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Transactive Memory System, Job Competence and Individual Performance

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Abstract

The purpose of this paper is to understand important variables that impact individual performance within a team. This will enhance knowledge management within a team context and facilitate competence development of individuals. This research proposes and examines a multi-level model which elaborates how transactive memory system and job competence (i.e., technology competence and teamwork competence) affect individual performance. An empirical study was conducted with 19 teams of television news reporters, with 211 valid survey responses. Hierarchical linear modeling was applied to analyze the data. The result indicated that transactive memory system and technology competence helped to improve a reporter's job performance. Furthermore, the relationships were fully mediated by teamwork competence. Our findings thus suggest teamwork competence is the core. Neither technology competence nor transactive memory system will necessarily translate directly into enhanced individual performance. Therefore, for organizational investment on transactive memory system and digital technologies to take effect, management should help develop the employee's teamwork competence.

Key words: transactive memory system, job competence, individual performance

Introduction

With multimedia technology becoming the norm of modern life, performance of many knowledge-intensive jobs is no longer restricted by specific medium and time (Mazmanian et al. 2013; Mazmanian et al. 2006). News production/distribution is no exception (Saltzis and Dickinson 2008). In fact, journalism is one of the professions most impacted by multimedia technology (Kolodzy 2006). It is now a common practice in news organizations to digitalize news materials (e.g., texts, voice tracks and video footages) which are then edited and broadcasted via the use of information systems (Avilés and Carvajal 2008). Professional fluency with technologies, such as Twitter, Facebook, podcasting, Dreamweaver, or other content management systems, increasingly becomes essential for news reporters (Hirst and Treadwell 2011). Also, increasing news organizations are employing different online analytics and metrics (e.g., website traffic or online social referrals) to evaluate individual performance (Powers 2015). Keeping up to change in digital technologies becomes a big part of a news reporter's job. News reporters with technology competence thus are equipped to cope with the changing workplace landscape with increasing ease.

Meanwhile, teamwork is the key to improving knowledge work process (Davenport et al. 1996). Nowadays, news organizations are facing a challenge of constant stream of content (Powers 2014). In order to increase the immediacy and coverage of news, news organizations employ teams as a crucial competitive strategy (Wang et al. 2011). The immediacy of news usually requires reporters to collaborate and solve differences and conflicts swiftly. For example, in covering news about a serious accident, a team of reporters will have to respond quickly—they have to source witnesses for interviews, search footages for extra information, pass on news leads to team members, negotiate and prioritize relevant topics to report, and organize distribution of news. Therefore, teamwork competence (i.e., one's ability to collaborate and solve conflicts quickly) is required for superior task performance of individual news reporters.

Additionally, news reporting involves a high degree of complexity and uncertainties due to unpredictable news events. Knowledge about who knows what is often required (i.e., transactive memory). Transactive memory system(TMS) is team members' knowledge about others' expertise (i.e., location and label) (Lewis 2004; Ren and Argote 2011). For example, a foreign war news reporter would need to know where to locate experienced informants for news sources and language aid. Prior studies have found that group memory is significantly related to group performance (Ren and Argote 2011; Zhang et al. 2007). This is particularly so when dealing with complicated tasks or when the team lacks norms to guide behaviors (Akgün et al. 2005).

However, it is not clear how individuals in a team mobilize or make use of TMS to improve their individual performance (Lewis 2003; Michinov and Michinov 2009). Indeed, not everyone in a team benefits equally from a team's distributed knowledge and expertise. Some people are more successful in mobilizing resources or expertise from others. It is necessary to evaluate individuals in the context of a team, because individuals can contribute differently to a joint task (Stevens and Campion 1994). We aim to extend the application of TMS to explain the distinct individual performance, by using hierarchical linear modeling (HLM). The ecological fallacy may occur when results of team performance are used to make inferences about individual performance (Bliese 2000). Therefore, our findings are particularly important for career or competence development of knowledge workers in the context of a team facing tremendous pressure of time (Chen et al. 2008; Desouza 2003). The present research proposes that individual teamwork competence will mediate the impact of TMS and one's technology competence on individual task performance. Our findings indicate the crucial role an individual's teamwork competence plays for individual performance in the context of a fast-paced team.

