

Analysis of the Impact of Mobile Office Technology on Organizational Collaboration

Namjae Cho* · Joongsik Yoon** · Songmyung Park***

Abstract

The rapid deployment of smart mobile equipments such as mobile phones and mobile note pads is considered a driving force to change several aspects of today's work life in organizations. Among all, this paper focuses on organizational collaboration as collaboration is a key aspect of organizational performance and success and is considered to be affected by digitally mediated communication.

A questionnaire survey was performed to analyze the impact of the use of modern mobile office technology on productivity increase under the context of organizational collaboration. Some specific functions of mobile office technology were found to significantly affect the productivity. In addition, different requirements for desired collaboration were found to be associated with the use of different functions of mobile office technology and different situational use of the technology. Organizational and technical implications of the findings are discussed.

Keywords : Mobile Office System, Mobile Technology, Smart Technology, Organizational Collaboration

Received : 2014. 07. 08. Final Acceptance : 2015. 03. 25.

*Corresponding Author, School of Business, Hanyang University, e-mail : njcho@hanyang.ac.kr

** Daishin Securities, e-mail : jsyoon@daishin.com

*** School of Business, Hanyang University, e-mail : kayla04@hanyang.ac.kr

1. Introduction

Today the use mobile technology has become an intrinsic part of our everyday life. Specifically 'smart' mobile equipments provide us with high-speed internet connectivity and amazingly diverse application functionalities for entertainment and information search. In the case of Korea, the use of smart phones reached 80% of total population. The use of such technology changes from the way how people decide which restaurant to go, which roadway to take to get to the picnic destination, which movie to watch to the determination of a job and how to meet a friend.

Despite the widespread use of modern-day smart mobile technologies, the effect or effective use of such mobile technology on organizational activities still receive limited scientific attention for scrutiny.

Recent introduction of so called Mobile Office System (MOS) based on smart equipment is being rapidly deployed among leading private and public companies. Underlying the diffusion of MOS technology lies the hope and expectation that the use of this technology furnish new opportunities to improve productivity of organizational activities. Case studies show examples of cost reduction, efficient use of time and resources, improved work performance, enhanced customer services, and effective coordination and communication. For example, Cho [2012] presented the case of innovative operational improvements by way of using smart mobile office system at Seoul Metropolitan Railway Transit (SMRT), the public company which operates half

of the metro systems of Seoul.

However, the effect of MOS technology on organizational performance is still anecdotal. In addition, the use of mobility technology is considered to have not only positive effects but such negative side effects as intrusion into the realm of private life [Hislop, 2008]. In a survey on the effect of MOS use on WLB (Work-Life Balance), Cho and Lee [2013] found out that current use of mobile technology has no effect on WLB and has limited effects on the improvements in the quality of life of employees. For the clarification in our understandings on the role of this technology and for the future improvements of the technology, a more systematic investigation on the effect of the mobile office technology is called for.

Among all business activities this research focuses on the collaboration among organizational members. Organizational collaboration is considered the key to personal and organizational performance. In addition, we consider that the use of mobile office technology has a pressing potential to improve productivity by way of supporting organizational collaboration. A couple of research models on the relationships among collaboration, productivity, and the use of mobile office technology are suggested and tested through questionnaire survey.

2. Mobility and Organizational Collaboration

2.1 Mobile Office Systems

Mobile Office System is an enterprise information technology which uses portable ter-

minals to access corporate information systems to manage data and human resources in remote locations [Gebauer and Shaw, 2004].

The scope of today's Mobile Office System usage includes real-time task processing using groupware, corporate bulletin board, task schedule manager, ERP, SCM, CRM, and Intranets.

The introduction of Mobile Office System is considered to enable activity-centric and user-centric task processing as corporate data can be used anytime anywhere to improve productivity through improved communication and collaboration among employees [Basole, 2007]. The effect of the use of Mobile Office System is considered to include fast decision making, reduction of operating costs, improved speed of service, improved organizational task efficiency, improved productivity, and increased level of customer service [Cho, 2012]. The use of mobile office is expanding from logistics, retail, service, and insurance industries into such sectors as education, healthcare and public services.

Mobile office technology includes a set of component technologies such as mobile equipments, mobile solutions, and related network infrastructure. The adoption of mobile office system should be considered in conjunction with unique business context of each company. Mobile office system functions can be divided into two groups : functions related to corporate communication and groupware which are independent of specific type of task and specialized functions to process a specific functional task which runs inter-operated with corporate legacy information systems [Cho, 2012].

