IFI = incremental fit index and RMSEA = root mean square error of approximation. ** $p < 0.01$. See Appendix B.

Table 4 presents the means, standard deviations for all studied variables and VIF (variance inflation factor). The VIF (<3.33) for all the dependent variables are well below the levels that might indicate multicollinearity [30].

Table 4. Descriptive Statistics and VIF of Constructs.

	Mean (SD)	VIF
1. Social media-enabled Mentoring	4.43(1.57)	1.32
2. Liking	4.72(0.98)	1.71
3. SMM	4.65(1.13)	1.70
4. Social presence	4.69(1.29)	2.36
5. Synchronicity	4.90(1.28)	1.83
6. TKA	4.86(1.18)	1.62

6.2. Mediation Effect of Liking and SMM

We used multiple regression analysis of SPSS and followed the Baron and Kenny's (1986) four-step approach to test whether liking and SMM mediate the relationship between social media-enabled mentoring and TKA [58]. In addition to demographic variables (i.e., position, gender, age and education), cross-cultural training and international work experience were also included as control variables, as prior literature [1,6] suggested that the two variables will affect TKA among employees with international background.

Baron and Kenney (1986) posit four steps to test a mediation. First, independent variables (IVs) significantly affect dependent variables (DVs). Second, mediators significantly affect the DVs. Third, the IVs also significantly affect the mediators. Fourth, when the mediators enter into the regression equation, the relationships between the IVs and the DVs should be significantly weaken (partial mediation) or should become non-significant (full mediation). This study follows the four steps to test the mediation. First step, social media-enabled mentoring has a significant positive effect on TKA ($\beta = 0.23$, $p < 0.01$). Second step, social media-enabled mentoring has significant positive effects on liking and SMM, respectively ($\beta = 0.27$, $p < 0.01$; $\beta = 0.23$, $p < 0.01$). Third step, liking and SMM have significant positive effects on TKA ($\beta = 0.36$, $p < 0.001$; $\beta = 0.27$, $p < 0.01$). Fourth step, when controlling

for liking and SMM, social media-enabled mentoring has no significant effect on TKA (β = 0.08, ns.), while liking and SMM still have significant and positive effects on TKA (β = 0.34, $p < 0.001$; β = 0.26, $p < 0.01$). This indicates that the positive effect of social media-enabled mentoring on TKA is fully mediated by liking and SMM. Moreover, the mediating effect of liking is stronger than that of SMM in the relationship between social media-enabled mentoring and TKA. Thus, H1 and H4 were supported. In total, the mediation model explains about 36% variance of TKA.

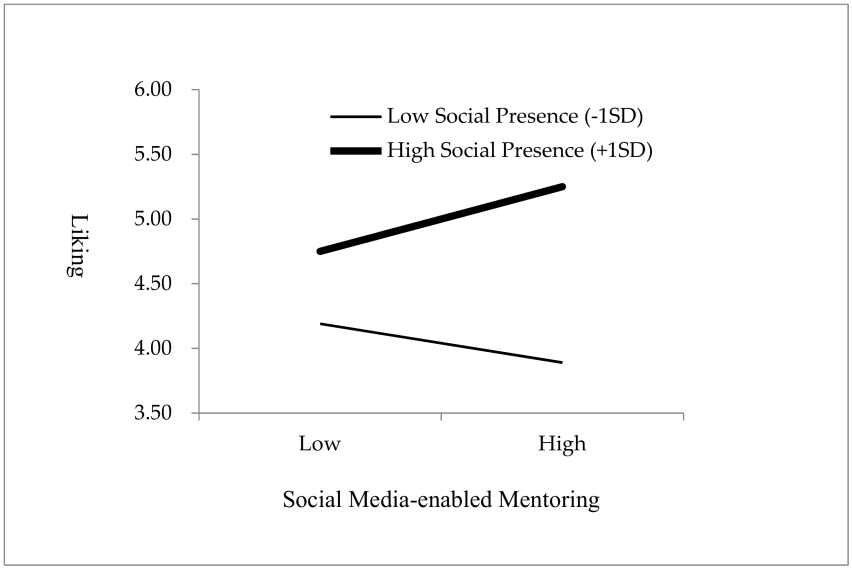
6.3. Moderating Effects of Social Presence and Synchronicity