Overall, news reporters work in a variety of areas and topics, with a fast pace and multimedia technologies being fused with their daily routines. They hold strong professional expertise and are reliant on collaboration with internal and external experts for current information on their areas. Therefore, they are a suitable test case for demonstration of how digital technologies and transactive memory system relate to knowledge work.

The remainder of the paper is organized as follows. The next section reviews the literature and develops a framework that outlines how TMS, job competence (i.e., technology competence and teamwork competence) and individual task performance relate to each other. The method is described next and the findings follow. The paper ends with a discussion of the results and implications for research and practice.

Theoretical Framework

Competence is the potential that can lead to effective behavior outcomes. For example, a business manager who is competent in information technology (IT) will be able to create a vision of how IT contributes to business value, and develop strategies to leverage IT for business (Bassellier et al. 2001). Numerous definitions of competence can be grouped into three perspectives: competence as a skill (Willis 1990), competence as a personality trait (Hayes 1979; Spencer and Spencer 1993), and competence as knowledge (Bassellier et al. 2001; Sambamurthy and Zmud 1994; Stevens and Campion 1994). The skill-based perspective, too narrow for our purpose, assumes that the fit of a predefined task and specific skill will lead to superior performance. The personality trait approach, too broad for our purpose, defines competence as "generic knowledge, motive, trait, social role, or skill of a person linked to superior performance on the job"(Hayes 1979: 3). The knowledge-based perspective takes a middle ground between the skill-based approach (i.e., skills for a specific job) and the personality trait approach (i.e., meta-competence for a successful career). Competence thus embodies the ability to transfer and apply explicit and tacit knowledge across tasks in a complex and changing environment (Brown 1994; Kanungo and Misra 1992). In this research, we adopt the knowledge-based approach and define competence as the abilities, skills, and tacit know-how that individuals develop over time.

Technology Competence

Digital technologies are widely applied in nowadays organizations. They help organizations to build production-side efficiency and to better sense and respond to customers by facilitating coordination (Margaryan et al. 2011; Setia et al. 2013). Digital technologies may change the structure of activities in organizations (Malone and Crowston 1994). Employees' competence to harness these technologies thus helps generate greater efficiency and quality for completing their task. The production of television news is affected by digitalization more than any other media because of the capacities of digital technologies to quickly and widely transmit information (Tang 2005). News reporters are now required to harness new technologies to efficiently produce content suitable to be published at multiple media (e.g., press, television, internet, mobile phone, etc.) at the same time (Masip et al. 2007; Seelig 2002). For example, social media, such as Facebook or Tweeter, has now become an important media for reporters to access news sources or to disseminate news (Barthel et al. 2015; Powers 2014).

We define technology competence as a news reporter's abilities to appreciate "the capacities, advantages, limitations and impact" (Konar et al. 1986) of the digital technologies and to use them for news content production and publishing (Deuze 2004). It will not be possible to enumerate all possible technologies that a news reporter needs to harness. However, they should include those that allow a news reporter to effectively and efficiently carry out the activities to move products (i.e., news) from news sources to the audience (Day 1994). Ability to appreciate and harness these technologies thus enables a news reporter to deliver an outstanding job. We thus hypothesize:

H1: A news reporter's technology competence is positively associated with his/her task performance.

Teamwork Competence

Teams are the basic unit of work in many organizations (Rousseau et al. 2006). They are composed of at least two interdependent individuals collectively in charge of tasks assigned by the organization (Van der Vegt and Van de Vliert 2002). Effective teams are more than collections of individuals, and teamwork are more than the aggregation of individual efforts (McIntyre and Salas 1995; Willis 1990). However, teams are composed of individuals of diverse interests and expertise. Conflicts thus are inevitable and may include those concerning task (i.e., the content and the goals of the work), process (i.e., how tasks will be accomplished), and interpersonal issues (i.e., the relationship between team members) (Jehn 1997). However, conflicts are not detrimental to a team if they are resolved. Successful resolution of conflicts is found to help refine the decision-making process (Putnam 1993), and strengthen members' perception of team process (Simons and Peterson 2000).

Teamwork competence refers to an individual's social and interpersonal knowledge, skill, and ability (KSA) required for the accomplishment of team tasks (Stevens and Campion 1994). It involves the KSA for cooperation and conflict resolution, such as the abilities to exchange information, resources and social support (Tjosvold 1984), and the abilities to integrate different interests or perspectives (Deutsch 1983; Deutsch 2015). It is salient in a team environment where the ability to maintain healthy working relationship and to react to others with different viewpoints, interests, and ideas can be consequential (Stevens and Campion 1994). For example, relationships with fellow team members have been found to be paramount in temporary film shooting teams where future career success relies heavily on reputation and socialization across projects (Bechky 2006).

