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Cheng-Hui Wang  
*University of Hsuan Chuang*

Chia-Dai Yen  
*National Central University*

Yee-Ling Chuah  
*University of Hsuan Chuang*

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# The Intellectual Capital and Journalists' Performance

**Cheng-Hui, Wang,**

Assistant Professor, Department of Mass Communication, University of Hsuan Chuang,  
No.48, Hsuan Chuang Road, Haiang San District Tsinchu City 300, Taiwan(R.O.C.),  
[winnie1244@hotmail.com](mailto:winnie1244@hotmail.com)

**Chia-Dai Yen**

PhD candidate, Graduate Institute of Human Resource Management, National Central University,  
No.300, Zhongda Rd., Zhongli City, Taoyuan County 320, Taiwan (R.O.C.),  
[hamrater@msn.com](mailto:hamrater@msn.com)

**Yee-Ling, Chuah,**

Graduate student, Graduate Institute of Mass Communication, University of Hsuan Chuang,  
No.48, Hsuan Chuang Road, Haiang San District Tsinchu City 300, Taiwan(R.O.C.),  
[feeling\\_pig@hotmail.com](mailto:feeling_pig@hotmail.com)

## Abstract

*In the age of knowledge-based economy, intellectual capital (IC) is of growing and substantial importance more so than the tangible assets such as land and financial capital. IC includes human capital, organizational capital and social capital. IC has become a driving force for an organization to stay competitive. Journalists are vital human capital in a news organization. They are the knowledge workers who need both independence (autonomy) and interdependence (teamwork) in order to accumulate and share knowledge. In addition to playing the role as “gate-keepers” in the information delivery process, part of a journalist’s job is to develop relationships with news sources from outside of the organization. Therefore, journalists are also the social capital in their organization. A news organization loses both human and social capital whenever a journalist resigns or job-hops. The purpose of this research is to examine relationships between IC and journalists’ performance in the media. We argue that journalists embody both human and social capitals which are mediated by job autonomy which journalists need in order to achieve high individual job performance. We also argue that organizational capital is mediated by team-level task interdependence which also leads to better individual job performance.*

*Keywords: Intellectual capital, Job autonomy, Task interdependent, Job performance, HLM*

## 1.Introduction

Since the 21st century, knowledge management has become the crucial capital and resource for an organization. The intangible assets, such as IC (human capital), has become a phenomenon in this knowledge era. As a result, researchers have developed important concepts of IC to provide managers with tools to differentiate knowledge elements within an organization. Ulrich (1998) predicts that IC will become the most valuable asset in the organization where knowledge works grow rapidly.

Bratianu (2007) divides IC into human capital, structural capital, and relationship capital with operational framework of human capital being further categorized into knowledge, intelligence, and values. Values are defined by the culture within a society. According to Braianu, human capital is additionally revealed through the structural capital and relationships capital. This is the reason to why he holds the view that calculating intellectual capital is possible by calculation of human capital.

Cortini and Beneven (2010) define IC as all intangible assets and resources in an organization, including its processes, innovation capacity, employees' patents and tacit knowledge, as well as networks of collaboration and contacts of employees. Drucker (2002) suggests that the most important task of an enterprise is to develop the talents of its workers. Researchers of the capital approach emphasized the accounting value, while researchers of intellectual management approach viewed IC as the checklist of an organization's ability to expand processes and activities in creating wealth (Chase, 1997). In addition, in a human resource management perspective, Liebowitz and Wright (1999) consider IC to belong in the category of human resource.

