新经济格局下的 管理创新与大企业竞争力

唐晓华/主 编 王伟光 韩亮亮/副主编



新经济格局下的管理创新与大企业竞争力

唐晓华/主 编 王伟光 韩亮亮/副主编

图书在版编目 (CIP) 数据

新经济格局下的管理创新与大企业竞争力/唐晓华主编. 一北京: 经济管理出版社, 2013.12 ISBN 978-7-5096-2648-1

I. ①新… II. ①唐… III. ①企业管理—世界—文集 IV. ①F279.1-53

中国版本图书馆 CIP 数据核字 (2013) 第 223101 号



出版发行: 经济管理出版社

(北京市海淀区北蜂窝 8 号中雅大厦 A 座 11 层 100038)

网 址: www. E-mp. com. en

电 话: (010) 51915602

印 刷:三河市海波印务有限公司

经 销:新华书店

开 本: 720mm×1000mm/16

印 张: 49.25

字 数: 966 千字

版 次: 2014年1月第1版 2014年1月第1次印刷

书 号: ISBN 978-7-5096-2648-1

定 价: 158.00元

·版权所有 翻印必究·

凡购本社图书,如有印装错误,由本社读者服务部负责调换。

联系地址:北京阜外月坛北小街2号

电话: (010) 68022974 邮编: 100836

金融危机后,世界经济不稳定性和不确定性不断上升,新兴经济体强劲增长势头和发达经济体恢复疲软形成了对比,全世界经济进入新的格局,如何应对复杂多变的国际经济环境,中国企业变好的趋势、明道、优术、实现经济改革和可持续发展,是中国经济转型期面临的重要课题。

2012年11月24日,在国家自然科学基金委和中国工业经济学会等单位的大力支持下,由辽宁大学商学院与辽宁产业组织与技术创新研究中心举办的"第三届管理创新与大企业竞争力国际学术会议"在辽宁大学隆重召开。此次会议的主题是"新经济格局下的管理创新与大企业竞争力"。

本次学术会议立足经济全球化和区域经济特色化发展背景,旨在探索新经济格局下管理创新以及大企业竞争力模式与路径,为我国大企业竞争实力提升提供理论、实证与政策支撑。此次会议特邀了韩国庆熙大学全球创新与创业中心主任Shin Geon-Cheol 教授、印度维迪亚总统府 S.P.Jain 管理研究院的 Jiban K. Mukhopadhyay 教授、中国社会科学研究生院吕政研究员、大连理工大学原毅军教授和上海财经大学干春晖教授等海内外著名专家学者。与会的还有来自清华大学、哈尔滨工业大学、东北大学和重庆大学等国内 30 所高校及科研院所的 100 余位专家学者。他们围绕产业发展与政策、创新管理理论与实践、组织行为与公司战略和公司治理与内部控制等方面展开了研讨,并提出了许多具有创新性的观点。本次会议共收到论文 300 余篇,本书将部分优秀研究成果结集出版,以飨对以上领域感兴趣的读者。

推进产业优质高效发展是经济社会发展永恒的主题,而产业政策对产业发展的方向引领和助力推动作用不可忽视。关于新经济格局下产业发展的战略研究方面,印度学者 Jiban K. Mukhopadhyay 教授在提交的论文中深入分析了全球产业发展趋势,认为跨国公司正由聚焦生产什么转变为如何生产,新兴的全球综合型企业的战略、管理和运营以追求全球范围内生产和价值交付的整合为目标;在此基础上提出了全球业务的战略,分析了中国企业的动态能力的产生和印度企业走向全球的过程,列举了中国和印度的关键经济指标;同时,提出了中国和印度企业未来的战略选择。在产业发展及其影响因素、政策措施研究方面,中国科学院科技政策与管理科学研究所乔为国博士的研究成果从商业模式视角研究了中国行业