2.2 Mobility and Collaboration

Collaboration is a phenomenon which crosses different unit of organizational structure. Collaboration among members within a company stands for organizational collaboration, while collaboration among suppliers, partners, or customers becomes an issue of inter-organizational collaboration. Inter-organizational collaboration requires fine-tunes coordination among companies belong to ever increasing complexity of supplier-supplier-buyer-buyer network [Cho, 2011]. The focus of this research is organizational collaboration at the level of task-performing individuals and teams.

For collaboration within an organization activities is supposed to be aligned together, which require seamless flow and exchange of information. For this reason, the use of information technology has been considered as one influential support to collaboration.

Computer-supported collaborative work (CSCW) has been a traditional key area of research in the field of MIS research. A dearth of research focused on the effect of networked applications such as group support systems on the emergence of new work practices. For example, Lipnack and Stamp [1997] presents how the new network technology forms virtual teams and opens up a new paradigm of collaboration in practice.

On the other hand, however, in a conference on CSCW, Luff and Heath [1998] pointed out that the fixed-line network has limited support to work collaboration because much of the collaboration requirement depends on the context

of activities which workers encounter while moving around to interact with other members, customers, or patients. They called for a more extensive examination of mobility in practice to extend the technological capability to provide meaningful support of collaboration.

However, even after the introduction of advanced mobile technology, the incorporation of mobility into collaboration context is still found to be problematic. Büscher et al. [2003], after performing in-depth study on the collaboration among architectural designers, point out that the support of mobility is important for collaboration but the mobile technology is not yet to incorporate the fact that the meaning of information in practice is rather emergent than fixed.

More recently, work environment normally signified as 'space' by system engineers and designer is critically reviewed in sociology. Schroer [2006] explains that the concept of space is more objective designation of a location, while place is a socially defined space. The emphasis on space is influenced by rationalistic modernism and absolutism of Newtonian paradigm. Place has a socially defined function such as a place for working, eating, drinking, resting, and chatting. Anthropologist Mark Augé [2008] suggests that the definition of place in modern society has become more fluid so that many 'non-places' are formed where people move around without shared goal or definition of the place.

Based on new sociological perspectives on space and place such as John Urry [2000], Brewer and Dourish [2008] find that a more relativistic and cultural interpretation of space

and place can provide a rich soil for the future growth of technological support for collaboration. They suggest that the provision of cultural context information of a space via mobile technology will create new definitions of a space and can incur different behavior of the users.

Following the relativistic and socio-cultural perspective of space and place, we will have opportunity to draw richer interpretation and implication of the role of mobile technology for collaboration. The use of mobile technology by workers transforms a space into a place. A coffee house turns into a working place when a mobile office technology is given and used. Such instantaneous creation of work places, if properly designed and managed, can support more sophisticated dimensions of collaboration which lied outside of the boundary of technological support. More careful scrutiny will be necessary to understand the multi-facet implication of this developments and diffusion of mobile office technology.

3. Research Model and Method

In pursuing a research on the relationship between the use of mobile technology and the level of coordination, we intend to go through two intendedly separate stages. One the one side we want to examining if the use of mobile technology really increase the work performance, more specifically collaboration performance. On the other side we want to examine if the need for more collaboration incurs increased use of mobility technology. Although these two problems are centered around the use of mobile

technology, rather than combining them together, we want to separate them and test them in a confirmatively manner. So we will go through the two stages as explained below.

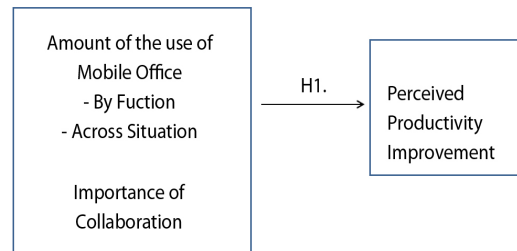
3.1 Stage 1

This research aims to analyze the effect of mobile office technology on the improvements in work productivity in the context of collaboration. In pursuing collaboration workers have to overcome both social and spatial barriers. Spatial difficulties arise when workers try to perform a task in the place where proper work environment is not provided. Social difficulties arise when access to collaboration counterpart is restricted due to operational and organizational reasons. The use of mobile technology provides improved access to workflow, information, and contacts by providing virtually any-time any-where access. For this reason we expect that the use of mobile office technology has the potential to help overcome spatial and social difficulties employees face in pursuing cooperation and collaboration.

