

프로젝트 조직특성, 관계특성, 경영환경특성 그리고 프로젝트 성과에 대한 지식공유 효과에 관한 연구 - 한국 건설기업 중심으로 -

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요약

오늘날과 같은 지식기반 산업에 있어서 지식은 기업의 경쟁력을 좌우하는 중요한 요인이라고 할 수 있다. 특히, 한국의 국내 건설 기업은 국내, 외 환경 변화의 불안정 요인에 많은 어려움을 겪고 있다. 이러한 문제를 해결하기 위한 방법 중 하나로 지식이전 및 공유를 활용한다. 본 연구의 목적은 지식공유의 효과를 확인하기 위해 구조방정식모형을 사용하여 내부요인 및 프로젝트 결과를 확인하였다. 본 연구는 건설 기업의 지식공유가 프로젝트 조직특성, 관계특성, 경영환경특성 요인이 건설 기업의 프로젝트 성과에 미치는 영향을 인과관계(SEM)를 통해 조사하였다. 연구 결과 건설기업의 지식 공유가 프로젝트 조직특성, 관계특성, 경영환경 특성에 긍정적인 영향을 미치는 것으로 밝혀졌다. 그리고 관계특성 및 경영환경 특성은 프로젝트 결과에 긍정적인 영향을 미치는 것으로 확인하였다.

A Study of the Knowledge Sharing Effects on the Project Organization Characteristic, Relational Characteristic, Management Environment Characteristic, and Project Outcome - Focus on the Korean Construction Firms -

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ABSTRACT

Today's society is knowledge society based on knowledge that influences competitiveness of a company. In particular, domestic construction companies of Korea are having many difficulties with unstable factors at home and abroad. They use knowledge transfer, sharing as one of the methods to solve these problems. The purpose of this study is to find out the effect of knowledge sharing and use on internal factors and project outcomes using structural equation model. This study is to investigate, through causal relationship (SEM), how the Knowledge of Construction firms affect the Project organization characteristic, Relational characteristic, Management environment characteristic, Project out come of the Korean construction firms. The findings are that the knowledge sharing of construction firms appears to have a positive effect on the Project organization characteristic, Relational characteristic, Management environment characteristic. Relational characteristic and Management environment characteristic have a positive effect on the Project outcome.

Key Words : Knowledge Sharing, Project Organization Characteristic, Management Environment Characteristic, Project Outcome, Structural Equation Model, Knowledge Sharing Effect.

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I. Introduction

Global economy today is experiencing rapid environmental changes. Accordingly, companies must continuously acquire new knowledge to cope with dynamic and complex management environment, and use it properly according to their situations. Knowledge is an important factor that affects competitiveness of a company in knowledge-based industries of today.

Knowledge-based resources become the source of sustainable distinction and competitive advantage of a company.

The most important reason why knowledge sharing is receiving attention by scholars and entrepreneurs in relation to changes in corporate management environment is because competition between companies is laying the importance on knowledge.

The recent knowledge-based firm theory is creating, transferring, gathering, combining, and using the essence of company, or knowledge, and the theory considers knowledge as the key competitive asset and the most strategically important resource of a company.

Many studies about knowledge management have been focusing on conforming and investigating methods of knowledge creation and accumulation, transfer and sharing, and use and learning, which can contribute to maximization of organizational.

This is because acquiring and learning new knowledge can greatly contribute to increase in business performance of a company.

Knowledge sharing is receiving attention by scholars and entrepreneurs in relation to changes in

corporate management environment.

Because competition between companies is laying the importance on knowledge, and many precedent studies about international management considered company as an aggregation of knowledge.

Among studies about knowledge learning, knowledge transfer and sharing, and knowledge creation, many studies focus on knowledge transfer and sharing that aim for strengthening of the key competitive asset through delivery and spread of knowledge asset.

Thus, this study intends to find out how knowledge sharing and use by domestic construction companies are affecting project organizational characteristic, relational characteristic, management environment characteristics, and project outcome.

II. Theoretical Background

2.1 Knowledge

Definitions of knowledge are as numerous and diverse as the number of scholars who defined it. It is because scholars view and define knowledge in personal perspective and position, and on the other hand, it is difficult to make a clear statement about knowledge[1].

A dictionary definition of knowledge is the workings of mind on objects, contents and things that are known, and achievement gained through perception. Rationalists and empiricists define knowledge as "justified true belief" and they not only perceive knowledge as belief of an individual, but objectively defined belief that can be recognized

as true[2].

[3] defines knowledge as “a liquid system that combined professional insight that provides a tool to evaluate and include conventional experiences, values, knowledge in context, and new experiences and knowledge”. He also emphasizes that the definition of knowledge based on various grounds includes several types of knowledge such as implicit, explicit, and systemic knowledge in terms of individuals, groups and organizations[3][4][5][6][7].