流通环节电子商务发展制约因素及政策,提出电子商务发展应重视行业及产品特性和差异,并成立高层跨部门小组,从若干产业及地区突破,推进标准化。上海财经大学李津津博士提交的论文从异质性人力资本方面考虑,利用 1990~2009 年的数据,通过方差分解法对 Cobb-Douglas 生产函数进行双向分解用于分析我国区域间与区域内产业生产率差距,以及不同差距所产生的动因,分析发现区域间差距与区域内差距表现出了不同的特征。在宏观和区域经济研究方面,清华大学公共管理学院的范帅邦研究了转型发展中的区域经济差异衡量指标重新定位,基于浙江省的实证分析得出以下结论:以 GDP 总量指标和人均 GDP 指标来衡量区域差异,对区域经济的实际差异水平有夸大作用,对区域经济政策制定有一定的误导性;区域经济差异衡量指标需要重新建构,要由以 GDP 为中心转变为以人均收入为中心,结合加权人均 GDP,并引入相应的多元的经济社会指标,构建综合的科学的区域差异评价指标体系。

创新管理与实践是推动大企业竞争力提高的重要措施。如何进行创新管理以及更有效地促进创新实践是国内外专家学者研究的热点问题。来自韩国庆熙大学Geon-Cheol Shin 教授提交的论文中深入研究了在韩国和中国之间跨国公司知识获取和溢出的关系以及研发战略和研发区位优势对研发绩效的影响。实证研究发现:研发的战略因素会影响知识获取和溢出,生产因素和市场因素提高了知识获取和溢出;研发人员能力是影响研发区位优势的最主要因素。英国伦敦大学和证益出;研发人员能力是影响研发区位优势的最主要因素。英国伦敦大学Alice Lam 教授的研究成果从组织结构和创新之间的关系、组织学习和知识创造过程、组织变革和适应能力三个视角研究了创新型组织的本质和发展。研究表明,建设创新型组织不仅需要与技术和市场机会相匹配的组织结构,还要把学习和知识创造能力嵌入到团队运行和社会关系中。产学研合作是目前实现协同创新的主要形式之一,大连理工大学原毅军教授等从企业技术能力视角出发,构建产学研合作研发与内部研发互动关系的模数学型(替代模型和互补模型)。他们认为企业技术能力(主要是指技术创新能力和技术吸收能力)在产学研合作研发与内部研发互动中扮演"阈值"的角色。创新网络方面的研究得到与会专家学者的关注。

组织行为与公司战略是企业竞争力提升的关键环节,也是产业发展的微观基础。在组织行为与战略研究方面,辽宁大学王海光教授进行了领导下属性别组合研究,研究发现:领导下属性别组合不仅与 LMX 品质、下属服从性、工作满意度、下属情感和下属信任等变量直接相关,还会间接影响组织自尊、组织承诺和下属业绩评价等变量。大连大学经济管理学院王辉坡副教授基于个人学习能力和组织学习能力相关研究成果,探讨了个人学习能力生成组织学习能力的结构,并通过实证方法进行了验证,研究发现:个人获取知识能力的强弱,通过个人对组织任务目标的明确程度,显著地影响组织的学习效果;个人应用知识的能力通过

组织明确的任务目标和团队合作,显著影响组织学习效果。同时,个人应用知识的能力也可以通过团队合作的形式显著提高组织学习效率;团队合作直接影响组织学习效率,明确的任务目标是团队合作影响组织学习效果的中介变量。