A news reporter with teamwork competence is sensitive to common interests between oneself and other members. This helps promote the integration of one's interest with others'. Indeed, one's ability to sense common interests, de-emphasize opposed interests, and cooperate (e.g., through sharing of knowledge and resources), will induce more cooperative behaviors and relationships from others (Deutsch 2015; Liu et al. 2015; Van der Vegt and Van de Vliert 2002), and exercise influence on others by reconstructing their interests, values or beliefs (Chua et al. 2012), leading them to accomplishment of one's assigned tasks. Meanwhile, abilities to resolve conflicts and friction can prevent fighting (Alper et al. 2000) or others competing against one's interest (Spreitzer et al. 1999). One's teamwork competence thus can help develop networks and interpersonal relationships, and create social capital to facilitate individual performance. We thus hypothesize that:

H2: A news reporter's teamwork competence is positively associated with his/her task performance.

Transactive memory system

Wegner (1987 first proposes the concept of transactive memory, which refers to the shared memory between close individuals, such as couples or friends. It has been applied to the study of teamwork and organizational communications (Lewis 2004; Moreland and Myaskovsky 2000). Transactive memory system is "a set of individual memory systems which combines the knowledge possessed by particular members with a shared awareness of who knows what" (Mohammed and Dumville 2001: 94). It provides the "hints" of the unique expertise and specialized knowledge of each member. Individual members thus would be able to identify and locate differentiated knowledge of other members and encourage "complimentary" sharing (Cooke et al. 2000). Knowing the expertise areas of other news reporters serves an important coordinating function. News reporting requires knowing about a variety of potential useful knowledge or expertise sources, both internal and external. Individual reporters' knowledge about boundary individuals (e.g., other reporters or informants) can help locate and bring required expertise to bear on their tasks (Ancona and Caldwell 1992; Faraj and Yan 2009).

In addition, transactive memory system shapes individual behavior, because individual members can rely on transactive memory system to form accurate performance expectations for each other, and thus allocate their capacities more effectively (Mohammed and Dumville 2001). This is particularly important for teams with distinct, specialized roles (Cooke et al. 2000). In such teams, "compatible, but different, knowledge may be what is crucial to task performance" (Cannon-Bowers et al. 1993: 198) Thusly, the current study defines TMS as the sharing of team memory through mutual understanding of each members' expertise, contacts, and information sources. For news reporters, contacts are among the most important resources because most of the time they are the sources of exclusive news. Some news reporters specialize in national defense, some in foreign affairs, and still some in legislation. As an event about a nuclear test breaks out, reporters with closely relevant expertise (e.g., national defense, foreign affairs) are expected to take the initiative to cover the event, while others play a supporting role to produce news relevant to the event, such as a review on how nuclear power spreads across the globe in the past decade. As accurate expectation forms, individual news reporters are more likely to adapt their behaviors accordingly, and make effective use of their resources to produce news. Therefore, we hypothesize:

H3: Transactive memory system positively affects a news reporter's task performance.

The Mediating Effect of Teamwork Competence

We argue that one's competence to appreciate and harness technologies for the production and dissemination of news helps individual news reporters to develop a broader attention with regard to their jobs. It has been widely recognized that the use of an enterprise-wide information systems (e.g., an ERP system) broadens employees' attention to cross-functional areas, induces collaboration, and reduces silo behaviors, facilitating the development of teamwork ability (Liu et al. 2015). Technology competence thus helps prevent a silo mentality, facilitating individual news reporters to develop abilities to engage in collaborative activities and problem-solving with others.

