A preliminary review on

An empirical investigation of knowledge management and innovative performance: The case of alliances

March 29, 2017
Culture is the habit of being pleased with the best and knowing why.
ARTICLE INFORMATION

• Research Policy 38 (2009) 358-368
  - An empirical investigation of knowledge management and innovative performance: The case of alliances

  Su Jiang, Yuan Li
How to write English well

ARTICLE STRUCTURE

1. Abstract
2. Introduction
   - Literature review & Theoretical underpinnings
3. Methodology
   - Hypotheses
   - Data collection
   - Measures
4. Results
5. Discussion and conclusions

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ARTICLE REVIEW - Abstract

**Abstract**

**Introduction**

**Relations:**
- Alliances scope
- Alliances type
- Knowledge sharing, Ks
- Knowledge creation, Kc
- Innovative performance
- Innovative performance
- Innovative performance

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ARTICLE REVIEW – Literature review

Abstract

Introduction

Literature review & Theoretical underpinnings (Theory – Knowledge Tree)

1. Alliances scope
   (1) Horizontal: related to the size, complexity, uncertainty of the particular project
   (2) Vertical: R&D, Manufacturing, Marketing (analysis focuses)

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ARTICLE REVIEW – Literature review

Abstract

Introduction

Literature review & Theoretical underpinnings

2. Forms of learning – Learning theory

(1) Absorptive learning (acquisitive learning, exploitative learning):
   Exploit existing knowledge, and acquire knowledge, doesn’t have to
   newly created.

(2) Creative learning (experiment learning, exploration learning)
   Develop a new and original knowledge.

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ARTICLE REVIEW – Literature review

Abstract

Introduction

Literature review & Theoretical underpinnings

3. Knowledge sharing
   (1) Within alliances
   (2) Through alliances

4. Knowledge creation
   (1) Within alliances
   (2) Through alliances

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ARTICLE REVIEW – Literature review

Abstract

Introduction

Literature review & Theoretical underpinnings

5. Indicators of innovative performance

(1) R&D expenditures  
(2) Patents counts  
(3) Patent citations  
(4) New products
ARTICLE REVIEW – Methodology

Hypothesis

<table>
<thead>
<tr>
<th>Alliance Characteristics</th>
<th>Knowledge Management</th>
<th>Firm Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alliance Scope</td>
<td>Knowledge Sharing</td>
<td>Innovative Performance</td>
</tr>
<tr>
<td>H1(+)</td>
<td></td>
<td>H5(+)</td>
</tr>
<tr>
<td>H2(+)</td>
<td>Knowledge Creation</td>
<td>H6(+)</td>
</tr>
<tr>
<td>Alliance Governance</td>
<td>Knowledge Sharing*</td>
<td>H7(+)</td>
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<tr>
<td>H3(+)</td>
<td>Knowledge Creation</td>
<td></td>
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<tr>
<td>H4(+)</td>
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</tbody>
</table>

Control Variables:
- Firm size
- Alliance portfolio
- Past alliance experience

Fig. 1. Conceptual framework

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ARTICLE REVIEW – Methodology

Hypothesis

**H1.** The broader the *scope* of an alliance, the more the *shared* knowledge an alliance firm will obtain from its partners.

**H2.** The broader the *scope* of an alliance, the more the knowledge an alliance firm will *create* within its organizational boundaries.

**H3.** *Joint ventures* will facilitate more knowledge *sharing* than contractual alliances.

**H4.** *Joint ventures* will promote more knowledge *creation* than contractual alliances.
ARTICLE REVIEW – Methodology

Hypothesis

H5. The amount of knowledge a firm shares from its partners will be positively related to its innovative performance.

H6. The amount of knowledge a partner firm creates within its boundaries will be positively related to its innovative performance.

H7. The interaction of knowledge sharing and creation will be positively related to partner firms’ innovative performance.
ARTICLE REVIEW – Methodology

Data collection: Adopted a web-based e-mail survey design

1. Senior executive: from internet business guides, company web pages and directories

2. Senior managers: from some firms in the database of IHK

3. A total of 127 completed, valid questionnaires were collected

4. From a total of 223 firms selected through the above two ways.
ARTICLE REVIEW – Methodology

Measures

Independent variables

1. Alliances **scope**
   
   A dummy variable = 0, if an alliance involves a single activity
   
   1, if an alliance involves 2 or 3 activities of R&D, manufacturing, or marketing.

2. Alliance **governance** form

   A dummy variable = 0, if an alliance is a JV

   1, if an alliance is a contractual arrangement

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ARTICLE REVIEW – Methodology

Measures

Dependent variables

1. Knowledge sharing: Using a six-item scale to ask if an alliance had

   (1) Frequent communication

   (2) If they often exchanged the following five types of knowledge
       • Managerial techniques
       • R&D progress
       • Product/process development
       • Manufacturing process
       • New marketing expertise
ARTICLE REVIEW – Methodology

Measures

Dependent variables

2. Knowledge creation: Six items were used focusing on whether the firm has

(1) The creation of new knowledge was one of the most important cooperative motives.