公司治理与内部控制制度是大企业竞争力提升的制度保障。近年来,公司治 理研究范畴也在不断扩大,尤其是企业政治关联成为近期学者研究的又一个热点 问题。重庆大学李文洲博士等从公司高管是否具有政治背景和地方上市公司数量 两个方面测度企业政治关联。研究发现:在我国银行业普遍存在"惜贷"现象的 局面下,某些企业仍然获得超额贷款;进一步研究发现,获得超额贷款的企业大 多数是国有企业,而国企高管的政治背景强化了国有企业超额贷款的形成:某此 民营企业尽管也获得了超额贷款,但起主要作用的是银企关系,而非政治关联。 辽宁大学霍春辉教授等以 1998~2008 年在我国发生的国有控股上市公司控制权转 移给民营部门的数据为样本,考察了控制权转移前一年到后三年(1997~2011 年)企业绩效的变化情况。研究发现,从控制权转移前后的企业绩效来看,在短 期内样本企业的平均绩效有所提升,但在控制权转移一年后开始滑落,这种趋势 一直延续至控制权转移后的第三年。辽宁大学刘建华副教授和李博副教授通过对 保护股东权益的"美国模式"和重视员工参与的"德国模式"的比较以及"中国 模式"的美、德相似性的相关研究概述,首次提出和论证了初见雏形的"中国公 司治理模式"——"二元双层两会制",即平行设置董事会和监事会(二元),董 事会与经营管理层分立 (双层),董事和监事分别由股东大会和员工代表大会选 举产生 (两会)。

以上是本届会议部分研究成果的摘编,本论文集收录了很多角度新颖、观点深邃的研究成果,在此,我们感谢所有参与本次研讨会的各位专家学者。回首过去,我们已成功举办了三届"管理创新与大企业竞争力国际学术会议",先后得到了中国工业经济学会、《经济研究》杂志社、国家自然科学基金委管理学部的大力支持,在此一并感谢。我们将继续秉承"明德精学、笃行致强"的校训精神,把"管理创新与大企业竞争力国际学术会议"打造成具有较大国际影响力的学术交流平台,促进产业组织理论与管理理论不断创新,显著提升大企业国际竞争力,实现中国梦。

唐晓华 2013年6月于辽宁大学

目 录

| 第一篇 创新管理的理论与实践 001 |
|---|
| Knowledge Acquisition and Transfer on R&D Performance: A Comparative Study |
| between Korea and China |
| Organization and innovation: a critical review of the literature 013 |
| Industrial-University Cooperation and Inner R&D: A Technological Capabilities |
| Approach |
| 产学研合作研发的成本收益分析045 |
| 企业技术创新能力评价研究 |
| ——基于辽宁化工企业技术中心的实证分析 054 |
| 限制我国大中型企业复杂产品系统自主创新专利壁垒的因素分析 065 |
| 对葛鲁尔协同创新网络基因密码理论的解析072 |
| 产业创新网络中的大企业辐射力 |
| ——基于 181 家辽宁企业的实证分析 084 |
| 促进核心竞争力的创新体系构建研究100 |
| 辽宁大企业开放式技术创新模式研究111 |
| 高技术产业基地内部技术创新失灵分析及政府干预131 |
| 我国各地区工业企业技术创新效率评价 |
| ——基于 PCA 与 DEA 综合模型的实证研究 ······ 143 |
| 辽宁省 R&D 经费投入影响因素的研究156 |
| 产品创新与工艺创新复合系统的协调度研究 |
| ——以辽宁装备制造业企业为例 166 |
| 产业技术创新体系本地化:文献综述 |
| 互联网下制造业的模式创新193 |
| 第二篇 产业发展与政策 |
| 产业劳动生产率差距的区域分解及动因分析 |
| ——基于异质性人力资本的考虑205 |

