

令和 4 年 6 月 13 日現在

機関番号：12613
研究種目：若手研究
研究期間：2020～2021
課題番号：20K13584
研究課題名(和文) Market Change and Alliance Portfolio Configuration: Evidence from the Global Airline Industry
研究課題名(英文) Market Change and Alliance Portfolio Configuration: Evidence from the Global Airline Industry
研究代表者
Lee Jinju (リジンジュ) (LEE, Jinju)
一橋大学・大学院経営管理研究科・講師
研究者番号：30870224
交付決定額(研究期間全体)：(直接経費) 2,500,000円

研究成果の概要(和文)：本研究では、需要ショックと競争構造の変化という異なるタイプの市場変化の下での競争戦略を調査しました。まず、COVID-19パンデミック下での経営資源の再割り当てと構成を決定する企業の行動特性(組織学習など)の異なる影響を示唆する調査結果を得ました。2番目のプロジェクトの結果は、市場のショックが戦略的アライアンス(strategic alliance)形成パターンに変形を引き起こしたことを示唆しています。この調査は、グローバルバリューチェーンの最適な構造と他企業と協力関係を構築する上で、より包括的な見方を提供します。

研究成果の学術的意義や社会的意義

This research aims to provide a more holistic view in managing the organizational resource and learning activities under unexpected market changes. The findings provide practical implications to understand about strategic resource sharing and partnership to facilitate cooperation with competitors.

研究成果の概要(英文)：This research investigated competitive strategies under different types of market change: demand shock and competitive structure change. I found preliminary results suggesting differential impacts of firm behavioral characteristics (e.g., learning orientation) on resource reallocation and resource configuration decisions under COVID-19 pandemic. The second project results suggest that the market shock created disturbance on alliance formation patterns (linearity and choice of value chain). The implications of this research provide a more holistic view in building an optimal structure of the global value chain and cooperative relationships with competitors.

研究分野：Corporate Strategy

キーワード：Corporate Strategy Strategic Alliance Value Chain

様式 C - 19、F - 19 - 1、Z - 19 (共通)

1 . 研究開始当初の背景

How does changes in market demand and competition structure affect strategic decisions? Recent studies suggest that the average interfirm cooperation per firm has increased, with their scopes extended to various stages of the value chain (Hoehn-Weiss and Karim, 2014; Lavie, 2007). Firms face greater challenges in coordinating multiple firm activities across various value chains and functions; this phenomenon has encouraged scholars and practitioners to pay attention to understanding resource (e.g. alliance portfolio) management. However, while alliance portfolio studies provide ample explanations as to why firms build alliance portfolios, they offer little insight into alliance portfolio configuration issues (Wassmer, 2010). Prior research mainly viewed alliance portfolio configuration (adding new alliances or terminating existing ones) as a resource management issue (Andreuski, Brass, and Ferrier, 2016; Das and Teng, 2000), which led scholars to focus on studying alliance portfolio characteristics. What is still lacking is the application of behavioral (Levitt and March, 1988) and competitive dynamics perspectives (Chen and Miller, 2012) that can influence alliance portfolio configuration decisions. The research question of this project is to theorize and empirically test how firms interpret external market changes and strategically adjust their learning behaviors and competitive actions.

2 . 研究の目的

The main purpose of this research is to theorize and empirically test how firms interpret external market changes and strategically adjust their resources. This research was conducted in several separate projects. First project investigated how alliance portfolio configurations occur under market demand shock. Drawing on behavioral theories such as vicarious learning (March and Levitt, 1988) and mimetic isomorphism (DiMaggio and Powell, 1983), I empirically tested several hypotheses in the context of airline terror attack that happened in the U.S. on 11 September 2001. The second project was focused on studying airlines operating in three major Northeast Asian markets (Japan, Korea, and China) after Covid-19. I also conducted empirical study about global value chain management to examine optimal vertical integration strategies and to discuss strategic trade-offs in the global market.

3 . 研究の方法

Several series of empirical analyses were conducted. Alliance information was mainly collected from Airline Business and Lexis/Nexis. All other airline-specific data (airline routes, utilization, capacity, financials etc.) as well as market data (airline passenger demand and supply) were collected from the International Civil Aviation Organization (ICAO) database. SAS was used for dataset management and STATA version 14 was used for statistical analysis. For other projects, I collected data from 142 South Korean fashion apparel firms which are enlisted in the Korea Stock Exchange. I collected the financial data from Repository of Korea's Corporate Filings (<https://dart.fss.or.kr/>), and extracted value chain related data, number of patents, and annual R&D (Research and Development) expenditure from each firm's annual report. Quantitative methods such as negative binomial regression and multivariate panel regression were applied to test my hypotheses (Greene, 2002).