We use moderated regression analysis in SPSS to test whether social presence moderates the effect of social-media enabled mentoring on liking; and whether synchronicity moderates the effect of social-media enabled mentoring on SMM. Results (see Table 5) show that social presence significantly moderates the effect of social-media enabled mentoring on liking (β = 0.20, $p < 0.01$). In addition, synchronicity significantly moderates the positive effect of social-media enabled mentoring on SMM (β = 0.23, $p < 0.01$). Thus, H2 and H5 were supported. As explorative analyses, we found that synchronicity doesn't moderate the effect of social-media enabled mentoring on liking (β = 0.02, ns.); and social presence doesn't moderate the effect of social-media enabled mentoring on SMM (β = 0.12, ns.). To interpret the interactions, we plotted the interactions (see Figure 2A,B) and examined the simple slopes. The positive relationship between social media-enabled mentoring and liking was significant only when social presence was high (b = 0.16, $p < 0.05$) rather than when it was low (b= −0.09, ns.). The positive relationship between social media-enabled mentoring and SMM was significant when synchronicity was high (b = 0.26, $p < 0.01$) rather than when it was low (b = −0.03, ns.)

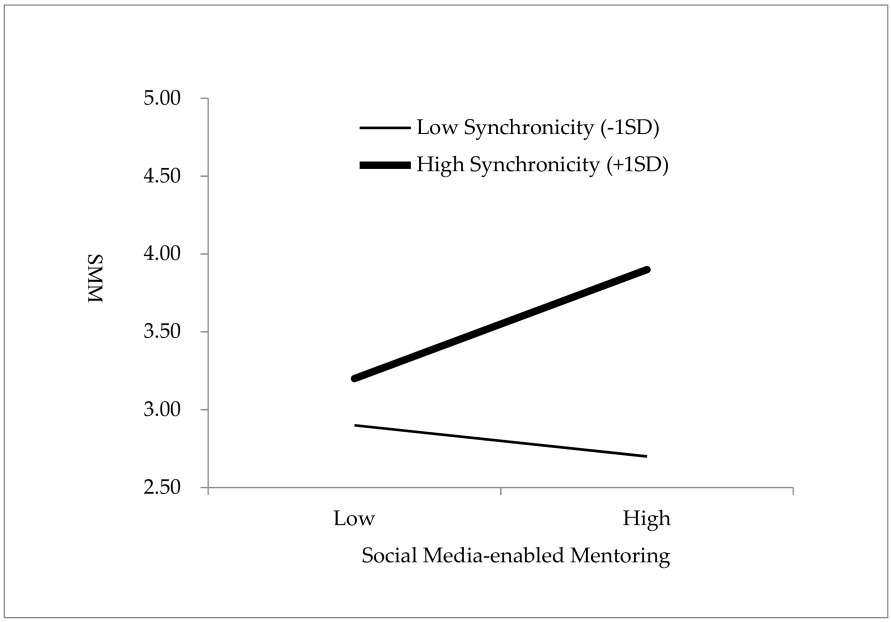
Table 5. Testing the Moderating Effects.

	Liking		**SMM**	
	β	R^2	**β**	R^2
Step 1				
Social media-enabled Mentoring	0.04		0.11	
Social presence	0.48 **	0.28 **		
Synchronicity			0.37 **	0.21 **
Step 2				
Social media-enabled Mentoring * Social presence	0.20 **	0.32 **		
Social media-enabled Mentoring * Synchronicity			0.23 **	0.25 **

Note. * $p < 0.05$; ** $p < 0.01$; n = 156.



(**A**)



(**B**)

Figure 2. (**A**) Interaction Effect of Social Media-enabled Mentoring and Social Presence on Liking. (**B**) Interaction Effect of Social Media-enabled Mentoring and Synchronicity on SMM.