| 转型发展中的区域经济差异衡量指标重新定位 | |
|--------------------------------|-----|
| ——基于浙江省的实证分析 ······ | 225 |
| 中国行业流通环节电子商务发展制约因素及政策研究 | 236 |
| 跨国并购的策略选择 | |
| ——基于产业组织视角下水平型和垂直型跨国并购的分析 ···· | 245 |
| 网络效应下的垄断特征及政府规制政策研究 | 259 |
| 国际石油资源合作演化博弈的风险分析 | 269 |
| 基于产业竞争结构的食品安全问题分析 | 282 |
| 政府干预条件下的垄断福利 | |
| 基于 DEA 方法的中国高技术产业经济效率研究 | 306 |
| 基于大企业视角的旅游产业集群的形成机制与演进路径分析 | |
| 我国经济发展方式转变阶段的划分与实证分析 | |
| 人力资本对我国省域文化产业增长影响的实证分析 | |
| 环渤海经济圈区域经济趋同测度研究 | 351 |
| 第三篇 公司治理与内部控制 ······· | 361 |
| | |
| 坏消息情境下公司业绩归因信息披露经济后果的实验研究 | 363 |
| 国有企业的民营化是高效率的吗 | |
| ——基于国有控股上市公司控制权转移的实证研究 | |
| 违规动因与违规行为的对应分析 | 394 |
| 内部控制与企业价值相关性 | |
| ——基于沪深证券市场上市公司的数据分析 | 408 |
| 环境信息披露与公司竞争力的相关性研究 | |
| ——基于沪市江苏省上市公司的实证分析 | 421 |
| 日本公司治理的市场化演进 | |
| ——基于资本差异性视角 | |
| 管理层薪酬与企业环境绩效关系研究 | 450 |
| 民营上市企业公司治理改革与民主管理 | |
| ——基于员工参与的视角 | |
| 终极股东控制、债务资金占用与债权人利益保护 | |
| 电力上市公司投资效率及其影响因素 | |
| 所有制、政治关联与企业超额信贷 | |
| 外资并购绩效损失分析 | |
| 中美知识产权保护对其 FDI 影响分析 | 526 |

| 金字塔结构、管理者自利与企业羊群投 | 二资行为 | |
|--|-------------------------------------|----|
| ——基于国有上市公司的实证研究 | 54: | 5 |
| 基于 DEA 方法的石油行业股票投资价值 | 值实证分析 560 | 0 |
| 公司治理特征与投资效率的对应关系研 | · 究 ······ 570 | 0 |
| 基于 DEA 模型的上市银行绩效分析 | 58: | 3 |
| 全球生产网络背景下本土制造企业升级 | 机制及战略选择594 | 4 |
| 我国电子医疗设备企业发展动因探析 . | 60 | 4 |
| 上市公司并购与公司竞争力关系的实证 | E分析 61 | 1 |
| 姓丽姓 4244年12月18時 | CO | _ |
| 第四篇 组织行为与公司战略 ····· | 62 | 1 |
| 关系质量评价实证研究 | 62 | 9 |
| 企业档案知识管理与企业文化建设研究 | E 64 | 0 |
| 基于金字塔模型的企业竞争战略导向研 | 干究 ······ 64 | 9 |
| 个人学习能力生成组织学习能力的结构 | 的研究 65 | 8 |
| 领导下属性别组合研究综述 | 67 | 1 |
| 工作—生活平衡研究综述 | 68 | 3 |
| 非公有制经济人士的价值引领问题研究 | E 69 | 13 |
| An Empirical Study of the impact of Swit | ching Cost on Customer Loyalty | |
| —Under the Background of the Reorgani | zation of the Telecommunications 70 |)4 |
| 网络消费者感知价值的影响因素研究 | 71 | 7 |
| 沈阳市乡村旅游消费行为及影响因素分 | 〉析 73 | 31 |
| 农户消费平滑及其福利效应 | | |
| ——来自辽宁省农村入户调查的证 | 正据 74 | 11 |
| Strategizing Global Business: A Study of | | |
| | 75 | 51 |

第一篇

创新管理的理论与实践

Knowledge Acquisition and Transfer on R&D Performance: A Comparative Study between Korea and China

Geon-Cheol shin (School of Management, Kyung Hee University, Seoul 130-701, Korea)

1. Introduction

Over the past three decades, both the extent to which MNCs perform R&D outside their home countries and the types of R&D they do have changed considerably. Corporate R&D labs are most advanced facilities in the MNCs' global R&D networks. WIR (2005) suggests that MNCs increasingly are adopting a global strategy for their R&D, and academics have shown growing interest in this phenomenon since the early 1990s.