Furthermore, there are researchers who propose the concept of psychological capital. They argue that employees must possess positive psychological capital (include confidence, hope, optimistic attitude, flexibility) to have good performance (Luthans et al., 2004). If we examine the psychological capital from Bratianu (2007)'s point of view, it visibly overlaps the human capital. Therefore, we believe the team context factors are the key point to clarifying intellectual capital, not just merely adding new types of intellectual. According to the self-determination theory, there are three basic human psychological needs, namely autonomy, competence, and relatedness (Gagne and Deci, 2005). In terms of motivation, self-determination theory separates motivation into autonomous motivation and controlled motivation. When people are autonomously motivated to engage in a task, they enjoy it enthusiastically. In contrast, people feel a sense of pressure if they are controlled or forced to engage. In the case autonomous motivation, the more autonomous a person feels, the more transfer of extrinsic motivation into intrinsic motivation. Among these needs, the autonomy is the most important part of a journalist's professionalism to maintain the objectivity of reporting (Singer, 2007). Moreover, the relatedness is also important to teamwork context. Therefore, we suggest that autonomy and task interdependence are key factors in mediating IC to performance.

According to the theory of social interdependence, the interdependent relationship within a team enhances a member's sense of responsibility towards other members. It also strengthens the kind of ought motivation that enable members to adopt cooperating behavior and to satisfy their peers' needs (Matsui, Kakuyama and Onglatco, 1987). It is critical to build up trust and connections in order to transform tacit knowledge into explicit to be shared within the organization. We propose that the research problem should focus on identifying which context factors can transform IC to employee's performance, especially among knowledge workers.

Journalists are knowledge workers who own special skills and individual autonomy. Their occupational commitment is often higher than organizational commitment (Horwitz, Chan and Quazi, 2003). As a result, journalists tend to switch to other media companies. The concept of intellectual capital is controversial in the measurement of its intangible attributes. The aim of this research is to examine different types of capitals that can be mediated by different context factors to help news corporations better foster these capitals. This in turn will help elevate journalists' job performance as well as job satisfaction.

## 2. Definition and Theoretical Framework

The etymology of the word “intellect” derives from Latin roots *inter* and *lego*; *inter* means “between” and *lego* means “to choose.” When combined together, “intellect” means “choosing in between.” In other words, people with intelligence possess ability to comprehend and to make correct judgments. The word “capital” derives from Latin root *capitalis*, meaning head; it refers to how wealth was measured; i.e. heads of pigs, goats, sheep, or other farm animals. From the metalectic perspective, the coupling of the word “intellectual” with “capital” implies that “the more choices available, the more chances to explore, the greater the wealth to gain” (Chaharbaghi and Cripps, 2006).

Youndt and Snell (2004) classifies IC into three major types, i.e., human capital, organizational capital, and social capital. Human capital refers to knowledge, skills and experiences owned by the individual employee. In terms of human capital; employees with more capability possess higher ability to upgrade their performance (Upton, 1995). Organizational capital refers to the infrastructure, routine, patent, handbook, and culture that are embedded in the work processes and systems. Dixon (1992) points out that organizational capital is effective in decreasing the cost by systemizing experience and knowledge (organizational capital), setting business process and information systems, simplifying information filtration process to avoid mistakes, and also by repeating or modifying the process in order to adapt to new situations (Youndt and Snell, 2004). Social capital refers to knowledge resources and relationships that are embedded in both internal and external networks. These relationships are interactive in nature, including the sharing of knowledge or information among employees, or between employees and customers, and suppliers or strategic partners. Establishing social relationships involves interactions among the individual, environment, and task. They aid in innovation process, problem solving, planning, increase of productivity, and also service efficiency. Social relationships even help journalists dig up worthy news. The achievement of individual journalist depends on cooperation within the organization, teams, and social networks (Chen et al., 1997).