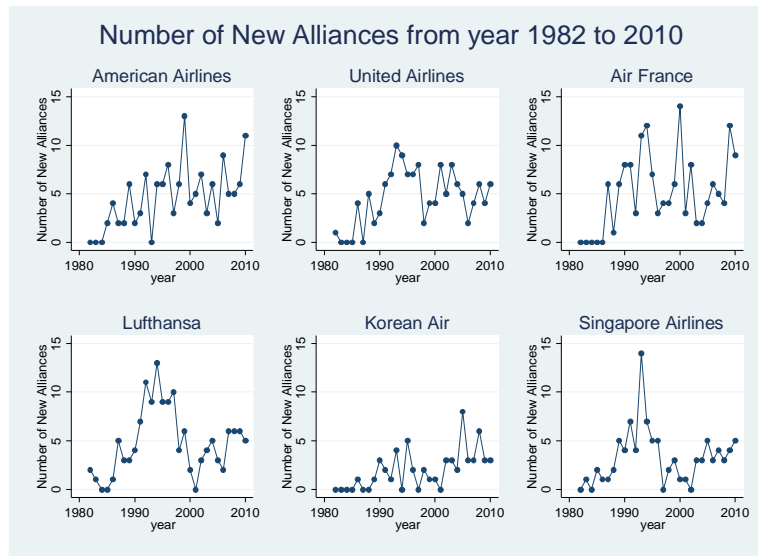
4 . 研究成果

(1) This research investigated competitive strategies under different types of market change: demand shock and competitive structure change. I found preliminary results suggesting differential impacts of firm behavioral characteristics (e.g., learning orientation) on resource reallocation and resource configuration decisions under COVID-19 pandemic.

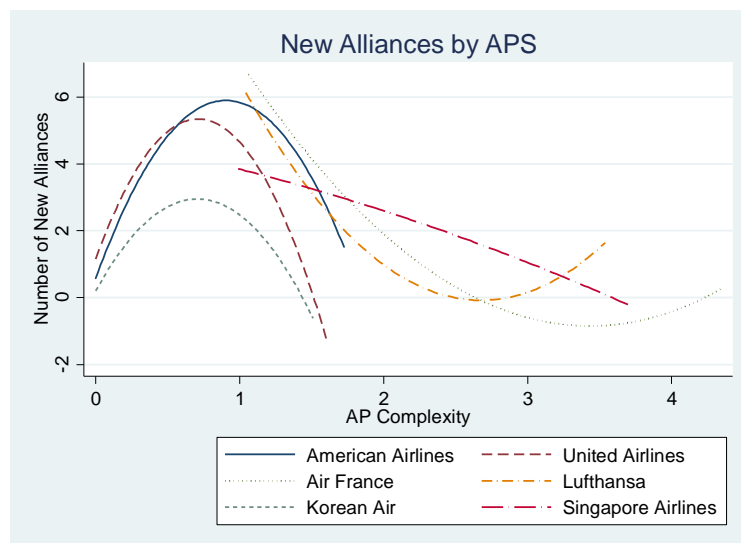
(2) From the collection of 47 global airline data analysis, the second project results suggest that the market shock created disturbance on alliance formation patterns (linearity and choice of value

chain). The implications of this research provide a more holistic view in building an optimal structure of the global value chain and cooperative relationships with competitors.

[Figure 1. Patterns of alliance formation for representative major airlines during 1982-2010]



[Figure 2. Different linearity of alliance formation for major airlines]



(3) I also collected annual reports and press releases of six airlines (JAL, ANA, KAL, Asiana, Air China, China Eastern Airline) to compare before and after COVID-19 behaviors. After comparing different business models for six airlines in North-East Asia after COVID-19, I found differentiating factors such as financial slack, business diversification, ownership, and cognitive belief structure for each airlines.

(4) I collected data from 142 South Korean fashion apparel firms from 2006 to 2016, and conducted panel regression analysis. The two main effects of GVC management strategy – vertical integration and horizontal expansion of value chain – was found to be positively associated with the focal firm’s export performance. In addition, I found R&D investment to be negatively associated with the focal firm’s export performance. Results of the impact of two different combinations of strategies on the focal firm’s export performance demonstrated interesting contrast. On the one hand, vertical integration created a strategic trade-off, weakening the positive impact of horizontal expansion of the value chain on export performance. On the other hand, vertical integration created appropriable rents and weakened the negative impact of R&D investment on export performance.