The level of collaboration has become one influential determinant of work productivity. However actual implementation of collaboration is based on the proper recognition of the importance of collaboration in their work. When employees perceive the importance of collaboration, they will exert effort to improve collaboration and thus the productivity.

In the first stage research model we included the amount of the use of mobile office system and perceived importance of collaboration as

independent variables and the perceived amount of productivity improvement as the dependent variable <Figure 1>.



<Figure 1> Research Model 1

H1 : The use of mobile office technology and perceived importance of collaboration are positively related to the increase in work productivity.

The amount of the use of mobile technology is measured from two perspectives : the use of different function of mobile office system and the use of mobile office technology in different situations [Cho, 2012; Cho and Lee, 2013]. We employed self-evaluation of the amount of the use of 6 typical functions of mobile office systems which are considered to facilitate organizational collaboration. These 6 functions include : 1. reporting, 2. search and retrieval of task-related information, 3. application for approval or making approval, 4. management of task schedule, 5. task-related e-mail, and 6. messenger function. The 6-point represents 1 being less than 3 times of use in a day and 5 being over 8 times of ues in a day.

Based on Cho [2012], we divided the situated use of mobile office technology into four : 1) the use of MOS within the office, 2) the use of

MOS in a workplace within the company but out of the office such as in production field, construction yard, or another building, 3) the use of MOS outside of the company as in business travel or in customer sites, and 4) the use of MOS out of the working time such as after-work, during the leave or off-duty, or during the weekends. The perceived importance of collaboration in the work was measured using a single-item direct probing.

The dependent variable of model 1 is perceived improvements in productivity after the use of mobile office system. The level of perceived improvements in productivity was measured using 6 item 5-point Likert-type questions. Due to the difficulties in actual measurement in productivity increase we used the perceptual measure as a surrogate. The difficulties come partly from the differences in the time of adoption of mobile office system across organizations and partly from the lack of objective measure of some important productivity dimensions such as task control and responsiveness. The six items in productivity increase instrument after the use of mobile office includes the improvements in 1) decision making speed, 2) task completion speed, 3) sense of task control, 4) responsiveness to urgent situation, 5) personal performance, and 6) inter-personal communication. These items were chosen based on a series of interviews and reviews with actual users of mobile office and industry experts.

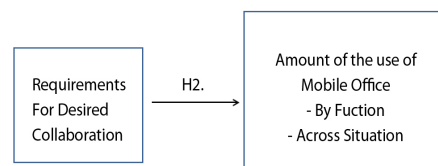
3.2 Stage 2

Mobile office systems include diverse func-

tions and the technologies are used in different situations as explained in Stage 1 research method. Then, when a function is more extensively used than others? Why the use of mobile office system in one situation is more extensive than others? Or is certain function or certain use in situ is consistently more closely related to the accomplishment of organizational collaboration?

To provide answers to these questions we explored whether there are diverse requirements to be fulfilled for the accomplishment of desired organizational collaboration. We expected that the use of a certain function or a certain type of situational use might better fulfill certain aspect of collaboration condition. Through interviews with industry experts and repeated revision we extracted 9 requirements expected to be fulfilled for a desirable organizational collaboration.

Based on this exploration and research question, in the second stage we modeled such that the required conditions for collaboration are used as the independent variable and the amount of mobile office use as the dependent variable <Figure 2>.



<Figure 2> Research Model 2

H2 : Requirements for a desirable collaboration are positively related to different uses of mobile office technology.

The instrument to measure requirements for a desired collaboration, as developed following the procedure described above, included 9 dimensions of requirements. These dimensions are : 1) provision of direct communication channel with other members, 2) provision of communication channel out of work time, 3) provision of direct communication channel with the supervisor or decision maker, 4) provision of tools for collaborative operation, 5) report history management, 6) support of task processing in remote site and out of office hour, 7) rapid transmission of problems and issues, 8) management of task progress, and 9) sharing of overall company news.

3.3 Data Collection and Respondent Demographics

Data was collected from users of mobile office technology. Association of information technology managers served as a channel to identify appropriate channel and users. Total of 142 usable responses were collected. 67.6 percents of the respondents were male and 32.4 percent were female. 51.4 percent of the respondents were in their 30s and 32.4 percent were in their 40s making respondents in the age of 30s and 40s comprised over 80 percent of the sample.

99.3 percents of the respondents had college or post graduate degrees. 65.5 percent of the respondents were middle managers and 16.9 percent were high level managers. 37.3 percent of the respondents worked for business planning or back office, 24.6 percent worked for sales function, and 27.5 percent worked for IT. A summary of the demographic characteristics of the respondents is presented in <Table 1>.