Following proceeding researches, we assume the higher human capital and social capital, the better performance of journalists. News media will lose both human and social capital due to employee turnover unless the news organization knows how to improve organizational capital that includes team processes and information systems. Therefore we hypothesize that:

*H1a: The relationship of human capital and journalist’s performance is positively related.*

*H1b: The relationship of social capital and journalist’s performance is positively related.*

*H1c: The relationship of organizational capital and journalist’s performance is positively related.*

Self-determination theory (SDT) is the first theoretical framework to integrate both intrinsic and extrinsic motivation. SDT distinguishes motivation into two types, i.e., autonomous motivation and controlled motivation (Gagne and Deci, 2005). Self-determination theorists believe there are three needs basic to a human being: autonomy, competence, and relatedness. If these needs are met, people will transfer extrinsic motivation into intrinsic motivation. Morgeson, et al., (2005) suggest that strengthening the autonomy of employees not only enhances the sense of ownership of problems, but also enables employees in improving their knowledge and skills on the job. Therefore, we propose that higher autonomy will lead to better individual performance. Furthermore, job autonomy mediates the relationship between human capital and individual performance. The hypotheses are as following:

*H2a: The relationship of job autonomy and journalist’s performance is positively related.*

*H2b: Job autonomy mediates the relationship between human capital and journalist’s performance.*

*H2c : Job autonomy mediates the relationship between social capital and journalist’s performance.*

Human capital and social capital are owned by employees; the organization can borrow them but are not allowed to own them. (Storberg-Walker, 2004). According to the social interdependent theory, individuals in a team feel more responsible to others in the same team (Matsui, Kakuyama and Onglatco, 1987). Johnson and Johnson (1989) listed the benefits of task interdependence which include stimulating

learning, achievement, cognition, and social relationships. Task interdependence enhances cooperative behaviors (Cleavenger, Gardner and Mhatre, 2007). The interdependence and participation among employees are correlated positively with job satisfaction (Kiggundu, 1983). Team performance and job satisfaction are positively related (Campion, Papper and Medsker, 1996). There are also studies that support the positive relationship between interdependence and team efficiency (Langfred, 2005).

In a journalist's job context, teamwork may involve cooperation or conflict, if under extreme time pressure. High task interdependency which promotes a sense of responsibility and tolerance of others can improve a journalist's job performance (Wang, Yen and Huang, 2011). Therefore, this research hypothesizes that:

*H3a: The relationship of task interdependence and journalist's performance is positively related.*

*H3b: Task interdependence mediates the relationship between organizational capital and journalists' performance.*

### 3. Methodology and Framework

According the literature review, we develop the research model as below:

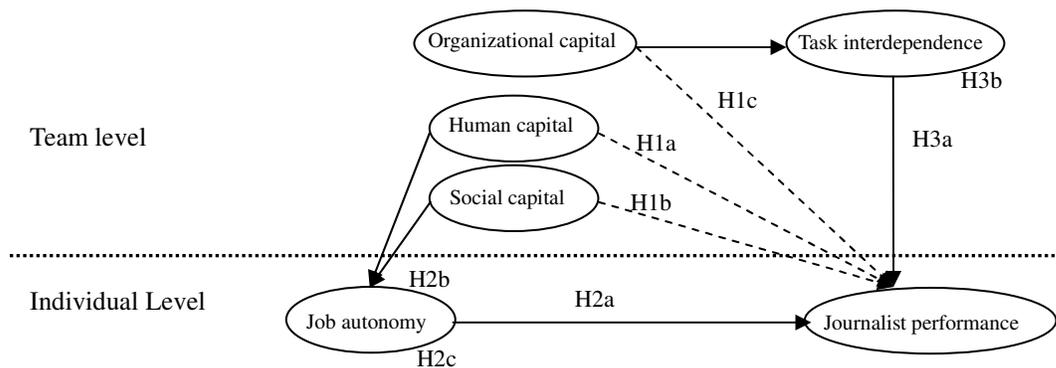


Figure 1. Research framework (the dashed line consist direct and indirect relations)

#### 3.1 Samples

This study sent out 600 questionnaires to 9 media companies throughout Taiwan targeting three journalist reporting groups/teams: financial, political, and criminal. There are 492 valid questionnaires out of 44 teams; the valid rate is 82%.