6.4. Moderated Mediation Effects

In this study, the effect of social media-enabled mentoring (X) on SMM (M_1) is moderated by synchronicity (W), and the effect of social media-enabled mentoring (X) on liking (M_2) is moderated by social presence (V). As revealed by the regression Equations (1) and (2):

$$M_1 = i_1 + a_{11}X + (a_{21} + a_{31}X)W + e_{M1} \quad (1)$$

$$M_2 = i_2 + a_{12}X + (a_{22} + a_{32}X)V + e_{M2} \quad (2)$$

$$Y = i_3 + c_1X + b_{11}M_1 + b_{12}M_2 + e_y \quad (3)$$

Subsequently, moderated mediation effects (also called "conditional indirect effects") occur if the indirect effect of X (social media-enabled mentoring) on Y (TKA) through M_1 (SMM) is contingent on the level of W(synchronicity); and if the indirect effect of X on Y through M_2 (liking) is contingent on the level of V (social presence) [59]. X to Y independent of M_1 and M_2 is not specified as moderated. If the indirect effect of X differs as a function of W or V, we can say that the mediation of X's effect on Y by M_1 or M_2 is moderated by W or V—moderated mediation. As revealed by Equations (4) and (5), respectively.

$$\theta x_{\rightarrow M1}\theta_{M1\rightarrow Y} = (a_{11} + a_{31}W)b_{11} \quad (4)$$

$$\theta x_{\rightarrow M2}\theta_{M2\rightarrow Y} = (a_{12} + a_{32}V)b_{12} \quad (5)$$

Hayes' (2013) bootstrapping approach (n boots =1000; 95% Bias corrected confidence interval) was used to test the conditional indirect effects (H3 and H6). Bootstrapping was found to be the most powerful method to detect conditional indirect effects [59] and it has been used by many organizational behavior studies and the studies of social media [60]. A confidence interval must not contain a zero to assume a significant mediation or conditional indirect effect [59]. The bootstrapping analysis (see Table 6) found that social media-enabled mentoring significantly improved TKA through liking only when social presence was high (+1 SD) (B = 0.09, $p < 0.05$) [BC 95% CI; 0.02, 0.19] rather than when social presence was low (−1 SD) (B = −0.05, ns.) [BC 95% CI; −0.13, 0.02]. H3 was supported. As expected, social media-enabled mentoring significantly improved TKA through SMM only when synchronicity was high (+1 SD) (B = 0.12; $p < 0.05$) [BC 95% CI; 0.04, 0.21] rather than when synchronicity was low (−1 SD) (B = −0.01, ns.) [BC 95% CI; −0.08, 0.05]. Thus, H6 was also supported.

Table 6. Testing the Moderated Mediation Effects.

	Social Presence	TKA			
	(moderator)			BC 95% CI	
Liking (mediator)		b	SE	Lower	Upper
	−1 SD	−0.05	0.04	−0.13	0.02
	+1 SD	0.09	0.04	0.02	0.19
c	Synchronicity			TKA	
	(moderator)			BC 95% CI	
SMM (mediator)		b	SE	Lower	Upper
	−1 SD	−0.01	0.03	−0.08	0.05
	+1 SD	0.12	0.04	0.04	0.21

7. Discussion and Implication

7.1. Discussion

In accordance with CALT and MDP, we investigated the effects of social media-enabled mentoring on TKA in a sustainable company, and our results affirm all hypotheses. On the one hand, to fill the gap of prior literature, we have found that liking fully mediates the positive effects of social media-enabled mentoring on TKA in a sustainable company. The effect of the mentoring on liking is contingent on whether a social media creates social presence (i.e., an atmosphere of intimacy). Social media-enabled mentoring increases a mentee's liking of his mentor only on a social media platform creating high intimacy. Furthermore, for social media with high social presence, the effect of social media-enabled mentoring on TKA is mediated by liking. On the other hand, the results are consistent with prior literature, which denotes that cognitive mechanism is revealed in the process of TKA [45]. We also found that SMM fully mediates the positive effects of social media-enabled mentoring on TKA in a sustainable company. The effect of social media-enabled mentoring on SMM is contingent on whether social media allows synchronous communication or not. Social media-enabled mentoring increases

SMM only on a social media platform with high synchronicity. Moreover, for social media affording high synchronicity, the effect of social media-enabled mentoring on TKA is mediated by SMM.

7.2. Theoretical Implications

This research adds to sustainable knowledge management literature in three important ways. First, this study is novel in bridging extant e-mentoring and sustainable TK management literature. Traditional TK management studies [6] identify interpersonal interaction-related factors as major predictors of TKA within a sustainable company. This study proposes that conscious or unconscious training of TK carriers in their interpersonal interaction with TK receivers is more important than the interpersonal interaction per se to improve sustainable TKA. However, extant empirical research on TK management largely ignores the effects of training-related factors. From a training evaluation perspective, this research explored the effects of social media-enabled mentoring on TKA in a sustainable company. E-mentoring literature [38] also shows that few empirical studies examine the effects of e-mentoring, which is clearly different from that of traditional FtF sustainable mentoring. This study is a pioneer in exploring the predictors of TKA from the training evaluation perspective and enlightens more future research to identify other training-related factors or other types of e-mentoring as predictors of TKA in a sustainable organization. The results also contribute to sustainable knowledge management literature.

