

The convergence approach of institution based view toward the path of performance of the start-up in the foreign market

Yeon-Sung Cho^{1*}

¹Department of International Trade, Duksung Women's University

스타트업 해외시장 진출성과 경로에서 제도기반관점의 융합적 접근

조연성^{1*}

¹덕성여자대학교 국제통상학과

Abstract This study aims to converge the analysis of institution based view and knowledge based perspectives. Based on the literature review, this study proposed six hypotheses including the moderating effect of institutional characteristics. Hypothesis testing was conducted using PLS(Partial Least Square), which is a structural equation model for 101 start-ups sample. In empirical analysis, all external knowledge characteristics have a positive effect on the knowledge codification capacity. It also positively influenced the performance. The institutional characteristics showed a moderating effects with the novelty of external knowledge and knowledge codification capacity. This study contributes to integrating and analyzing the moderating effects of institution based characteristics with the factor of knowledge based view. Future research needs to analyze the institutional characteristics in a formal and informal way.

• Key Words : Convergence Knowledge Codification Capacity, Institution Based View, Knowledge Based View, Start-Ups, Structural Equation Model

요약 본 연구는 해외시장 진출 스타트업의 지식학습 특성에 영향을 주는 요인을 분석하였다. 제도기반 관점과 지식기반관점의 융합적 분석을 목적으로 했다. 기존문헌 고찰을 통해 제도기반 관점 특성의 조절효과를 포함한 6개의 가설을 설정했다. 이후 설문조사를 진행하여 101개 기업을 분석 표본으로 선정했다. 구조방정식 모형인 PLS(Partial Least Square)를 사용하여 가설검정을 진행했다. 분석 결과 외부지식 특성은 모두 지식부호화역량에 긍정적 영향을 지식부호화역량 역시 스타트업 성과에 긍정적 영향을 주었다. 제도기반 특성은 외부지식 혁신성과 지식부호화 역량에 조절효과를 나타냈다. 본 연구는 제도기반 특성의 조절효과를 지식기반관점 요인과 융합적으로 통합하여 분석한데 기여도가 있다. 향후 연구에서는 제도기반 특성을 공식적, 비공식으로 나누어 분석할 필요가 있다.

• 주제어 : 융합적 지식부호화역량, 제도기반관점, 지식기반관점, 스타트업, 구조방정식

*1st Author : 조연성(oakright3927@ds.ac.kr)

Received June 9, 2017

Accepted September 20, 2017

Revised July 31, 2017

Published September 28, 2017

1. Introduction

With the current trends of global economy, startups have been actively expanded into the overseas market[1]. Studies on the overseas market expansion of startups have broadened the discussion from exploring their background of appearance to analyzing their performance determinants. Various relevant empirical studies have been conducted to analyze the determinants of startups' competitive advantage[2,3]. Among the studies on the overseas market expansion of startups, studies[2,4] focusing on the acquisition of local information according to knowledge-based view have emerged as a motivation for advancing into the overseas market. These studies have all contributed to the expansion of startup-related discussions but face limitations as they lack integrated analysis considering the characteristics of external environment.

This study seeks to newly integrate institution-based view to broaden the discussion related to the existing startup-related studies. Accordingly, the objectives of this study are as follows. First, this study will analyze the overseas market expansion process of startups by convergence integrating knowledge-based view and institution-based view[5] to broaden the theoretical discussion.

Second, this study will adopt the knowledge codification capacity concept[6] in knowledge-based view studies to exploring the detailed operating principles of startups' convergency knowledge learning[7].

The necessity of convergency research is as follows. First, It is possible to explore the interaction between internal capabilities and the external environment in start-ups by analyzing the moderating effects of institutional characteristics. Second, this study can explore the role of knowledge codification capacity in response to environment characteristics on start-ups which is in resource insufficient. This is because the role of knowledge codification capacity can be examined in detail at the start-ups.