However, most studies have focused on the national scale. There is a lack of studies on R&D locations at the regional/local scales. In this paper, the authors seek to advance the study of overseas R&D performance by testing a model of how MNCs decide to develop R&D locations advantage in Korea and China, what R&D strategic factors these decisions in the context of the MNCs R&D labs in Korea and China.

There is not enough empirical research to simultaneously consider R&D labs' strategic factors and R&D location advantage. For this reason, the authors attempt to explore the differences, not only for influence of characteristics of MNCs R&D labs' strategic factors and R&D location advantage on knowledge flow, but also the influence of knowledge acquisition & transfer on R&D performance.

2. Literature Review and Hypotheses

2.1 R&D labs' Strategic Factors

The literature has revealed that the organization of MNCs R&D has moved from the centralized hub to the decentralized federation and then to the integrated network. In the MNCs' global networks, the roles of different establishments vary and many studies have tried to categorize them.

Nowadays, some R&D establishments have developed products and technologies, not just for the local market, but also for the global market. According to Cantwell and Janne (1999) and Sun et al. (2006), the role of foreign R&D adopts products of processes to the characteristics of host countries. Thus, R&D activities abroad aim to improve the products according to local tastes, needs, levels of education, technical standards or regulations. Companies set up R&D operations overseas to reduce costs and gain access to available qualified labor. At the same time, MNCs have access to superior or complementary knowledge in foreign locations. Those firms can also be encouraged by the government to carry out R&D activities through grants or other incentives. Therefore, the following hypothesis has been developed.

Hypothesis 1: Different R&D labs' Strategic Factors will differentially affect the Knowledge Acquisition & Transfer.

2.2 R&D Locations Advantage

Gugler and Michel (2010) assert that the motives of foreign R&D are evolving. Until the 1980s, the main role of R&D abroad was to adapt products to market conditions. The Internationalization of R&D was thus a consequence of the globalization of production activities and sales. Since the 1990s, MNCs have been investing in R&D abroad to gain access to superior knowledge (Cantwell, 1995; Dunning and Narula, 1995). These factors include strategic considerations, market potential, technology transference, technology and human resource acquisition, policy orientation of indigenous government and environmental factors (Dunning, 1994; Reddy and Sigurd-

son, 1997; Gassmann and von Zedtwitz, 1998; Cantwell and Jane, 2000). The knowledge acquired abroad is possible through inter-firm spillovers or cross-border acquisitions. In this case, foreign subsidiaries create innovations and may transfer knowledge to home country (Gugler and Michel, 2010). It is now widely acknowledged that reverse knowledge transfer (Ambos et al., 2006; Yang et al., 2008). In this paper, the role of knowledge follow is explored. Thus, the following hypothesis can be derived.

Hypothesis 2: Different R&D Locations Advantages will differentially affect the Knowledge Acquisitions & Transfer.

2.3 Knowledge Acquisitions & Transfer

Chiesa (1996) and Kuemmerle (1997) suggested models of R&D organization that center around the knowledge creation and transferring capabilities of R&D labs. Chiesa (1996) recognized that in the same firm, different R&D structures are developed for experimentation and exploitation activities. Both external sources of knowledge as well as internal dispersion of R&D resources affect the R&D performance. Knowledge acquisition and absorption is a means to reduce uncertainty. Kuemmerle (1997) study on the role of individual R&D locations distinguished home-base-augmenting (HBA) laboratories with the objective to create knowledge and then transfer it back to a central R&D location from home-base-exploiting (HBE) laboratories that commercialize knowledge by transferring it from the company's home base to the laboratories locations abroad. Also, von Zedtwitz and Gassmann (2002) propose a model of R&D internationalization that focuses on external sources of knowledge as well as the exploitation of home-base-generated but locally implemented forms of knowledge.