While individuals' application of digital technologies makes news gathering and distribution more easily and swiftly, other team members' passive and negligent participation in the technology-enabled production and distribution of news can be risky. For example, insufficient fact-checking by other team members before disseminating or sharing news can result in public distrust. Indeed, digital technologies provide team members with the opportunities for active participation, such as by creating venues for communal knowledge sharing and creating, by making connections or contents visible to attract and retain users (e.g., news readers and informants) (Majchrzak et al. 2013), or just by lowing

coordination efforts. However, it is through teamwork competence that one can induce active, willing and productive participation on the part of others (Stevens and Campion 1994). We argue that this is because one's teamwork competence makes social interaction or exchange easy and safe (Feller et al. 2008). Hence, one's errors and bias could be easily identified and corrected by other team members, essential for delivering an objective and faithful report. Furthermore, teamwork is found to help uphold higher standard of professionalism (e.g., faithful and objective reporting) because teamwork distributes risk and alleviates the pressure perceived by each individual (Yeh 2011) and exercises control through peer scrutiny and sanction (Chua et al. 2012). We thus hypothesize:

H4: teamwork competence mediates the relationship between technology competence and task performance.

Transactive memory system provides the global knowledge of "who knows what." However, a link is missing to connect the macro-level, collective cognition (TMS) and the micro-level, individual actualization of the intelligence distribution (Ren and Argote 2011; Wegner et al. 1985; Yuan et al. 2005). Teamwork, the interdependent interaction among group members, provides the link that allows the store, retrieval and processing of the complimentary information and memory.

In fact, the macro-level transactive memory system is shaped by the micro-level interaction. That is, through interactions, transactive memory system could "emerge." According to Kozlowski and Klein (2000, "[a] phenomenon is emergent when it originates in the cognition, affect, behaviors, or other characteristics of individuals, is amplified by their interactions, and manifests as a higher level, collective phenomenon" (p. 55). If the interactive relationship persists, the emergent phenomena would form the collective structure that shapes further individual actions and behaviors (Allport 1954; Katz and Kahn 1978). Research shows that team member familiarity helps develop transactive memory, and eventually improve performance through the utilization of transactive memory system (He et al. 2007; Littlepage et al. 1997). Team member familiarity, or the mutual understanding among individual members, is established through teamwork interactions over time and enhances the individual members' awareness of the expertise of each other. In other words, group interaction, or teamwork is instrumental in the mobilization of transactive memory.

The social capital literature has also widely recognized that individuals can mobilize resources within a network of relationships for the pursuit of self-interest (e.g., job referral or promotion) (Coleman 1988; Smith 2008). Bourdieu emphasizes "an unceasing effort of sociability" (1986: 87) for mobilizing and reproducing resources embedded in the relationship. Indeed, it is found that a sociable individual is more likely to create and strengthen interaction with others (Bono and Judge 2004). A reporter with high level of teamwork competence thus is more likely to succeed in mobilizing transactive memory system to improve their individual performance. Consequently, our hypothesis is as follows. Figure 1 demonstrates our research model.

H5: Teamwork competence mediates the relationship between TMS and task performance.

Methodology

Sample

The initial sampling frame consists of 27 news teams from 9 TV companies across Taiwan (three teams from each company). With the permission from the supervisors, the researchers conducted the questionnaires to the news reporters. To ensure there were enough respondents per team, we collected data from teams with at least 5 respondents (including reporters and videographers). The final sample consisted of 19 teams, with an average team size of 11.1 members. Of the 300 surveys distributed, 211 valid responses were collected (with a response rate of 70.3%).

Measurement

We derived most measures from existing scales. Respondents were asked to indicate the extent to which each item comprising constructs of this study was being used on a 5-point Likert scale. Given these measures were translated from English into Mandarin, to avoid semantic ambiguity, we invited bilingual English native speakers to back-translate them from Mandarin to English. We consulted several managers and senior reporters about adapted measures to suit the context of our research. Measures of the constructs are discussed below.

Technology competence. The scale for technology competence was newly developed through a focus group discussion and extensive review of the management and journalism literature (Kawamoto 2003; Rintala and Suolanen 2005). Given the specialized technologies and competence for news production and publication, existent concepts and their operationalizations such as computer literacy

(i.e., the ability to interact with the computer) (Poynton 2005), information literacy (i.e., the ability to use information wisely)(Bruce 1999) or IT competence (Bassellier et al. 2001) are too generic for our purpose. The focus group discussion was facilitated by the first author who had been a TV reporter for over 15 years. Participants of the focus group included three TV news specialists (senior editor/reporter, videographer, and special correspondent) and two human resources specialists with an average industry tenure of over 15 years. They are acquaintances of the first author and are comfortable talking and challenging each other (Krueger 1997). This diversity of focus group members represents experts from domains of journalism and human resource management. The discussion clarified generic digital technologies required by a news reporter for news production and publication in the era of digital journalism. Three items then were developed to capture technology competence of a news reporter: (1) I have photography and editing abilities, (2) I have multimedia conversion ability, and (3) I have the technological ability to handle the immediacy of news production. The Cronbach's Alpha is 0.769.