2. Theory and hypotheses

2.1 Theoretical background

2.1.1 Institution based view

The institution-based view explains the process of identifying official and unofficial institutional characteristics, which influence a firm strategy, have effects on the decision-making of overseas market expansion[8].

Studies of institution-based view addressed institutional characteristics as an external environment factor from a larger category. Yet the areas of exploration have become segmentalized as they were divided into official and unofficial characteristics. After, studies of institution-based view[9,10] examined the strategy development of multinational corporations that reflected institutional characteristics.

Institutional characteristics mean a stipulated social structure such as a nation's law, politics, economy, and regulations. Institutional characteristics mean the degree of influence of social policies and regulations that affect business activities. In institution-based view studies, institutional characteristics were shown to have influence on a firm's strategies, activities, and performance as an external environment factor. Likewise, institution-based view studies improved the limitations of an approach to explain the strategy decision of a firm's that expanded into the overseas market only in terms of specific resources inside the firm[10,11].

2.1.2 Knowledge based view

Knowledge-based view studies on startups examined the causes of the firm's expansion into overseas market in terms of local information acquisition, with the size and resource characteristics of the firm[12], while exploring the transfer of external knowledge into the organization. Studies exploring knowledge transfer[3,12] concluded that an organization's institutional characteristics and the firm's absorption capacity play a positive role in knowledge transfer.

With studies on absorption capacity, convergency knowledge codification concept[5] has emerged in regards to external information processing capacity for directly processing local information. Knowledge codification capacity is the capacity of documenting external information and processing it officially within an organization.

There are internal and external factors influencing the display of knowledge codification capacity; and some studies of knowledge-based view[6,7] have pointed out external knowledge characteristics and internal capacity as such factors, and diversity and novelty as external information characteristics stimulating knowledge codification capacity[5].

Based on the above discussion, the factors of knowledge base view are summarized as follows. The diversify of external knowledge means that there are diverse sources of knowledge available from the market and competitors. The novelty of external knowledge refers to the degree of external information that can lead to changes in existing skills and knowledge. The ability to codify knowledge refers to the ability to identify and formalize external information.

2.2 Hypotheses

2.2.1 External knowledge and convergency knowledge codification capacity

Nonetheless, start-ups lack capabilities to invest sufficient resources needed to acquire the information of the overseas market. Yet, startup management teams continuously approach a variety of local information and try to develop new products using it[1]. With more diverse external knowledge of local market, startup management teams will continuously make efforts to absorb it and increase the necessary knowledge codification capacity[6].

External knowledge can also include technology-related information or offer data on the change directions of a local market, and the novelty of external knowledge is based on such characteristics. Given the

fact that the innovation of an existing capacity ultimately leads to the cultivation of new resources and capacities that are appropriate for the local market, the novelty of external knowledge is an attractive element for a startup's management team[13]. As a result, the following hypotheses are setup.

- H1: The diversity of external knowledge will have positive effect on convergency knowledge codification capacity.
- H2: The novelty of external knowledge will have positive effect on convergency knowledge codification capacity.

2.2.2 Knowledge codification capacity and performance

Knowledge codification capacity means that a series of organizational, structural, and official procedure and processing methods needed to internalize external knowledge exist within an organization[13]. Various knowledge can be acquired when customer characteristics, market flow information, technological change information, etc. that can be newly concentrated are obtained. Such knowledge codification capacity helps generate new competitive advantage and performance by actively accepting external knowledge. As a result, the following hypotheses are setup.

- H3: Convergency knowledge codification capacity will have positive effects on startups' performances in the overseas market.

2.2.3 Moderating effects of institutional characteristics

The institution-based view explains that a country's environment influences the strategies and competitive advantage of the firm that expanded. Institutional characteristics influences the firm's operating principles and require it to modify its competitive advantage strategies.

Startups increase their knowledge codification

capacity to acquire various external knowledge in the market expanded[5]. To absorb external knowledge by enhancing knowledge codification capacity, they need to invest resources and carry out organizational activities carried out consciously because the information absorbed within an institution is judged to help predict the future[10].