Second, CALT is initially introduced from education field to TK management field, which demonstrates that CALT can be used to understand sustainable TK management issues. CALT provides a parsimonious and theoretical justification to identify affective and cognitive learning mechanisms as two mediating processes [22], through which social media-enabled mentoring affects TKA. In sustainable TK management literature, most studies agree [7,45] that TKA is a cognitive learning process and argue that various socio-contextual factors increase TKA by improving various cognitive factors. Our study extends this research line by identifying SMM as a new mediator through which e-mentoring improves TKA in a sustainable organization. Furthermore, our study challenges the cognitive-dominant paradigm in sustainable TK management [45] by verifying that affective learning mechanisms also play pivotal roles in improving sustainable TKA. We adopted the theoretical rationale of CALT to find that liking, as an emotional factor, is an important mediator between social media-enabled mentoring and TKA. Our findings enlighten future studies to explore other affective factors as mediators between social media-enabled mentoring and TKA.

Third, this study applies a contingency approach to identify conditions under which social media-enabled mentoring enhances TKA in a sustainable organization. By incorporating MDP into CALT, our research highlights the critical role of ICT capabilities in theorizing the effects of e-mentoring on TKA in the online context within a sustainable organization. Different from previous research [8,10], which highlight that TKA is mainly influenced by socio-behavioral factors rather than ICT artifacts, our study provides a theoretical framework to identify ICT capabilities complementing mentoring in affecting different learning mechanisms of sustainable TKA. When social presence is high, social media-enabled mentoring improves TKA by an affective learning mechanism. When synchronicity is high, the mentoring improves TKA by a cognitive learning mechanism. We confirm moderated mediation relationships for the roles of social presence and synchronicity (moderators) in the effects of social media-enabled mentoring on TKA by liking and SMM (mediators). Our study contributes to the literature by incorporating two ICT artifacts into the theoretical frameworks of TK management for better understanding of online sustainable TK management.

7.3. Practical Implications

Our findings have several practical implications. First, TK management is an effective way to improve sustainable development of a company. The effective mechanism of TKA is very important and is a signal of sustainable company. The evidence suggests that social media-enabled mentoring significantly improves TKA within a sustainable company. While traditional FtF mentoring is possible

to improve TKA [30], it is less likely to be implemented among employees from different units due to their scattered work structures in a sustainable. In the past 20 years, sustainable enterprises use various CMC technologies (i.e., email, chat room, and instant messaging) to foster e-mentoring [38]. Our study suggests that managers should encourage the usage of social media to develop cross-unit e-mentorship and implement social media-enabled mentoring programs as a cost-effective approach to improve TKA so as to improve sustainable development of companies. One advantage of providing mentoring by social media is its public diffusion and familiarity [13]. In people's daily life, social media is widely used to facilitate sustainable social interaction by providing user-generated content. Providing sustainable mentoring through social media may not differ much from its widespread and public uses. Social media-enabled mentoring means social media can be used to deliver mentor-generated contents (e.g., guidance and support of task and psychological issues). Mentors and mentees need not learn new specifics about its design, applicability, and functioning [13].

Second, our study confirms that liking and SMM are important to improve TKA in a sustainable organization. Many managers have already recognized the importance of SMM in facilitating TKA in a sustainable organization [4] and take measures to improve SMMs. However, few studies notice the critical role of liking. Our findings especially call for the introduction of sustainable management practices to improve liking between TK senders and receivers. Extant literature [61] suggest that liking is mainly improved by reciprocity and similarity between senders and receivers. In addition, liking can be improved by CMC capabilities or functions, including physical co-presence, visibility, and identifiability [62].

Third, our findings enhance mentors' awareness on the choice of social media for providing sustainable mentoring and facilitating sustainable TKA in different situations. Social media-enabled mentoring improves TKA through liking only when social presence is high. Thus, if TKA is inhibited due to the lack of liking between mentors and mentees, then the mentoring should be provided by social media with more functions, which creates social presence to help improve interpersonal liking and TKA. Social media-enabled mentoring also improves TKA through SMM only when synchronicity is high. The result suggests that if TKA is inhibited due to the lack of SMM between mentors and mentees, then the sustainable mentoring should be provided through social media with more functions of synchronicity, which will help improve SMM and TKA.