<Table 1> Demographic Characteristics of the Respondents

		Frequency	Percent
Gender	Male	96	67.6
	Female	46	32.4
Age	Under 29	18	12.7
	30~39	50	35.2
	40~49	23	16.2
	40~49	33	23.2
	above 50	5	3.5
Education	diploma	1	0.7
	finished bachelor	102	71.8
	graduate	39	27.5
Position	employee	25	17.6
	assistant manager	49	34.5
	manager	44	31.0
	senior manager	20	14.1
	executive	4	2.8
Duty	management and planning	53	37.3
	business sales	35	24.6
	production	2	1.4
	R&D	10	7.0
	IT	39	27.5
	ect	3	2.1

Although the amount of use is self evaluation rather than perception, we included the measure in the analysis of reliability. As can be seen from <Table 2>, the reliability of the use of mobile office system by function is somewhat low. Considering the nature of different functional use the reliability is not a surprise. The other constructs showed high level of reliability. According to a factor analysis the 9 items found to be allocated into a single factor with reliability level of 0.721. The 6 items of productivity improvement also produced single factor with lowest factor loading of 0.675 and showed reliability level of 0.876.

<Table 2> Construct Reliability

Constructs	Number of items	Cronbach Alpha
MOS function use	6	0.574
MOS use in situ	4	0.788
Collab. Requirements	9	0.721
Productivity Improvement	6	0.876

4. Research Result

4.1 Test of Model 1

<Table 3> shows the results of overall regression analysis to test model 1, where the use of mobile office system and the level of perceived importance of collaboration are hypothesized to positively related to the increase in productivity. The result shows that all the three independent variable are significantly associated with the productivity improvements. So H1 is accepted as we expected.

<Table 3> Overall Regression Analysis for Model 1

Indep. Variables	B	t	Sig.
MOS function use	.180	2.642	.009
MOS use in situ	.279	2.698	.008
Importance of collab.	.285	2.478	.014

Dependent Variable : Productivity improvement.
Model R square : 0.307, model sig. : 0.000.

As an extension of the probing, we performed a regression by employing the use of each of the 6 mobile office functions as independent variables. The intention is to find out if the use of a certain technical function is more closely associated with the improvements in productivity. As can be seen from <Table 4> the use of reporting function and the use of task-related e-mail were the two significant variables

which drove the increase in productivity.

Alternative interpretations of the result are possible. One interpretation is that these two functions are really the most import ones for organizational collaboration. However, the result can be interpreted as the representation of current transient situation. That is, other functions are not used for collaboration purpose extensive because the use of these other functions is not socially well accepted yet. This interpretation implies the organizational social limits. The specific functionalities may need more time to be adopted into organizational practice. Still another interpretation can highlight the technical limits. Except for the two widely adopted functions, the designs of the other functions are not yet fully matured to be meaningfully supportive to organizational collaboration. If we take this interpretation, we can say that as the technical designs of these functions are improved, they will contribute to the improvements in productivity in the near future. In this stance, more research on the sophistication of design to fulfill organizational collaboration needs is called for.

<Table 4> Regression Analysis by **Functional Use**

Indep. Variables	b	t	Sig.
Reporting	.201	2.570	.011
Info. Retrieval	-.138	-1.530	.128
Approval	.062	.605	.546
Schedule Management	.098	1.093	.276
Task e-mail	.467	4.038	.000
Messenger	-.050	-.574	.567

Dependent Variable : Productivity improvement.
Model R square : 0.303, model sig. : 0.000.

In a similar vein, we performed a regression in which the uses of mobile office technology

in different situations are used as independent variables. According to the result shown in <Table 5> only the use of mobile office out of office hours is significantly associated with the improvements in productivity. The result shows that mobile office technology helps to overcome temporal limitations and spatial limitations. The result is slightly surprising as conventional wisdom of mobility is more tightly coupled with spatial freedom. However, if we consider the view that the ‘place’ for work is socially defined and the social definition is closely related the timing of work, the result is understandable. Improved mobility relaxes location dependence while maintains work relationship beyond temporal boundary. The result can be a mixed blessing from the perspective of work–life balance [Cho and Lee, 2013].

<Table 5> Regression Analysis by **Situational Use**

Indep. Variables	b	t	Sig.
Within office	-.018	-.174	.862
Within company	.102	1.084	.280
Outside of company	.161	1.231	.220
Out of work time	.353	2.951	.004

Dependent Variable : Productivity improvement.
 Model R square : 0.274, model sig. : 0.000.