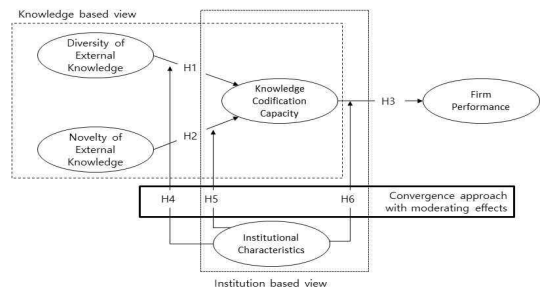
Most studies of institution-based view[10] point out the higher the stability of legal system and regulations, the higher the effectiveness of the strategy implementation of the firms expanded. As a result, the following hypotheses are setup.

- H4: The better the institutional characteristics become, the greater the influence of the diversity of external knowledge on knowledge codification capacity will be.
- H5: The better the institutional characteristics become, the greater the influence of the novelty of external knowledge on convergence knowledge codification capacity will be.

Institutional stability provides favorable conditions to implement startup strategies and further increases the relationship between knowledge use and performance. Since an overseas market with stable institutional characteristics can generate various competitive advantages based on knowledge codification capacity, the influence on overseas market performance becomes greater as well[3]. The following hypotheses are setup as a result.

- H6: The better the institutional characteristics become, the greater the influence of convergence knowledge codification capacity on overseas market performance will be.

The convergence research model of this study based on the above discussion is shown in [Figure 1].



[Fig. 1] Research model

3. Research method

3.1 Sample

Since the startups in this study are SMEs, firms with less than a total of 300 employees are made study subjects. Also, considering that this study analyzes firms that expanded into the overseas market within a relatively short time, firms with less than 6 years old are made study subjects. The entire sample of companies were those registered in the Korea Chamber of Commerce and Industry and the Korea Venture Business Association.

As a result, 1,003 samples were selected and an online survey was conducted for 3 months from February 2016 using Google Docs. 112(11.2%) surveys were collected, and 101(10.1%) surveys after excluding 11 with no or insincere responses were used as the final samples for analysis. <Table 1> shows the characteristics of the sample firms.

<Table 1> Sample characteristics

Size(employee)			Industry		
≤ 10 people	15	14.9%	Semi-Conductor	13	12.9%
11~20 people	22	21.8%	Chemistry	15	14.9%
21~30 people	28	27.7%	ICT product	17	16.8%
31~40 people	23	22.8%	Electronic	21	20.8%
≥ 41 people	12	11.9%	Machinery	23	22.8%
non-response	1	1.0%	ect	12	11.9%
Total	101	100%	Total	101	100%

3.2 Measurement items

This study measured all 5 potential variables on a 7-point scale according to the theoretical background

[5,7,12,13]. The measurement items are summarized in <Table 2> below.

<Table 2> Measurement items

LV	Measurement items
DK1	Degree of customers or external organizations that can be acquired local information
DK2	Degree of informal channels for collecting industry information
DK3	The number of local competitors who can be visited regularly
NK1	External knowledge is the basis of innovation that can induce technological changes.
NK2	There are much external knowledge that change the existing organizational innovation.
NK3	There are much external knowledge that can innovate products that are difficult to be replaced by the existing technology.
KC1	Our firm has an guideline that officially, routinely documents and processes most local market information.
KC2	The standard knowledge processing method is developed and utilized to discover and use external information.
KC3	Our firm is well-aware of whether there is a partner to help specify necessary knowledge among external information sources.
FP1	Satisfaction with the financial performances of the local market for the past 2 years
FP2	Satisfaction after comparing with competitors on main products (service)
FP3	Sales increase in the local market.
IC1	The degree of politics stability and nonviolence
IC2	The levels of efficient operation, public service, and reliability of public policy of a government organization
IC3	The degree the government implements policy and regulations for the development of the private sector
IC4	The influence on corruptions and personal gain in public policy.