Teamwork competence. Teamwork competence was adapted from Youndt and Snell (2004. It was captured by four items: (1) I am capable of connecting with news sources, (2) I am willing to cooperate with other teammates, (3) I am skilled at solving conflicts within the team, and (4) I am willing to share knowledge with my teammates. The Cronbach's Alpha is 0.882.

Transactive Memory System. We adapted the scale developed by Lewis (2003) to measure the TMS. Thirteen items captured the three dimensions of specialization (e.g., "Each team member has specialized knowledge of some aspect of news production"), credibility (e.g., "I was comfortable accepting procedural suggestions from other team members"), and coordination (e.g., "Our team worked together in a well-coordinated fashion"). The Cronbach's Alpha is 0.903.

Task performance. Task performance was captured by five measures, reflecting daily tasks of news reporters: (1) I actively plan for news stories, (2) My news reports are prompt and accurate, (3) My news reports are fair and objective, (4) My supervisors acknowledge the quality of my exclusive news reports, and (5) Overall, I am capable of handling difficulties and accomplishing news reporting task. The reliability test of Cronbach's Alpha is 0.841.

This research used the self-respond questions for the journalist. There might have Common Method Variance (CMV) problem. Before doing the survey, this research carefully explained the purpose of the survey and used the anonymous respond to reduce the bias. Furthermore, some reversed questions are designed to decrease the CMV problem. After collected the data, This research used Harman's one factor analysis to detect CMV(Podsakoff and Organ 1986). There are three extraction components eigenvalue over 1 and the sum of squared loadings are 26.591%, 19.688%, and 17.959%. The first component sum of squared loading lower than the criteria of 30% (Sabherwal and Becerra-Fernandez 2003).Therefore, we believe there is no CMV problem in this research.

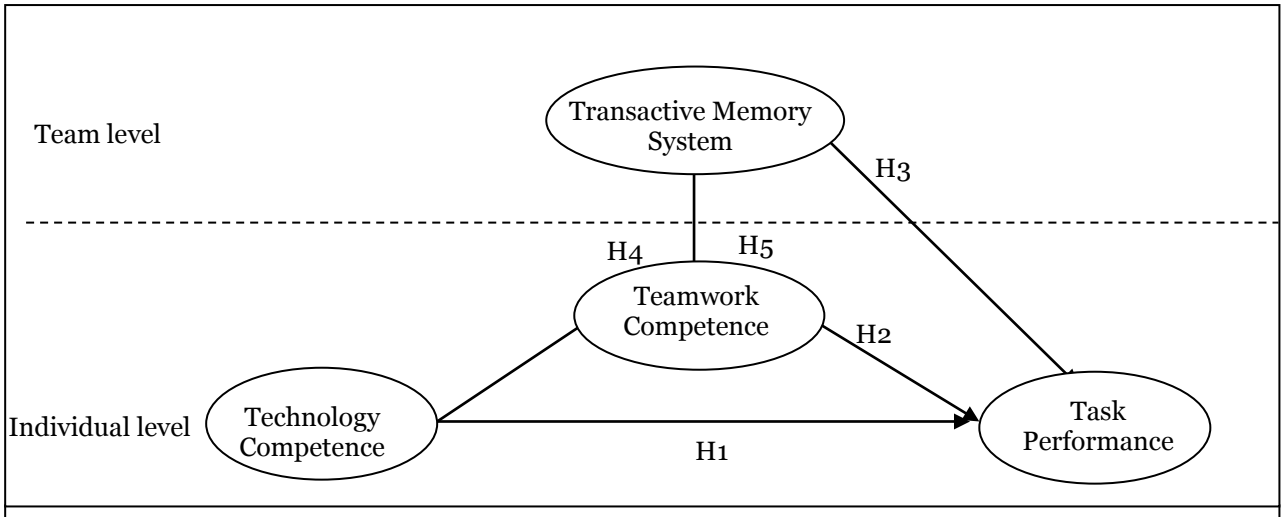

Figure 1. Research Framework

Findings

HLM null model

Hierarchical linear modeling (HLM) allows for the iterative investigation of multiple levels of relationship with individual-level dependent variables (Hofmann et al. 2000). A level 1 analysis estimates parameters (the intercept and slope estimates) depicting the relationship between independent and dependent variables at the individual level. These parameters then become the dependent variables for the level 2 analysis that estimates the influence of group level variables (e.g., TMS).