7.4. Limitations and Future Research

First, the data were all self-reported. Although the CFA of competing models shows that common-method bias is unlikely to be a threat to our results, future research should include data from different sources (e.g., dyadic data) to address the research questions. Second, we only identified liking and SMM as two mediators in our research model to capture the affective and cognitive learning mechanisms. Future research can examine whether other cognitive and affective factors mediate the effects of social media-enabled mentoring on TKA in a sustainable company. This information will extend our theoretical framework. Third, this study only incorporated social presence and synchronicity as ICT capabilities when exploring TKA in the online context. Future research should identify new ICT capabilities or artifacts as moderators to extend our research model. The findings should provide more insights into TK management in the online context. Fourth, this study was conducted in China. The research model should be extended and validated in other countries. Finally, the sample size of this study is relatively small, but it exceeds the threshold value of the sample size (100 cases) to test moderated mediation with bootstrapping [63]. Moreover, as in our study, Leal-Rodríguez and colleagues (2015) also analyzed small sample (N = 145 cases) by PROCESS tool to test a moderated mediation model and obtained meaningful results [64]. Our sample size is larger than that of Leal-Rodríguez and colleagues (2015).

Author Contributions: Z.C. completed introduction, literature, method, discussion and wrote the original manuscript. D.V. contributed in idea generation and literature. T.Y. also contributed in idea generation and

literature. J.D. contributed to the revision of the paper. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by National Natural Science Foundation of China, grant numbers 71471017; 71804009; 71974011.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Appendix A.1 Survey Instrument

Social media-enabled mentoring

1. My mentor uses this social media to provide me with work support.
2. My mentor uses this social media to provide me with psychological support.
3. My mentor uses this social media to demonstrate role modeling for me.

SMM

1. My mentor and I have similar sources for problem-solving resources (e.g., technologies, equipment, and tasks).
2. My mentor and I have similar standards about the importance of task-related resources.
3. My mentor and I have similar procedural knowledge about how a task is conducted.
4. My mentor and I have similar understandings on the relationships between tasks.

Liking

1. My mentor is my good friend.
2. I like my mentor very much.
3. I am satisfied with the mentorship between my mentor and me.

Synchronicity

1. By using this social media, my mentor responded to my questions very quickly.
2. By using this social media, I was able to get information from my mentor very rapidly.

Social Presence

1. There is a sense of human contact on this social media platform.
2. There is a sense of personalness on this social media platform.
3. There is human warmth on this social media platform.
4. There is a sense of human sensitivity on this social media platform.

TKA

To what extent have you learned from your mentor in other unit about uncodified (unwritten) knowledge of:

1. Marketing expertise
2. Managerial techniques
3. Technological expertise
4. Product development
5. Manufacturing processes

Appendix B (In Table 3)

Model 1. baseline model
Model 2. combining social media-enabled mentoring and liking into one factor
Model 3. combining social media-enabled mentoring, liking and SMM into one factor
Model 4. combining social media-enabled mentoring, liking, SMM and synchronicity into one factor
Model 5. combining social media-enabled mentoring, liking, SMM, synchronicity and social presence into one factor
Model 6. combining social media-enabled mentoring, liking, SMM, synchronicity, social presence and TKA into one factor