[8] considers knowledge as the product of psychological action as understanding knowledge as a particular type of product made with psychological materials and particular methods, [9] also argued that the knowledge must be used and the process of obtaining knowledge should be emphasized rather than defining knowledge. This argument has the same context with [10], who combines the definition of [1] and [11] and defined knowledge as verified belief that can expand individual capability for effective activity, that use of knowledge is more important than discovery of knowledge in knowledge management. And he clearly points out the relationship between knowledge and knowledge as defining knowledge as the base material for creating knowledge.

These precedent studies are arguing that knowledge is a product resulting from a social interaction process and a key resource for competition, which can bring improvement of capability and work efficiency of employees.

2.2 Knowledge transfer

In order to clarify the concept of knowledge transfer, it is important to understand the concept of

knowledge sharing, which is used similarly as knowledge transfer. Even researchers do not clearly classify these concepts.

Researchers allow mutual confusion and overlapping for the concepts of knowledge transfer and knowledge sharing. Therefore, this study will inquire precedent studies focusing on these conceptual differences to solve such confusion. When examining concepts of knowledge transfer first, [12] defines transferred knowledge as being institutionalized for execution in a beneficial unit. [13] defines knowledge transfer as a new experience by which individuals, teams, and departments within an organization are affected.

In Korea, [14] define that knowledge transfer is a knowledge management process where transferor delivers his knowledge to receiver, and receiver expands one’s domain by reaching to new knowledge. [15] define that knowledge transfer is the result accumulated through delivery or spreading of knowledge from transfer to receivers. [16] perceive knowledge transfer as a part of knowledge sharing and they define it as a key activity of knowledge sharing process with appointed transferors and receivers, and as an activity of exchanging formatted knowledge through formal or informal route. To clarify these concepts, knowledge transfer emphasizes transfer of explicit knowledge, which is relatively easy to transfer, and it clearly distinguishes between knowledge transferor and receiver.

Meanwhile, in definition of idea about knowledge sharing, many researchers point out knowledge sharing as one of the effective efforts to develop innovative capability of employees.

In a study about the effect of knowledge sharing

action on personal innovative capability, [17] defines that the most important part of knowledge management is how a company can support individuals to share their knowledge within the organization, and that requirement of organization capability is to support spreading, execution, and development of knowledge sharing. On the other hand, he also defines that spreading, execution, and development of activity knowledge can be made through knowledge sharing. He argues that knowledge sharing can create new knowledge that can help a company by leading individuals to have a critical and creative thinking. Empirical analysis found that knowledge sharing activity has a positive effect on innovative capability of an individual.

III. 가설의 설정

III. Research Model and Research hypotheses

The main purpose of this study is to analyze the effect of project organization characteristic factor, inter-relational characteristic factor, and local environmental characteristic factor, which are factors that affect knowledge transfer within project organizations of domestic construction companies, on knowledge transfer outcome. The influential factors in this study's research model established based on literature research with precedent studies to achieve this are classified as follows. First, project participant characteristic factor was classified into motivation and will of transferor, motivation and will of receiver, contract observance of participants,

and absorption capability of participants. Second, project organization characteristic factor was classified into management autonomy and organization culture similarity. Third, relational characteristic factor was classified into effectiveness of communication and reliability.

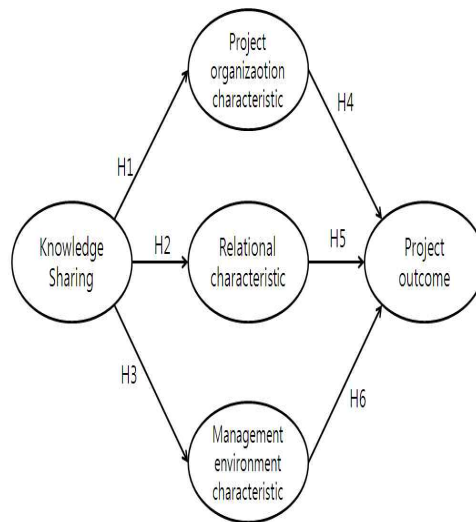


그림 1. 연구모형
Fig 1. Research Model

Fourth, management environment characteristic factor was classified into interest and support of the administration and reward.

This study included regional(overseas, domestic) characteristic of construction business project contract and characteristic factor for each construction business type as the control variable that affects knowledge transfer, share, and use by considering specialty of construction industry.

Thus, this study aims to investigate a causal relationship between each factor through pilot

test based on the below hypotheses using the precedent studies.

H1: Knowledge sharing and use will have a positive effect on Project organization characteristic.

H2: Knowledge sharing and use will have a positive effect on Relational characteristic.