#### 3.2 Questionnaire

This research adopted the survey method in the investigation process. Items in the questionnaire include IC, job autonomy, team task interdependence (3 independent variables) and job performance of journalists (1 dependent variable). The variable measurement items are adapted from previous researches that developed those measurements. To avoid semantic ambiguity, we invited English native speakers with bilingual ability to create back-translation from Mandarin to English. After that, we revised these items with managers and senior journalists to better fit the job context.

### 4. Results and Research Implications

This research used HLM (hierarchical linear model) to examine the cross level relationship among three factors of intellectual capital and journalists' performance. HLM is a useful analysis method to calculate the effects of group variance (Bryk and Raudenbush, 1992). Table 1 shows the results of direct effects of cross level analysis on journalists' performance. To avoid the confounding effect of each factor, we posted separately the three factors of intellectual capital. Moreover, gender and tenure were entered as

individual level control variables. Since gender is a dummy variable (0 and 1) and tenure is a constant variable, we set back the team average tenure to balance the between group variance.

The first model showed that organizational capital has a significant positive relationship on performance ( $OC\gamma_{02}=0.209$ ,  $p<0.01$ ). Level one variance is 30.2%. The result supports hypothesis H1c. Model 2 and 3 presents the effects of human capital and social capital on journalists' performance after control gender and tenure. The result displays a high significant effect from human capital and social capital ( $HC\gamma_{02} = 0.211$ ,  $p<0.05$ ;  $SC\gamma_{02} = 0.249$ ,  $p<0.01$ ). The result corresponds to H1a and H1b that human capital and social capital positive relate to journalist's performance. Finally, model 4 and 5 exams the direct effect of team level task interdependence and individual job autonomy on journalists' performance. The significant effect also support H2a and H3a ( $TI\gamma_{02} = 0.493$ ,  $p<0.001$ ;  $JA\gamma_{30} = 0.456$ ,  $p<0.001$ ).

A mediation effects analysis was conducted to examine the effects of task interdependence and job autonomy in the relationship between intellectual capital and journalists' performance in Table 2. Based on the notion of Baron and Kenny (1986), mediation effects should be hold in four conditions. First, after controlling the effect of gender and tenure, we used HLM to examine the relationship of intellectual capital to journalists' performance (IV to DV). Second, this research tested the relationship between task interdependence and job autonomy journalists' performance (MV to DV) in model 4 and model 5. Finally, we controlled the influence of team level task performance between organizational capital and task performance in model 6. In the first step of the analysis, there was a positively significant relationship between organizational capital and journalists' task performance ( $OC\gamma_{02} = .209$ ,  $p<0.01$ ). While controlling task interdependence, the effects of organizational capital to journalists' performance in model 6 become non-significant ( $OC\gamma_{02} = 0.048$ ,  $p>0.05$ ). It meant that there was a full mediation effect on the relationship of organizational capital and journalists' performance which corresponds to the inference of H3b.

The mediation effect of job autonomy was also used in the same steps. In model 7 and model 8, we found the full mediation effects of job autonomy between human capital and social capital to journalists' performance ( $HC\gamma_{02} = 0.211$ ,  $p<0.05 \Rightarrow HC\gamma_{02} = 0.029$ ,  $p>0.05$ ;  $SC\gamma_{02} = 0.249$ ,  $p<0.01 \Rightarrow HC\gamma_{02} = 0.011$ ,  $p>0.05$ ).