References

1. Fang, Y.L.; Jiang, G.; Makino, S.; Beamish, P. Multinational firm knowledge, use of expatriates and foreign subsidiary performance. *J. Manag. Stud.* **2009**, *47*, 27–54. [CrossRef]
2. Chuang, C.; Jackson, S.; Jiang, Y. Can knowledge-intensive teamwork be managed? Examining the roles of HRM systems, leadership, and tacit knowledge. *J. Manag.* **2016**, *42*, 524–554. [CrossRef]
3. Cugueró-Escofet, N.; Ficapal-Cusí, P.; Torrent-Sellens, J. Sustainable Human Resource Management: How to Create a Knowledge Sharing Behavior through Organizational Justice, Organizational Support, Satisfaction and Commitment. *Sustainability* **2019**, *11*, 5419. [CrossRef]
4. Tortoriello, M.; Reagans, R.; McEvily, B. Bridging the knowledge gap: The influence of strong ties, network cohesion, and network range on the transfer of knowledge between organizational units. *Organ. Sci.* **2012**, *23*, 1024–1039. [CrossRef]
5. Garavelli, C.; Gorgoglione, M.; Scozzi, B. Managing knowledge transfer by knowledge technologies. *Technovation* **2002**, *22*, 269–279. [CrossRef]
6. Van Wijk, R.; Jansen, J.; Lyles, M. Inter- and Intra- Organizational knowledge transfer: A meta-analytic review and assessment of its antecedents and consequences. *J. Manag. Stud.* **2008**, *45*, 830–853. [CrossRef]
7. Inkpen, A.C. Learning through joint ventures: A framework of knowledge acquisition. *J. Manag. Stud.* **2000**, *37*, 1019–1043. [CrossRef]
8. Park, C.; Vertinsky, I.; Lee, C. Korean international joint ventures: How the exchange climate affects tacit knowledge transfer from foreign parents. *Int. Market. Rev.* **2012**, *29*, 151–174. [CrossRef]
9. Lyles, M.A.; Salk, J.E. Knowledge acquisition from foreign parents in international joint ventures: An empirical examination in the Hungarian content. *J. Int. Bus. Stud.* **1996**, *27*, 877–903. [CrossRef]
10. Nakano, D.; Muniz, J., Jr.; Dias Batista, E., Jr. Engaging environments: tacit knowledge sharing on the shop floor. *J. Knowl. Manag.* **2013**, *17*, 290–306. [CrossRef]
11. Alhadlaq, A.; Kharrufa, A.; Olivier, P. Exploring e-mentoring: Co-designing & un-platforming. *Behav. Inf. Technol.* **2019**, *38*, 1122–1142.
12. Ensher, E.A.; Murphy, S.E. E-mentoring: Next-generation research strategies and suggestions. In *The Handbook of Mentoring at Work: Theory, Research, and Practice*; Ragins, B.R., Kram, K.E., Eds.; Sage: Thousand Oaks, CA, USA, 2007; pp. 299–322.
13. Von Krogh, G. How does social software change knowledge management? Toward a strategic research agenda. *J. Strateg. Inf. Syst.* **2012**, *21*, 154–164. [CrossRef]
14. Bowman, N.; Akcaoglu, M. "I see smart people!": Using facebook to supplement cognitive and affective learning in the university mass lecture. *Internet High. Educ.* **2014**, *23*, 1–8. [CrossRef]
15. Chen, R.; Sharma, S. Learning and self-disclosure behavior on social networking sites: The case of Facebook users. *Eur. J. Inf. Syst.* **2015**, *24*, 93–106. [CrossRef]
16. Kirschner, P. Facebook as learning platform: Argumentation superhighway or dead-end street? *Comput. Hum. Behav.* **2015**, *53*, 621–625. [CrossRef]
17. Abbas, J.; Aman, J.; Nurunnabi, M.; Bano, S. The Impact of Social Media on Learning Behavior for Sustainable Education: Evidence of Students from Selected Universities in Pakistan. *Sustainability* **2019**, *11*, 1683. [CrossRef]
18. Hew, K.F. Students' and teachers' use of Facebook. *Comput. Hum. Behav.* **2011**, *27*, 662–676. [CrossRef]