Before testing hypotheses using the HLM, several conditions must be established through investigating a series of models. The first condition is to investigate whether individual task performance is associated with individual-level (i.e., technology competence, teamwork competence) and group-level variables (i.e., TMS). This condition is tested by estimating the "null model," which partitions the variance in task performance into within and between-group components. Our results show that the variance component ($\tau 00$) is 0.111 and the level 1 residual (σ) is 0.473. The ICC (1) of 0.333 means 33.3% of variance is explained by the different group effect, suggesting the level 2 (between-group) variance is significantly different from zero. Cohen (1988 argues that the HLM method is more suitable than the GLM method when the ICC (1) is higher than 0.059. Bliese (2000 suggests that ICC (1) higher than 0.138 demonstrates high between-group variation. ICC(2), measuring reliable mean scores, is 0.899. Our data thus are suitable for analysis using HLM. Table 1 contains descriptive statistics of all constructs. At the individual level, we predict significant relationships among three constructs: technology competence, teamwork competence, and task performance (H1, H2, H3). The correlations among these variables indicate that the data are consistent with these hypotheses.

Table 1. Descriptive Statistics

	Mean	SD	1	2	3	4
1. Technology Competence	4.13	0.80	1			
2. Teamwork Competence	4.22	0.69	.695**	1		
3. TMS	4.03	0.63	.390**	.528**	1	
4. Task Performance	3.90	0.70	.431**	.503**	.538**	1

Note: * $p<0.05$; ** $p<0.01$

Centering option

Hierarchical linear modeling provides two centering options: grand-mean and group-mean centering (Aiken and West 1991; Bryk and Raudenbush 1992). Although both forms of centering establish a meaningful zero point, they are interpreted differently. Appropriate choice of centering depends on the model. Grand-mean centering indicates that the intercept represents individual performance of a person with an average level of the predictor. It provides better estimates and interpretation for most models; group-mean centering indicates that the intercept represents individual performance of a person within his/her group's average level of the predictor. Group-mean centering is suitable for estimating and interpreting cross-level moderation effects (Enders and Tofighi 2007). For this study, we thus adopt the grand-mean centering.

Direct effects

Hypothesis 1 and 2 postulates the direct effects of technology competence and teamwork competence on television news reporters' task performance. In Model 1, technology competence (Tech) showed a significant positive effect on task performance (TP)(M1 $\gamma 20=0.394$, $p<0.01$). In Model 2, the teamwork competence showed a similar result, with the teamwork competence having a significant positive effect on news reporters' task performance (M2 $\gamma 10=0.535$, $p<0.01$). Hypothesis 3 postulates a group-level effect of the TMS on the individual-level task performance. By using the intercept as the outcome model, Model 3 examined the cross-level effect of the TMS on the individual task performance. The result shows that the TMS has a significant positive effect on task performance (M3$\gamma 01=0.585$, $p<0.01$).

Indirect effects

We conducted HLM to examine the mediating effect of the teamwork competence on the relationship between the technology competence, the TMS and the task performance. According to Baron and

Kenny (1986, three conditions should be met: (1) a significant relationship between the independent variable (technology competence and the TMS) and the dependent variable (task performance), (2) a significant relationship between the mediator (teamwork competence) and the dependent variable (task performance), and (3) the relationship between the independent variable and the dependent variable decreasing (partial mediation) or becoming nonsignificant (full mediation) when the mediator is added. In Hypothesis 4 and 5, we predict that teamwork competence mediates the relationships between technology competence, TMS and task performance. Model 4 and Model 5 present the results. The results are consistent with our prediction. Compared with Model 1 and Model 3, both the effects of technology competence (M4, γ10= 0.120, p>0.05) and TMS (M5, γ01= 0.291, p>0.05) on task performance decline significantly when teamwork competence is added. This suggests teamwork competence fully mediates the relationship between technology competence and task performance as well as between TMS and task performance. Overall, our findings show that significant positive effects of technology competence (H1) and TMS (H3) are fully mediated by teamwork competence, supporting Hypothesis 4 and Hypothesis 5.