[Figure 3. Panel regression analysis results]

Fixed-Effect Panel Regression Analysis Results (DV= Export performance)							
	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)
Firm Age	0.037** (0.007)	0.026** (0.007)	0.019** (0.007)	0.020** (0.007)	-0.004 (0.007)	0.004 (0.007)	0.006 (0.007)
Firm Size ¹⁾	0.005 (0.146)	-0.062 (0.144)	-0.114 (0.142)	-0.242* (0.140)	-0.425** (0.134)	-0.383** (0.134)	-0.567** (0.135)
SME Classification	0.058** (0.019)	0.057** (0.018)	0.039* (0.019)	0.056** (0.018)	0.048** (0.018)	0.077** (0.017)	0.095** (0.020)
ROIC	0.000 (0.019)	0.006 (0.018)	0.011 (0.018)	0.021 (0.018)	0.036* (0.017)	0.017 (0.017)	0.035* (0.017)
No. of Patents	0.056 (0.814)	-0.185 (0.800)	0.011 (0.789)	-0.072 (0.767)	0.340 (0.876)	-0.406 (0.886)	-0.249 (0.862)
H1: Vertical Integration (VI)		0.540** (0.117)	0.488** (0.116)	1.961** (0.290)	0.612** (0.110)	0.282* (0.149)	1.843** (0.396)
H2: Horizontal Expansion (HE)			0.796** (0.200)	2.584** (0.378)	0.804** (0.218)		2.211** (0.420)
H3: VI*HE				-0.905** (0.164)			-0.953** (0.230)
H4: R&D Expenditure (%)					-0.751** (0.091)	-1.470** (0.229)	-1.166** (0.229)
H5: VI * R&D (H4)						0.447** (0.130)	0.273* (0.130)
Constant	13.901** (0.632)	13.524** (0.625)	13.292** (0.618)	10.508** (0.785)	15.894** (0.639)	16.607** (0.640)	13.206** (0.963)
N	509	509	509	509	393	393	393
F-value	8.9	11.3	12.3	15.2	20.2	19.9	19.9
R-Square	0.083	0.121	0.149	0.199	0.302	0.298	0.348
Degrees of Freedom	15	16	17	18	18	18	20

Standard errors in parentheses, * $p < 0.10$, * $p < 0.05$, ** $p < 0.01$
1) Log-transformed

(5) The main theoretical contribution is integrating behavioral and competitive dynamic theories under different types of market change (demand shock and competitive structure change) as boundary conditions. Although multiple theoretical lenses explain the formation of individual alliances, a broader view of assessing how firms build and configure their alliance portfolios is necessary for scholars to advance the current understanding of strategic alliances. In addition, the findings imply that the simultaneous pursuit of two GVC strategies (both efficiency and value-creation seeking) may negatively impact the internationalization performance. This may suggest that there is potentially a strategic trade-off between concurrently pursuing both strategies that can lead to ambidexterity issues in resource management.

[Key references]

- Andrevski, G., Brass, D. J., & Ferrier, W. J. (2016). Alliance portfolio configurations and competitive action frequency. *Journal of Management*, 42(4), 811-837.
- Chen, M.-J., & Miller, D. (2012). Competitive dynamics: Themes, trends, and a prospective research platform. *The Academy of Management Annals*, 6(1), 135-210.
- Das, T. K., & Teng, B.-S. (2000). A resource-based theory of strategic alliances. *Journal of Management*, 26(1), 31-61.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147-160.
- Greene, W. H. (2002). *Econometric analysis* (5th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Hoehn-Weiss, M. N., & Karim, S. (2014). Unpacking functional alliance portfolios: How signals of viability affect young firms' outcomes. *Strategic Management Journal*, 35(9), 1364-1385.

- Lavie, D. (2007). Alliance portfolios and firm performance: A study of value creation and appropriation in the US software industry. *Strategic Management Journal*, 28(12), 1187-1212.
- Levitt, B., & March, J. G. (1988). Organizational learning. *Annual Review of Sociology*, 14, 319-340.
- Wassmer, U. (2010). Alliance portfolios: A review and research agenda. *Journal of Management*, 36(1), 141-171.

5. 主な発表論文等

〔雑誌論文〕 計0件

〔学会発表〕 計1件（うち招待講演 1件 / うち国際学会 1件）

1. 発表者名 Jinju Lee
2. 発表標題 When is Value Chain Strategy More Powerful?: GVC Management in the Korean Fashion Apparel Industry
3. 学会等名 Academy of Management Annual Conference (招待講演) (国際学会)
4. 発表年 2022年

〔図書〕 計0件

〔産業財産権〕

〔その他〕

-

6. 研究組織

氏名 (ローマ字氏名) (研究者番号)	所属研究機関・部局・職 (機関番号)	備考
---------------------------	-----------------------	----

7. 科研費を使用して開催した国際研究集会

〔国際研究集会〕 計0件

8. 本研究に関連して実施した国際共同研究の実施状況

共同研究相手国	相手方研究機関
---------	---------