* DK=Diversity of External Knowledge, NK=Novelty of External Knowledge, KC=Knowledge Codification Capacity, FP=Firm Performance, IC=Institutional Characteristics

4. Empirical analysis

4.1 Reliability and validity

This study conducted PLS(Partial Least Square) analysis using structural equation model[14]. PLS analysis is useful for verifying causal relationships among variables and verifying moderating effects. It performed a reliability and validity test on multiple survey questions by confirmatory factor analysis(CFA). Reliability was confirmed by average variance extract(AVE) and composite reliability (CR) value, and the standard value was higher than 0.5 and 0.7 [15]. The CFA result in <Table 3> below shows that the

values of 16 measuring questions all met the recommended threshold values.

<Table 3> The result of CFA

Path	β	S.E	T-value	AVE	CR	Cronbach's α
DK1->DK	0.917	0.014	67.469***	0.867	0.967	0.954
DK2->DK	0.946	0.009	99.944***			
DK3->DK	0.950	0.008	119.250***			
NK1->IK	0.895	0.019	46.551***	0.778	0.933	0.905
NK2->IK	0.896	0.020	44.806***			
NK3->IK	0.869	0.039	22.392***			
KC1->KC	0.922	0.014	64.735***	0.871	0.964	0.951
KC2->KC	0.948	0.009	100.901***			
KC3->KC	0.936	0.015	64.189***			
FP1->EP	0.926	0.012	77.713***	0.860	0.969	0.959
FP2->EP	0.937	0.010	73.084***			
FP3->EP	0.919	0.014	63.917***			
IC2->IC	0.792	0.053	14.982***	0.619	0.866	0.793
IC3->IC	0.845	0.044	19.409***			
IC4->IC	0.804	0.040	19.941***			
IC4->IC	0.699	0.051	13.624***			

=P<0.05, *=P<0.01, ****=P<0.001

Discriminant validity analysis was performed among potential variables. Discriminant validity compares the square root value of potential variables and the correlation coefficient value among potential variables and determines that there is no problem if the former is greater[16]. <Table 4> below shows such result.

<Table 4> The result of discriminant validity

LV	DK	NK	KC	FP	IC
DK	0.937				
NK	0.640	0.882			
KC	0.540	0.578	0.933		
FP	0.764	0.789	0.636	0.927	
IC	0.587	0.603	0.444	0.636	0.787

4.2 Model fit and common method bias

Through model fit, PLS analysis shows variance inflation factor(VIF), adjusted R², and standardized root mean square residual(SRMR) value. The recommended values are less than '10' for VIF, higher than '0.3' for adjusted R², and less than '0.8' for SRMR. <Table 5> below show that there is no problem in model fit.

<Table 5> The result of model fit index

LV	Variance Inflation Factor		Adj.R ²	SRMR
	KC	FP		
DK	2.019			0.075
NK	0.207			
KC		1.245	0.423	
FP			0.582	
DK*IC	1.533			
NK*IC	1.451			
KC*IC		1.001		

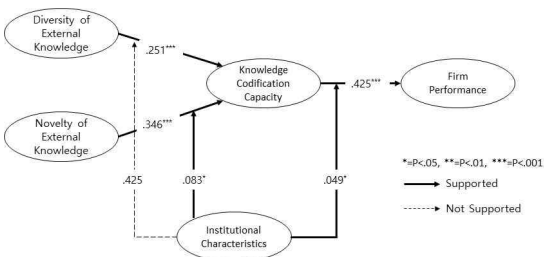
Common Method Bias(CMB) occurs in a social science research that uses survey questionnaire. This study conducted a post-test using Lindell and Whitney’s marker variable(MV) method [16]. This analysis inputs marker variables and judges that there is no problem if the correlation coefficient with the existing potential variables is less than 0.75. <Table 6> below shows the result.