model	Model 1 OC->P	Model 2 HC->P	Model 3 SC->P	Model 4 TI->P	Model 5 JA->P
<b>Dependent variable: Journalist performance</b>					
intercept $\gamma_{00}$ ( $\tau_{00}$ )	3.719***	3.787***	3.690***	3.864***	2.482***
<b>Individual level</b>					
Gender $\gamma_{10}$ ( $\tau_{20}$ )	-0.168**	-0.177***	-0.167**	-0.153**	0.270***
Tenure $\gamma_{20}$ ( $\tau_{20}$ )	0.012*	0.012*	0.012*	0.011*	0.008
Autonomy $\gamma_{30}$ ( $\tau_{30}$ )					<b>0.456***</b>
<b>Team level</b>					
Average tenure $\gamma_{01}$ ( $\tau_{20}$ )	0.015	0.008	0.018	-0.001	-0.015
Organizational capital $\gamma_{02}$ ( $\tau_{20}$ )	<b>0.209**</b>				
Human capital $\gamma_{02}$ ( $\tau_{20}$ )		<b>0.211*</b>			
Social capital $\gamma_{02}$ ( $\gamma_{20}$ )			<b>0.249**</b>		
Interdependence $\gamma_{02}$ ( $\gamma_{20}$ )				<b>0.493***</b>	
Autonomy $\gamma_{02}$ ( $\gamma_{20}$ )					0.270***
Level 1 variance	0.302	0.304	0.303	0.301	0.243
Deviance	848.844	848.467	848.599	831.750	763.229

Note: 1. HC=>Human capital; P=>Journalist performance; OC=>Organizational capital; SC=>Social capital; TI=>Task interdependence; JA=>Job autonomy.

2. \* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

Table 1. Direct effects of cross level analysis

model	Model 6 OC=>TI=>P	Model 7 HC=>JA=>P	Model 8 SC=>JA=>P
<b>Dependent variable: Journalist performance</b>			
intercept $\gamma_{00}$ ( $\tau_{00}$ )	3.852*** (0.000)	2.538*** (0.003)	2.499*** (0.003)
<b>Individual level</b>			
Gender $\gamma_{10}$ ( $\tau_{20}$ )	-0.152** (0.004)	-0.158** (0.023)	-0.158** (0.023)
Tenure $\gamma_{20}$ ( $\tau_{20}$ )	0.011* (0.000)	0.008 (0.000)	0.008 (0.000)
Autonomy		<b>0.271***</b> (0.021)	0.271*** (0.021)
<b>Team level</b>			
Average tenure $\gamma_{01}$ ( $\tau_{20}$ )	-0.000		-0.015
Organizational capital $\gamma_{02}$ ( $\tau_{20}$ )	0.048		
Human capital $\gamma_{02}$ ( $\tau_{20}$ )		0.029	
Social capital $\gamma_{02}$ ( $\gamma_{20}$ )			<b>0.011</b>
Interdependence	<b>0.464***</b>		
Autonomy		0.438***	0.450***
Level 1 variance	0.301	0.244	0.244
Deviance	832.73	768.25	767.99

Note: 1. HC=>Human capital; P=>Journalist performance; OC=>Organizational capital; SC=>Social capital; ID=>Interdependence; AU=>Autonomy.  
2. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

Table 2. Mediation effects of cross level analysis

#### 4.1 Results

Based on the analysis on collected data, all our hypotheses were fully supported. Important conclusions are as of the following:

1. IC is positively correlated to individual performance of journalists.
2. Job autonomy mediates the relationship between human capital, social capital and individual performance of journalists.
3. Team task interdependence mediates the relationship between organizational capital and individual performance of journalists.

#### 4.2 Implications

Bratianu (2007) suggested that IC is an integrated system capable of synergy but only under the condition of interdependence. Integration will never happen if the work system is linear. Nevertheless, journalists or their teams rely much on job autonomy, and this lack of interdependence will cause difficulty in the integration process. This research demonstrates that task interdependence mediates the relationship between IC and individual performance which supports the view of Bratianu (2007) that IC should take the integration approach when discussing coordination and interdependence between human capital, social capital, and organization capital. The management should not overemphasize one while neglecting the other. Meanwhile, media companies can improve job satisfaction by enhancing job autonomy and team task interdependence. The accumulation of human capital and social capital empower journalists. As a result, journalists will be more than happy to share their knowledge thus transforming these assets into organizational capital.

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