19. Tess, P.A. The role of social media in higher education classes (real and virtual)–A literature review. *Comput. Hum. Behav.* **2013**, *29*, A60–A68. [CrossRef]
20. Leonardi, P.M. Social media, knowledge sharing, and innovation: Toward a theory of communication visibility. *Inf. Syst. Res.* **2014**, *25*, 796–816. [CrossRef]
21. Dennis, A.R.; Fuller, R.M.; Valacich, J.S. Media, tasks and communication processes: A theory of media synchronicity. *MIS Quart.* **2008**, *32*, 575–600. [CrossRef]
22. Kraiger, K.; Ford, K.; Salas, E. Application of cognitive, skill-based, and affective theories of learning outcomes to new methods of training evaluation. *J. Appl. Psychol.* **1993**, *78*, 311–328. [CrossRef]
23. Krathwohl, D.R.; Bloom, B.S.; Masia, B.B. *Taxonomy of Educational Objectives: The Classification of Educational Goals*; Longman: White Plains, NY, USA, 1964.
24. Yoo, Y.J.; Alavi, M. Media and group cohesion: Relative influences on social presence, task participation, and group consensus. *MIS Quart.* **2001**, *25*, 371–390. [CrossRef]
25. Ou, C.X.; Pavlou, P.A.; Davison, R.M. Swift Guanxi in online marketplaces: The role of computer-mediated communication technologies. *MIS Quart.* **2014**, *38*, 209–230. [CrossRef]
26. Derks, D.; Bos, A.E.R.; Von Grumbkow, J. Emoticons and social interaction on the Internet: The important of social context. *Comput. Hum. Behav.* **2007**, *23*, 842–849. [CrossRef]
27. Nonaka, I.; Takeuchi, H. *The Knowledge Creating Company*; Oxford University Press: Oxford, UK, 1995.
28. Ranucci, R.; Souder, D. Facilitating tacit knowledge transfer: Routine compatibility, trustworthiness, and integration in M & As. *J. Knowl. Manag.* **2015**, *19*, 257–276.
29. Zhang, X.; Viswanath, V. A nomological network of knowledge management system use: Antecedents and consequence. *MIS Quart.* **2017**, *41*, 1275–1306. [CrossRef]
30. Cenfetelli, R.T.; Bassellier, G. Interpretation of formative measurement in information systems research. *MIS Quart.* **2009**, *33*, 689–707. [CrossRef]
31. Osatuyi, B. Information sharing on social media sites. *Comput. Hum. Behav.* **2013**, *29*, 2622–2631. [CrossRef]
32. Noe, R.A. Trainees' attitudes and attitudes: Neglected influences on training effectiveness. *Acad. Manag. Rev.* **1986**, *11*, 736–749. [CrossRef]
33. Mazer, J.; Murphy, R.; Simonds, C. I'll see you on "facebook": The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Commun. Educ.* **2007**, *56*, 1–17. [CrossRef]
34. Shephard, K. Higher education for sustainability: Seeking affective learning outcomes. *Int. J. Sustain. High. Educ.* **2008**, *9*, 87–98. [CrossRef]
35. Vermunt, J.D. Metacognitive, cognitive and affective aspects of learning styles and strategies: A phenomenographic analysis. *High. Educ.* **1996**, *31*, 25–50. [CrossRef]
36. Woo, H.R. Exploratory study examining the joint impacts of mentoring and managerial coaching on organizational commitment. *Sustainability* **2017**, *9*, 181. [CrossRef]
37. Lankau, M.J.; Riordan, C.M.; Thomas, C.H. The effects of similarity and liking in formal relationships between mentors and protégés. *J. Vocat. Behav.* **2005**, *67*, 252–265. [CrossRef]
38. Haggard, D.L.; Dougherty, T.W.; Turban, D.B.; Wilbanks, J.E. Who is a mentor? A review of evolving definitions and implications for research. *J. Manag.* **2011**, *37*, 280–304. [CrossRef]
39. Lim, J.S.; Hwang, Y.; Kim, S.; Biocca, F.A. How social media engagement leads to sports channel loyalty: Mediating roles of social presence and channel commitment. *Comput. Hum. Behav.* **2015**, *46*, 158–167. [CrossRef]
40. Naim, M.F.; Bulinska-Stangrecka, H. Down the rabbit hole: Social media, workplace collaboration, millennial psychological need satisfaction and affective commitment in industry 4.0. In *Thriving in Digital Workspaces*; Coetzee, M., Ed.; Springer: Cham, Switzerland, 2019.
41. Lyons, A.; Reysen, S.; Pierce, L. Video lecture format, student technological efficacy, and social presence in online courses. *Comput. Hum. Behav.* **2012**, *28*, 181–186. [CrossRef]
42. Zhang, D.; Lowry, P.; Zhou, L.; Fu, X. The impact of individualism-collectivism, social presence, and group diversity on group decision making under majority influence. *J. Manag. Inf. Syst.* **2007**, *23*, 53–80. [CrossRef]
43. Reeve, J. *Understanding Motivation and Emotion*, 4th ed.; John Wiley & Sons Inc.: New York, NY, USA, 2005.
44. Montoya, R.M.; Horton, R.S. On the Importance of Cognitive Evaluation as a Determinant of Interpersonal Attraction. *J. Pers. Soc. Psychol.* **2004**, *86*, 696–712. [CrossRef]