<Table 6> Common method bias test

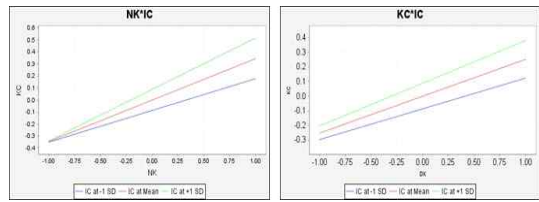
LV	DK	NK	KC	FP	IC	M-V
DK	1.000					
NK	0.640	1.000				
KC	0.540	0.578	1.000			
FP	0.764	0.789	0.635	1.000		
IC	0.587	0.603	0.443	0.664	1.000	
M-V	0.621	0.576	0.438	0.671	0.596	1.000

4.3 Hypotheses testing

PLS gives the results of hypothesis test through path analysis, which shows the path coefficient, standard error(S.E), and t-value. [Figure 2] below shows the results of hypothesis and [Figure 3] shows the results of a simple slope analysis of the moderating effects.



[Fig. 2] The result of path analysis



[Fig. 3] Simple slope analysis

According to the analysis results, all of external knowledge characteristics had a significant influence on knowledge codification capacity, which also had a positive influence on firm performance. Only the moderating effects of the diversity of external knowledge and institutional characteristics was not significant.

5. Conclusion

This study examined the influence of the characteristics of external knowledge and knowledge codification capacity on firm performance by integrating the knowledge-based view and institution-based view for startups that expanded into the overseas market. In addition, it verified the mediating effect of institutional characteristics. The following theoretical and practical implications can be discussed by the analysis results.

First, this study has a significant theoretical implication as it tested the knowledge absorption activity of startups that expanded into the overseas market as well as the mediating effect of institutional characteristics as an external factor influencing the behavior. The diversity of external knowledge did not have a synergy effect with institutional characteristics but all other parts showed a positive effect, verifying that the better the institutional characteristics are, the more active an organization gets to internalize innovative external knowledge. This provides a theoretical discussion to a study that seeks to further explore the organizational learning of startups in more detail.

In addition, this study suggests the theoretical

implication of the convergence of existing theories in terms of presenting the knowledge codification capacity and institutional characteristics as an integrated model. This is because the internal capability and external environmental characteristics are combined and analyzed in a convergent manner.

In terms of practical implication, the results of this study demonstrate that for startups that have expanded into a market with good institutional characteristics, the efforts to generate performance is important using innovative knowledge[17]. On the other hand, although there is no clear relationship between the diversity of external knowledge and institutional characteristics, this indirectly means the lack of capacity to use various knowledge due to the limited size and resources of startups. Therefore, startups must invest resources into activities to increase the possibility to use various local knowledge and have a knowledge learning system.

In the moderating effects, diversity of external knowledge did not show significant results. This means that there is not enough activity to internalize various knowledge. The results of this analysis suggest that in practice, start-ups need to develop resource input and educational activities to codify various external knowledge.