Therefore, the relations between knowledge acquisition & transfer on R&D performance are deduced. Thus, the following hypothesis can be derived. Thus, the following hypothesis can be derived.

Hypothesis 3: Knowledge Acquisitions & Transfer will affect the R&D Performance.

3. Research Methodology

3.1 Data Collection

Data were collected by telephone and E-mail survey for comparative analysis of MNCs R&D labs in Korea and China. The questionnaires, 60 from Korea and 58 from China, were collected. But, two of R&D labs in Korea and four of R&D labs in China were excluded because no response existed in many items. Most of the types of businesses in Korea are IT, mechanics/automobile, chemistry, and so forth. On the contrary, most business types in China are mechanics/automobile and bio/pharmacy. The headquarters of corporations for firms in Korea are mostly located in Japan, USA, and France, but the headquarters of those in China are USA, Japan, and Korea. The data gathered was analyzed by SPSS 18.0.

3.2 Data analysis

3.2.1 Analysis of samples

Multiple regression was employed to evaluate the degree of influence. From the table 1-1, the model had the degree of explanation with 20.3% and the significance at 0.05 or less about relationship between the independent variables and the dependent variable. This means that the strategic factors affect the level of knowledge acquisition & transfer. Accordingly, the hypothesis 1 was supported.

Specifically, the influence coefficients with the significance at 0.05 or less include market factor and production factor. Production factor had the highest influence coefficient on the dependent variable, knowledge acquisition & transfer (BETA=0.488), and market factor had the influence coefficient with 0.245. But, technology factor had not the significance at 0.05 or less, and influence coefficient was negative.

In hypothesis 2 with regard to influence of R&D location advantage including 10 factors on knowledge acquisition & transfer, the model's degree of explanation showed the coefficient with 27% and the significance at 0.05 or less. But, all the fac-

| Dependent Independent | knowledge acquisition & transfer | | | | | | | |
|--------------------------|----------------------------------|--------|---------|---------|----------------|---------------------|--|--|
| | β | BETA | ¹t | F | \mathbb{R}^2 | Adj. R ² | | |
| constant | 1.553 | | 3.439** | 7.408** | 0.203 | 0.176 | | |
| market | 0.237 | 0.245 | 2.559* | 7.408** | 0.203 | 0.176 | | |
| technology | -0.132 | -0.129 | -0.601 | 7.408** | 0.203 | 0.176 | | |
| production | 0.485 | 0.488 | 2 275 | 7 408** | 0.203 | 0.176 | | |

Table 1 The influence of R&D labs' strategic factors on knowledge acquisition & transfer

tors except for three ones did not show the significance at 0.05 or less. The factor with the highest influence among R&D location advantage was researcher's competency (BETA = 0.271). Also, the degrees of influence of retaining factory/selling group, as well as communication, showed the significance at 0.05 or less. But, the influence coefficient of retaining factory/selling group was negative (BETA = -0.235).

Table 2 The influence of R&D location advantage on knowledge acquisition & transfer

| Dependent Independent | knowledge acquisition & transfer | | | | | | | |
|--------------------------|----------------------------------|--------|---------|---------|----------------|---------------------|--|--|
| | β | BETA | t | F | \mathbb{R}^2 | Adj. R ² | | |
| constant | 2.311 | | 4.680** | 3.182** | 0.270 | 0.185 | | |
| market size | -0.033 | -0.045 | -0.395 | 3.182** | 0.270 | 0.185 | | |
| test market | -0.121 | -0.177 | -1.684 | 3.182** | 0.270 | 0.185 | | |
| researcher's competency | 0.258 | 0.271 | 2.348* | 3.182** | 0.270 | 0.185 | | |
| labor cost | 0.107 | 0.129 | 1.098 | 3.182** | 0.270 | 0.185 | | |
| competitors | 0.099 | 0.136 | 1.253 | 3.182** | 0.270 | 0.185 | | |
| factory/selling group | -0.177 | -0.235 | -2.115* | 3.182** | 0.270 | 0.185 | | |
| communication | 0.153 | 0.208 | 1.888* | 3.182** | 0.270 | 0.185 | | |
| government policy | 0.060 | 0.083 | 0.705 | 3.182** | 0.270 | 0.185 | | |
| maintenance feasibility | 0.135 | 0.167 | 1.196 | 3.182** | 0.270 | 0.185 | | |
| Quality of life | -0.149 | -0.163 | -1.265 | 3.182** | 0.270 | 0.185 | | |