45. Wu, C.H.; Kao, S.C.; Shih, L.H. Assessing the suitability of process and information technology in supporting tacit knowledge transfer. *Behav. Inf. Technol.* **2010**, *29*, 513–525. [CrossRef]
46. Mohammed, S.; Dumville, B. Team mental models in a team knowledge framework: Expanding theory and measurement across disciplinary boundaries. *J. Organ. Behav.* **2001**, *22*, 89–106. [CrossRef]
47. Klohnen, E.; Luo, S. Interpersonal attraction and personality: What is attractive—self similarity, ideal similarity, complementarity or attachment security? *J. Pers. Soc. Psychol.* **2003**, *85*, 709–722. [CrossRef] [PubMed]
48. Heidig, S.; Muller, J.; Reichelt, M. Emotional design in multimedia learning: Differentiation on relevant design features and their effects on emotions and learning. *Comput. Hum. Behav.* **2015**, *44*, 81–95. [CrossRef]
49. Chiu, C.; Hsu, M.; Wang, E. Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decis. Support Syst.* **2006**, *42*, 1872–1888. [CrossRef]
50. Podsakoff, P.M.; Mackenzie, S.B.; Lee, J.Y.; Podsakoff, N.P. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *J. Appl. Psychol.* **2003**, *88*, 879–903. [CrossRef] [PubMed]
51. Goodman, J.S.; Blum, T.C. Assessing the non-random sampling effects of subject attrition in longitudinal research. *J. Manag.* **1996**, *22*, 627–652. [CrossRef]
52. Ou, C.X.; Davison, R.M. Interactive or interruptive? Instant messaging at work. *Decis. Support Syst.* **2011**, *52*, 61–72. [CrossRef]
53. Jehn, K.A. A multimethod examination of the benefits and detriments of intragroup conflict. *Adm. Sci. Quart.* **1995**, *40*, 256–282. [CrossRef]
54. Xiang, C.; Lu, Y.; Gupta, S. Knowledge sharing in information system development teams: Examining the impact of shared mental model from a social capital theory perspective. *Behav. Inf. Technol.* **2013**, *32*, 1024–1040. [CrossRef]
55. Jöreskog, K.G.; Sörbom, D. *Lisrel 8: Structural Equation Modeling with the SIMPLIS Command Language*; Software International: Chicago, IL, USA, 1993.
56. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. *Multivariate Data Analysis*, 7th ed.; Prentice Hall: Englewood Cliffs, NJ, USA, 2010.
57. Bentler, P.M.; Bonett, D.G. Significance tests and goodness of fit in the analysis of covariance structures. *Psychol. Bull.* **1980**, *88*, 588–606. [CrossRef]
58. Baron, R.M.; Kenny, D.A. The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *J. Pers. Soc. Psychol.* **1986**, *51*, 1173–1182. [CrossRef] [PubMed]
59. Hayes, A.F. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*; Guilford: New York, NY, USA, 2013.
60. Tandoc, E.C.; Ferrucci, P.; Duffy, M. Facebook use, envy, and depression among college students: Is facebooking depressing? *Comput. Hum. Behav.* **2015**, *43*, 139–146. [CrossRef]
61. Malloy, T.E. Interpersonal attraction in dyads and groups: Effects of the hearts of the beholder and the beheld. *Eur. J. Soc. Psychol.* **2018**, *48*, 285–302. [CrossRef] [PubMed]
62. Croes, E.; Antheunis, M.; Schouten, A.; Krahmer, E. Teasing apart the effect of visibility and physical co-presence to examine the effect of CMC on interpersonal attraction. *Comput. Hum. Behav.* **2016**, *55*, 468–476. [CrossRef]
63. Koopman, J.; Howe, M.; Hollenbeck, J.; Sin, H.P. Small sample mediation testing: Misplaced confidence in bootstrapped confidence intervals. *J. Appl. Psychol.* **2015**, *100*, 194–202. [CrossRef]
64. Leal-Rodríguez, A.; Eldridge, S.; Roldán, J.; Leal-Millán, A.; Ortega-Gutiérrez, J. Organizational unlearning, innovation outcomes, and performance: The moderating effect of firm size. *J. Bus. Res.* **2015**, *68*, 803–809. [CrossRef]