Table 2. Results of Direct and Indirect Effects on Individual Task Performance

	Model 1	Model 2	Model 3	Model 4	Model 5
	Tech=>TP	Team=>TP	TMS=>TP	Tech=>Team=>TP	TMS=>Team=>TP
Intercept(γ00)	3.891***	3.889***	3.886***	3.886***	3.885***
Tech (γ10)	0.394***			0.120	
Team (γ10) (γ20)		0.535***		0.447***	0.516***
TMS (γ01)			0.585***		0.291
LV1-R	0.373	0.328	0.467	0.300	0.329
Deviance	407.782	387.127	444.180	377.647	384.629

Note: * p<0.05; ** p<0.01; *** p<0.001

Implications and conclusions

The result shows the following positive direct and indirect relationships: (1) from technology competence to task performance; (2) from teamwork competence to task performance; (3) from TM to task performance; (4) from technology competence to task performance via teamwork competence; and (5) from TMS to task performance via teamwork competence. Overall, a big picture that emerges from our research is that neither the technology competence nor TMS will necessarily translate directly into enhanced individual task performance. Rather, a news reporter must first have the teamwork competence to transform the technology competence and TMS into enhanced individual performance. The explicit examination of the direct and indirect effects is important because of a refined understanding of the mechanism (teamwork competence in this study) that mediates impacts of technology competence and TMS on individual performance. Therefore, management should not expect one's technology competence and TMS to directly impact individual task performance. For organizational investment on TMS and digital technologies to take effect, management should help develop the employee's teamwork competence.

Our second contribution is corroborating that TMS improves individual performance. Past studies suggest TMS allows a team, with limited human resources, to gather and store knowledge and information, and thus improve team performance (Ellis 2006; Liang et al. 1995). The present study further suggests that TMS could improve individual performance. This result echoes the call by Lewis (2004 for study to examine the impact of TMS on team performance as well as individual performance.

In addition, this research discovers that teamwork competence fully mediates the impact of TMS on individual performance. Individuals with high teamwork competence tend to be cooperative, trusting and trustworthy, and show concern for others. They are, therefore, more likely to develop strong ties with others and occupy a central place in a social network. People occupy a central network position or have strong ties with others are more likely to have more resources easily available for them (Krackhardt 1992). This study confirms that one's ability to strengthen interaction with others (i.e., teamwork competence) is key to individual performance. Similar results have been found in information systems projects (Chua et al. 2012; Liu et al. 2015). Practically, our research suggests that management should pay more attention to news reporters' teamwork competence, including their abilities to collaborate with others and manage conflicts. Management policies, such as conflict management training, reward for collaborative behaviors, or recruitment of reporters who are more inclined to collaborate, will help more fully develop and make use of human resources.

Finally, we discover that teamwork competence also mediates the relationship between technology competence and individual performance. New technologies, not surprisingly, offer news reporters with easy access to information and means for news dissemination with accompanying risks. For

example, news reporters may appear in an online chatroom, sometimes deliberately misrepresenting themselves, to obtain information and disseminate it without due consideration of its accuracy or privacy implications (Whitehouse 2010). With teamwork competence, reporters are more likely to entice others, without deception, to provide truthful information that they would not otherwise reveal. This study thus suggests one's teamwork competence leads to better individual performance in a digitalized workplace because it can help reduce unnecessary demarcation and retain professional integrity.

This paper suffers from several limitations. Common method variance (CMV) might have inflated or deflated the magnitude of relationship between variables because our data was collected from a single source. Nonetheless, the threat of CMV is minimized by aggregating individual responses to form a team level score. In this research, scores of TMS is created by aggregating individual reporters' responses within the same teams. Also, we conducted the Harman's single factor test on all of the items. No single factor emerged, nor did one factor account for most of the variance. The result thus shows that CMV is not a potential issue in our study.

Similar to most empirical studies, this study examines a "snapshot image" of individual task performance. The establishment of a true causal relationship requires experiments where manipulation is applied to rule out rival explanations or longitudinal data collection where the cause is sampled before the effect. Therefore, all the statistical relationships are only tentatively concluded. Future research that collects data at different time and from different sources is needed to enhance internal validity of our proposed model.

Finally, our findings arise from the news industry in Taiwan and may not be generalized to those in distinct organizations with different cultures. Further research is required to see if our findings are generalizable to other contexts.

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