In Model 2 we attempted to analyze if the specifics of requirement for high collaboration were associated with the use of certain functions or certain type of situational use. Remind that the requirements represent :

- 1) communication with other members,
- 2) communication out of work time,
- 3) communication with the supervisor or decision maker,

- 4) provision of tools for collaborative operation,
- 5) report history management,
- 6) task processing in remote site and out of office hour,
- 7) rapid transmission of problems and issues,
- 8) management of task progress, and
- 9) sharing of overall company news.

Using the 9 requirements as independent variables we performed 10 regressions against the use of each of the 6 mobile office functions and each of the 4 situational uses. Some notable results are shown in <Table 6> through <Table 10>.

According to <Table 6>, the use of approval function is associated with the requirements for communication out of work time (2), collaborative operation (4), remote task processing (6), and sharing of company news (9).

<Table 6> Regression Analysis for Model 2 on the **Use of Approval Function**

Indep. Variables	b	t	Sig.
Requirement 1	.112	.175	.189
Requirement 2	.225	1.322	.024
Requirement 3	.091	2.291	.295
Requirement 4	.272	1.052	.016
Requirement 5	-.143	2.433	.166
Requirement 6	.368	-1.394	.000
Requirement 7	-.120	-1.241	.227
Requirement 8	-.072	-.775	.440
Requirement 9	-.266	-3.283	.001

Model R square : 0.365, model sig. : 0.000.

<Table 7> reveals that the use of schedule management function is associated with the requirements for communication out of work time (2), communication out of work time (3), and collaborative operation (4).

<Table 7> Regression Analysis for Model 2 on the **Use of Schedule Management Function**

Indep. Variables	b	t	Sig.
Requirement 1	.010	.109	.914
Requirement 2	.261	2.420	.017
Requirement 3	.321	3.360	.001
Requirement 4	-.354	-2.873	.005
Requirement 5	-.063	-.558	.578
Requirement 6	-.030	-.268	.789
Requirement 7	-.027	-.249	.804
Requirement 8	-.009	-.092	.927
Requirement 9	.093	1.046	.298

Model R square : 0.233, model sig. : 0.000.

According to <Table 8>, the use of task-related e-mail function is associated with the requirements for communication out of work time (2) and remote task processing (6). It also shows that significance of three other requirements falls within the range of 0.1.

<Table 8> Regression Analysis for Model 2 on the **Use of Task-Related e-mail Function**

Indep. Variables	b	t	Sig.
Requirement 1	.001	.015	.988
Requirement 2	.284	2.777	.006
Requirement 3	.156	1.723	.087
Requirement 4	.168	1.441	.152
Requirement 5	-.192	-1.789	.076
Requirement 6	.284	2.681	.008
Requirement 7	-.188	-1.820	.071
Requirement 8	-.075	-.773	.441
Requirement 9	-.094	-1.119	.265

Model R square : 0.210, model sig. : 0.000.

According to <Table 9>, the situational use of mobile office technology outside of the company is associated with the requirements for communication out of work time (3) and report history management (5).

<Table 9> Regression Analysis for Model 2 on **MOS use Outside of Company**

Indep. Variables	b	T	Sig.
Requirement 1	-.005	-.052	.959
Requirement 2	.111	1.091	.277
Requirement 3	.351	3.878	.000
Requirement 4	-.167	-1.429	.155
Requirement 5	-.371	-2.958	.004
Requirement 6	.143	1.352	.179
Requirement 7	.002	.017	.987
Requirement 8	.076	.780	.437
Requirement 9	-.107	-1.269	.207

Model R square : 0.312, model sig. : 0.000.

<Table 10> shows that the use of mobile office technology out of work time is associated with the requirements for communication out of work time (3) and report history management (5).

<Table 10> Regression Analysis for Model 2 on **MOS Use Out of Work Time**

Indep. Variables	b	t	Sig.
Requirement 1	.047	.493	.623
Requirement 2	.119	1.081	.282
Requirement 3	.298	3.050	.003
Requirement 4	.017	.135	.893
Requirement 5	-.307	-2.656	.009
Requirement 6	.109	.954	.342
Requirement 7	-.101	-.909	.365
Requirement 8	.064	.605	.546
Requirement 9	.002	.018	.986

Model R square : 0.198, model sig. : 0.000.