(2) If the alliance has gathered or built the following five types of new knowledge

(3) New operational ideas

(4) New ways to perform the task

(5) New product-specific technologies

(6) New manufacturing-specific skills

(7) New marketing expertise

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ARTICLE REVIEW – Methodology

Measures

Dependent variables

3. Innovative performance: Used a self-reported questionnaire survey of managers, provided more accurate and reliable data.

To assess if Four Indicators have increased.

(1) R&D expenditures

(2) Patent counts

(3) Patent citations

(4) New product counts
ARTICLE REVIEW – Methodology

Measures

Control variables

1. Firm size = 0, if the firm was small or medium-sized, < 500 employees
   = 1, if it is a large-sized firm.

2. Alliance number = 0, if the firm had only one alliance case in the past 6 years.
   = 1, if it had two or more alliances.

3. Past alliance experience = 0, if the firm had no prior alliance experience
   = 1, if it had such experience.
ARTICLE REVIEW – Results

Hypotheses testing

**H1.** Alliance *scope* to knowledge *sharing* is positive and statistically significant.

**H2.** Alliance *scope* and knowledge *creation* is not significant (*p > 0.10*).

**H2** is not supported.

**H3.** Positive effects of governance *structure* on knowledge *sharing*.

**H4.** Governance *structure* displays a significant positive effect on knowledge *creation*.
ARTICLE REVIEW – Results

Hypotheses testing

**H5.** Knowledge *sharing* contributes positively and significantly to *innovative performance.*

**H6.** Knowledge *creation* contributes positively and significantly to *innovative performance.*

**H7.** The *interaction* effect of **KM practices** on *innovative performance* is positive and significant, that provides support for the presence of an *interaction* between knowledge *sharing and creation.*

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ARTICLE REVIEW – Discussion & Conclusions

Discussion

Why H2 is not supported?

• From knowledge-based view and organizational learning theory, knowledge access is a necessary premise of acquiring internalizing external knowledge.

• However, the primary advantage of alliances is in accessing rather than acquiring knowledge.

• Knowledge access is necessary but not sufficient for knowledge creation.

• From theoretical and methodological points of view, a firm’s knowledge creation may be driven more by the firm’s internal creative learning capability than by external alliance-level factors.
ARTICLE REVIEW – Discussion & Conclusions

Limitation and future research

Neglected

• Knowledge protection: Promote knowledge sharing and enhance knowledge protection

• Transaction cost economics

• A broader alliance facilitates knowledge sharing but at the same time increase the effects of knowledge loss.

• The innovative performance was evaluated by firm managers. This self-reporting method has potential limitations. The answers can be affected by subjectivity.
ARTICLE REVIEW – Discussion & Conclusions

Implications for theory

• How a firm acquire and use knowledge from strategic alliances.

• What scope and type of alliances may better facilitate knowledge sharing and creation.

• KM practices advance our knowledge of the “black box” in the alliance-performance link.

• Knowledge creation is an upward spiral movement process through the interplay between explicit and tacit knowledge.

• In turn, creation learning lies at the apex of another upward spiral organization learning process – learning from experience, absorptive learning, and creative learning.
ARTICLE REVIEW – Discussion & Conclusions

Implications for practice

• **A first managerial implication:**
  A choice of moderate alliance scope regarding knowledge sharing and knowledge protection.

• **A second managerial implication:**
  More hierarchical governance structure to achieve a balance between sufficient knowledge sharing and effective knowledge protection;

• **A third managerial implication:**
  Firms’ organizational learning, knowledge acquisition, and KM practices interaction will be beneficial for alliances formed.
ARTICLE COMMENDS

• Complete abstract and introduction.

• A typical article structure.

• The article filled the gaps
  - Between alliance and performance
  - Between performance-centered and performance process
  - What is performance

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<th>Innovative performance</th>
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<tbody>
<tr>
<td>Knowledge management</td>
<td>Knowledge learning</td>
<td>Strategic Alliances</td>
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<tr>
<td>Knowledge transfer</td>
<td>Organization learning</td>
<td></td>
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<tr>
<td>Knowledge acquisition</td>
<td>JV learning</td>
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ARTICLE COMMENDS

Knowledge tree summarized from theory literatures
ARTICLE COMMENDS

The article contribution

• KM practices as a mediator in the alliance-performance relationship, the so-called “black box”.

Some comments

• It is requested that an organization be formed for performing KM practices.
• Is KM a must-do for NCSIST which is a knowledge-based and technology-oriented organization as the article defined?
• The innovative performance indicators and knowledge creation evaluation need to be considered more detailed for definition and completeness.

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Thank You