H3: Knowledge sharing and use will have a positive effect on Management environment characteristic.

H4: Project organization characteristic will have a positive effect on Project outcome.

H5: Relational characteristic will have a positive effect on Project outcome.

H6: Management environment characteristic will have a positive effect on Project outcome.

IV. Results

4.1 Results of Exploratory Factor Analysis

The exploratory factor and the confidence level were analyzed with the SPSS Windows 18.0, while Cronbach's $\alpha > 0.7$ was used for the assessment of the confidence level. The Principle Component Analysis was used for the factor extraction, while Varimax Rotation was used for the rotation method and the items were made suitable for the purpose of the investigation.

The EFA was conducted with Factor Loadings (FL>0.6) which indicates the correlation between the assessment factors.

Using the SPSS 18.0, seven items were reduced by the Exploratory Factor Analysis, and the factor loading of each item for all the Knowledge sharing,

Project organization characteristic, Relational characteristic, Management environment characteristic, and Project outcome.

They were more than 0.6. But when it came to Relational characteristic the measurement tool was below 0.6, so two of them were excluded.

표 1. 탐색요인 분석결과

Table 1. The Result of the Exploratory Factor Analysis

	Know ledge Shari ng	Project organizati on characte ristic	Relation al characte ristic	Management environment characteristic	proje ct outc ome
No. of items	7	6	7	7	6
Final items	7	6	5	7	6
Cronb ach's α	0.910	0.950	0.892	0.933	0.940

4.2 Results of structural equation model

Normally, the causal relation is used to find the cause and effects relationship. In the study, therefore, using covariance structure modeling, the causal relationship between Knowledge sharing, Project organization characteristic, Relational characteristic, Management environment characteristic, and Project outcome was analyzed to use AMOS 18.

The fit statistics of the initial model indicate that the chi-square of the model is 258.112 with a d.f. of 5. GFI is 0.933, AGFI is 0.899, NFI is 0.900, CFI is 0.912 and RMR is 0.054. All the fit statistics of the initial casual model were accepted.

According to the findings of the investigation, Knowledge sharing appeared to have a positive

effect on the Project organization (H1), Relational characteristic (H2), and Management environment characteristic (H3), especially, the biggest effect on the Management environment characteristic (0.922) and the next biggest effect on the Relational characteristic (0.916).

The Relational characteristic appeared to have a positive effect on the Project outcome (H5, 0.886) and Management environment characteristic appeared to have a positive effect on the Project outcome (H6, 0.721) as well. However Project organization characteristic has not effect on Project outcome (H4, 0.221).

표 2. 연구모형에 대한 실증분석
Table 2. Statistical Tests for Research Model

Hypothesis	Path	FL	T-value	P-value	Hypothesis Supported
H1	Knowledge sharing → Project organization characteristic	0.894	13.774	0.004	**
H2	Knowledge sharing → Relational characteristic	0.916	19.001	0.000	**
H3	Knowledge sharing → Management environment characteristic	0.922	20.121	0.000	**
H4	Project organization characteristic → Project outcome	0.221	26.224	0.1547	ns
H5	Relational characteristic → Project outcome	0.886	13.854	0.004	**
H6	Management environment characteristic → Project outcome	0.721	10.221	0.021	*

∴ P<0.05, ∴∴ P<0.01, ns: not significant

V. Conclusion

This study was about factors that are influencing the degree of Knowledge sharing in domestic and overseas field projects of Korean construction companies. The study selected the example companies among member companies that are registered at construction association and overseas construction association and conducting construction business at home and abroad. A survey was conducted on these selected companies and the total 165 data were collected for measurement.

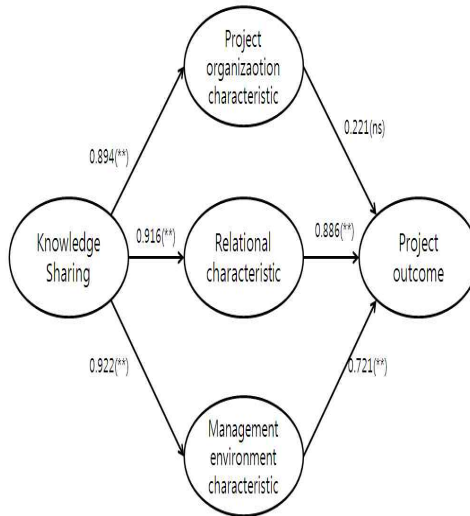


그림 2. 연구모형 결과
Fig 2. Results of Research Model

The results were shown that Knowledge sharing has a positive effect on all Project organization characteristic, Relational characteristic and Management environment characteristic <See Figure 2>. Relational characteristic and management

environment characteristic have a positive effect on project outcome but project organization characteristic does not affect project outcome.

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