5. Discussion

This research focused on the relationship between collaboration among employees in organizations and the use of mobile office technology. We attempted to analyze two aspects of the use of mobile office technology. First, we examined the impact of the use of mobile office

on the improvements in work productivity. We found that the use of mobile office technology is significantly associated with productivity improvements. However, in a detailed analysis we found that only the use of reporting function and task-related e-mail function is significantly related to the increase of productivity. And the use of mobile office technology out of work time was the only situational use significantly related to the increase in the productivity.

The reason is interpreted in three ways. The result may represent the nature of the use of technology for organizational collaboration or just reveal the current social and technical limitations. If social limitations related to the adoption of the use of mobile technology into current business practice is the reason we need to prepare the management of social transition. If technical limitation related to the design of the functionality is the issue, we need to improve the design of current mobile office technology. To understand the exact logic of the reasoning a future research is called for to identify the deeper reason of the lack of association between the use of the other functions and the productivity increase.

In addition, several of the requirements for desired organizational collaboration were found to significantly related to the use of different functions and situational uses. The result implies that different functions and situational uses contribute different aspects of the collaboration requirements. This result can be further appreciated and be used for the design of future mobile office technology as well as organizational appropriation of commercial mobile office pro-

ducts. Different functions and uses will transform the meaning of workplace differently as they change the context of working, definition of place and space, as well as the temporal implication of the working life.

References

- [1] Augé, Marc, *Non-Places : in Introduction to Supermodernity*, Verso, 2008 (English edition), (first French edition in 1998).
- [2] Basole, R., "Strategic Planning for Enterprise Mobility", AMCIS 2007 Proceedings.
- [3] Brewer, J. and Dourish, P., "Storied spaces : Cultural accounts o mobility, technology, and environmental knowing", *International Journal of Human-Computer Studies*, Vol. 66, 2008, pp. 963-976.
- [4] Büscher, M., Kramp, G., and Krough, P. G., "In formation : Support for flexibility, mobility, collaboration, and coherence", *Ubiquitous Computing*, Vol. 7, 2003, pp. 136-246.
- [5] Cho, N., "Understanding Supply Network Coordination", from I. Mahdavi, S. Mohebbi and N. Cho (eds) *Electronic Supply Network Coordination in Dynamic and Complex Environment*, IGI Global, 2011.
- [6] Cho, N., *The Use of Smart Mobile Equipment for Innovations in Organizational Coordination*, Springer Velag, 2012.
- [7] Cho, N. and Lee, H., "A Study on the Effect of the Use of Mobile Office Systems on Work-Life Balance", *Journal of IT Applications and Management*, Vol. 20, No. 1, 2013, pp. 43-51.
- [8] Gebauer, J. and Shaw, M., "Usage and Im-

- pect of Mobile Business Application—An Assessment Based on the Concepts of Task/Technology Fit”, Proceedings of the Tenth Americas Conference on Information systems, New York, August, 2004.
- [9] Hislop, Donald, *Mobility and Technology in the Workplace*, Routledge, 2008.
- [10] Lipnack, J. and Jeffrey Stamps, *Virtual Teams : Reaching Across Space, Time, and Organizations with Technology*, Wiley, 1997.
- [11] Luff, P. and Heath, C., “Mobility in Collaboration”, CSCW98 Proceedings, ACM 1998.
- [12] Schroer, Markus, *Space, Place, and Boundary : Toward the Establishment of Sociology of Space (Räume, Orte, Grenzen)* Suhrkamp Verlag, 2006 (originally in Germany, Korean translation in 2010).
- [13] Urry, J., *Sociology Beyond Societies : Mobilities for the Twenty-first Century*, Routledge, London, 2000.

■ Author Profile



Namjae Cho

Received BE in Industrial Engineering from Seoul National University, ME in Management Science from KAIST, and Ph.D in MIS from Boston University.

Current MIS professor at Hanyang University, Business School. Major areas of interest include IT Planning, Digital Industry strategy and policy, Digital Convergence strategy, Strategic Technology Road Mapping, Mobile Office Effect and Mobility, Technology Strategy, Design Thinking and Creativity Management.



Songmyung Park

Received bachelor's degree in MIS from Sangji University. Currently a graduate student of Hanyang University. Areas of interest includes mobile of-

fice, e-business, social network, and electronic commerce.



Joongsik Yoon

Worked over 15 years as a consultant at Arthur Andersen, Delloitte Consulting, IBM Global on BPR, IT strategy and governance, CRM strategy.

Currently works for Daishin Security in charge of business innovation and culture and communication management. Received BE in Industrial Engineering from Jeonju University and MBA degree from Hanyang University.