ACKNOWLEDGMENTS

This Research was supported by Duksung Women's University Research Grants 2016

REFERENCES

- [1] P. P. McDougall, B. M. Oviatt, and R. C. Shrader, "A Comparison of International and Domestic New Ventures", *Journal of International Entrepreneurship*, Vol. 1, No. 1, pp. 59-82, 2003.
- [2] O. Kuivalainen, S. Saarenketo, and K. Puimalainen, "Start-up Patterns of Internationalization: A Framework and Its Application in the Context of Knowledge-intensive SMEs", *European Management Journal*, Vol. 30, No. 4, pp. 372-385, 2012.
- [3] J. W. Cadogan, O. Kuivalainen, and S. Sundqvist, "Export Market-oriented Behavior and Export Performance: Quadratic and Moderating Effects under Differing Degrees of Market Dynamism and Internationalization", *Journal of International Marketing*, Vol. 17, No. 4, pp. 71-89, 2009.
- [4] D. M. Kim, "Revitalization small businesses of the overseas exchange through the convergence of private network (Focusing on Laos in the Indochina Peninsula)", *Journal of the Korea Convergence Society*, Vol. 6, No. 2, pp. 31-36, 2015.
- [5] A. Lisboa, D. Skarmas, and C. Lages, "Entrepreneurial Orientation, Exploitative and Explorative Capabilities, and Performance Outcomes in Export Markets: A Resource-based Approach", *Industrial Marketing Management*, Vol. 40, No. 8, pp. 1274-1284, 2011.
- [6] M. Hall, "Knowledge Management and the Limits of Knowledge Codification", *Journal of Knowledge Management*, Vol. 10, No. 3, pp. 117-126, 2006.
- [7] P. Kale, and H. Singh, "Building Firm Capabilities through Learning: The Role of the Alliance Learning Process in Alliance Capability and Firm Level Alliance Success", *Strategic Management Journal*, Vol. 28, No. 10, pp. 981-1000, 2007.
- [8] M. J. Ahn, and A. S. York, "Resource-based and Institution-based Approaches to Biotechnology Industry Development in Malaysia", *Asia Pacific Journal of Management*, Vol. 28, No. 2, pp. 257-275, 2011.
- [9] D. M. Kim, "Revitalization small businesses of the overseas exchange through the convergence of private network (Focusing on Laos in the Indochina Peninsula)", *Journal of the Korea Convergence Society*, Vol. 6, No. 2, pp. 31-36,

- 2015.
- [10] M. Van Essen, P. P. Heugens, J. Otten, and J. H. Van Oosterhout, "An Institution-based View of Executive Compensation: A Multilevel Meta-analytic Test", *Journal of International Business Studies*, Vol. 43, No. 4, pp. 396-423, 2012.
- [11] E. Garrido, J. Gomez, J. P. Maicas, and R. Orcos, "The institution-based View of Strategy: How to Measure It", *Business Research Quarterly*, Vol. 17, No. 2, pp. 82-101, 2014.
- [12] S. T., Park, H. G. Cheong and T. U. Kim, "A Study on Interrelationship among Smartwork Supporting Tool, Exploration, Exploitation, and Smartwork Performances", *Journal of Digital Convergence*, Vol. 10, No. 9, pp. 185-193, 2012.
- [13] M. Schulz, and L. A. Jobe, "Codification and Tacitness as Knowledge Management Strategies: An Empirical Exploration", *The Journal of High Technology Management Research*, Vol. 12, No. 1, pp. pp. 139-165, 2001.
- [14] H. Wold, Estimation of Principal Components and Related Models by Iterative Least Squares. In: Krishnaiah, P.R. (Ed.), *Multivariate Analysis*. Academic Press, New York, pp. 391-420, 1966.
- [15] C. Fornell and D. F. Larcker, "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error", *Journal of Marketing Research*, Vol. 18, No. 1, pp. 39-50, 1981.
- [16] M. K. Lindell and D. J. Whitney, "Accounting for Common Method Variance in Cross-sectional Research Designs", *Journal of Applied Psychology*, Vol. 86, No. 1, pp. 114-121, 2001.
- [17] W. J. Son, "The Empirical Study on Interrelationship between Strategy, MCS, Corporates Performance and Role of Controller", *Journal of the Korea Convergence Society*, Vol. 6, No. 5, pp. 303-314, 2015.

저자소개

Yeon-Sung Cho(조연성)

[정회원]



- August, 2003 : MS in Trade, Sogang University
 - August, 2008 : Ph.D in Business Administration, Sogang University
 - September, 2011 ~ February, 2015 : Associate Professor, Dept. of International Trade, Dong-A University
 - March, 2015 ~ Present : Associate Professor, Dept. of International Trade, Duksung Women's University
- <관심분야> : Start-up, Born Global, Strategy, Convergence Knowledge