^{**:} P<0.01, *: P<0.05

In hypothesis 3 regarding the influence of knowledge acquisition & transfer on R&D performance, the degree of explanation of two factors including knowledge acquisition & transfer on R&D performance, the dependent variable, was relatively low (R^2 =0.180, Adj. R^2 =0.161), and had no significance even at 0.05 or less. Accordingly, the hypothesis 3 was not supported. When it comes to influences of indepen-

^{**:} P<0.01, *: P<0.05

dent variables on the dependent one, "knowledge from the headquarters to R&D labs" showed the significance (BETA = 0.305) at 0.05 or less but "knowledge from R&D labs to the headquarters" did not.

Table 3 The influence of knowledge acquisition & transfer on R&D performance

| Dependent Dependent | lent | | R&D per | formance | | |
|---------------------|-------|-------|---------|----------|----------------|---------------------|
| | В | BETA | t | F | R ² | Adj. R ² |
| constant | 1.907 | | 5.966** | 9.359 | 0.180 | 0.161 |
| H → R&D labs | 0.255 | 0.305 | 2.635** | 9.359 | 0.180 | 0.161 |
| R&D labs → H | 0.128 | 0.176 | 1.518 | 9.359 | 0.180 | 0.161 |

^{**:} P<0.01, *: P<0.05

3.2.2 Comparative analysis between Korea and China

The main purpose of this paper focused on comparison of influence of independent variables on the dependent one between Korea and China. Accordingly, two multiple regressions used for Korea and China respectively. The model of Korea showed the significance at 0.01 or less, but the model of China did at 0.1 or less. Besides, Production among strategic factors had the highest influence in Korea (BETA = 1.160), but technology had the highest influence in China (BETA = 0.904).

Table 4 The influence of R&D labs' strategic factors on knowledge acquisition & transfer

| Dependent Independent | knowledge acquisition & transfer | | | | | | | | | | | | |
|--------------------------|----------------------------------|--------|--------|--------|---------|---------|---------|------------------|-------|----------------|-------|---------------------|--|
| | I | 3 | BE | BETA | | t | | F | | \mathbb{R}^2 | | Adj. R ² | |
| | Korea | China | Korea | China | Korea | China | Korea | China | Korea | China | Korea | China | |
| constant | 0.091 | 3.633 | | | 0.188 | 6.878** | 25.20** | 2.737 (P<1.0) | 0.637 | 0.170 | 0.612 | 0.108 | |
| Market | 0.064 | -0.065 | 0.057 | -0.087 | 0.612 | -0.586 | 25.20** | 2.737 (P<1.0) | 0.637 | 0.170 | 0.612 | 0.108 | |
| Technology | -0.573 | 0.615 | -0.429 | 0.904 | -1.857 | 2.690** | 25.20** | 2.737 (P<1.0) | 0.637 | 0.170 | 0.612 | 0.108 | |
| Production | 1.455 | -0.440 | 1.160 | -0.678 | 4.999** | -2.009 | 25.20** | 2.737 (P<1.0) | 0.637 | 0.170 | 0.612 | 0.108 | |

^{**:} P<0.01, *: P<0.05

Even in hypothesis 2, the model of Korea showed the significance at 0.01 or less, and the high degree of explanation (0.496). Only communication among R&D location advantage factors had the significance at 0.05 or less in the model of Korea.