

Study on  
the Evolution Mechanism of  
Corporate Strategic Alliances Based on  
the Spontaneous Symmetry Breaking

# 企业战略联盟的 演化机制

——基于自发性对称破缺视角

高杲 徐飞 著



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## 内 容 简 介

本书是国家自然科学基金项目“自发性对称破缺视角下企业战略联盟的演化机制”的理论研究部分。本书在自发性对称破缺视角下深入探讨影响联盟绩效的六大破缺因素：契约参考点、价值参考点、主观机会主义行为、客观机会主义行为、机会收益和预期收益，深刻揭示联盟演化的三大机制，即“心理—行为”自激励机制、“行为—收益”竞争机制和“收益—心理”反作用机制，由此寻求破解联盟高失败率问题的解决之道以切实提高联盟绩效。本书综合采用多种研究方法相互印证，在研究视角、研究框架及研究变量等方面都做了有益的探索，对于指导现实联盟合作具有参考性、借鉴性和启发性。

本书适合研究生、企事业单位、政府部门从事联盟、合作、协同创新、并购等工作的从业人员以及对战略联盟感兴趣的广大读者学习参考。

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## 序

战略联盟以其灵活的组织形式和集聚协同的竞争优势，获得了当下很多营利或非营利组织的垂青。20世纪80年代以来，战略联盟这种新兴组织形式在欧美发达国家蓬勃发展起来，90年代后期开始在中国落地生根。战略联盟实践的发展，推动了战略联盟学术研究的进程。学者们探究战略联盟的成因，分析战略联盟的过程，关注战略联盟的绩效，至今已经获得了丰硕的研究成果，大大丰富了我们对于战略联盟的认识。

通常，两个或两个以上主体通过合作或合约形成战略联盟，以追求共赢的战略绩效和协同效应。联盟已经成为大至创新型国家和区域小至企业或机构提高自主创新能力的全新组织模式。实际上，整合区域内的企业、大学、研究机构、行业协会，形成扁平化和自治型的“联合创新网络”，造就了今天的美国硅谷。建立以国家电子通信研究所为牵头单位，由三星电子、LG 半导体以及大学、政府机构等组成的共同研究开发组织，成就了今天的三星、LG 等世界半导体巨头。积极推进协同创新，建立全球性创新网络，促进了

芬兰、爱尔兰、瑞典、瑞士等北欧小国的崛起。国内两弹一星工程、载人航天工程、嫦娥工程等重大技术联合攻关,也无不是合作协同、集成创新所获得的丰硕成果。

从国内外实践来看,联盟的特点是参与者拥有共同目标和内在动力,通过构建资源交互合作平台,进行全方位交流和多样化协作。其中,契约成为联盟成员讨价还价、达成共识、维护合作关系的有利工具。战略联盟在广义和宏观层面表现为产业集群和官产学研合作,在微观层面则主要指企业间以契约为纽带形成的合作。企业之间的联盟追求“和”属性和协同效应,即在整体战略目标不变的前提下相互借力、互惠共赢。战略联盟的目的,就其表现形式而言有多种,但究其根本是协同。《辞海》对“协同”一词的解释包含四种含义:谐调一致,和合共同;团结统一;协助会同;互相配合。协同学理论亦指出:自然界和人类社会中普遍存在着有序和无序现象,其中有序就是协同,无序则是混沌,两者在一定的条件下相互转化。但是,联盟的协同(更一般地,联盟的高绩效)并不会自发产生,这主要表现在三方面:第一,协同需要建立在不同主体之间的合作基础之上,而这需要一定条件以及特定机制保障才能发生、维护乃至持续;第二,合作要能够产生协同效应,就必须通过特定机制来对不同创新主体的目标、资源等进行有效协调和分配;第三,创新系统的协同离不开与外部环境的良性互动,这依赖于超越系统自身的管理体制和机制。

联盟各方都希望在整体合作关系不变的情况下,联盟不仅能保持相对稳定性,且能获得约定的预期绩效。然而,大量研究表明,战略联盟的绩效与联盟各方的预期落差很大,其失败率非常高。相关的实证发现,联盟的失败率接近50%,即联盟中约

有一半被联盟一方或多方认为是失败的。现实中,联盟诉讼频繁发生,联盟解体不绝于耳。现有的研究用机会主义行为、契约不完全性等理论来解释联盟为何失败,但未能解释在联盟演化过程中联盟绩效恶化背后的深层问题以及“坏”因素是如何产生和相互作用的。

受自然科学和系统科学有关研究成果的启发,我们引入自发性对称破缺视角。通过对联盟系统中“破缺”因素的挖掘和剖析,探究契约参考点、价值参考点、主观机会主义行为、客观机会主义行为、机会收益、预期收益等破缺因素及其相互联系和作用,进而揭示联盟的演化机制,由此寻求破解联盟高失败率问题的解决之道以切实提高联盟绩效。

本书综合采用文献挖掘、概念阐释、比较分析、理论分析、博弈分析、逻辑推演、建模仿真和案例研讨等多种方法,主要研究结论包括:

(1) 通过援引经典研究成果进行深入分析,发现在企业战略联盟演化中,存在心理、行为和收益三类自发性对称破缺。其中,心理破缺由契约参考点和价值参考点引发;行为破缺由主观机会主义和客观机会主义引发;而收益破缺则由机会收益和预期收益诱导。

(2) 战略联盟演化遵循“心理—行为”自激励机制、“行为—收益”竞争机制和“收益—心理”反作用机制。这三大机制环环相扣,螺旋推进,贯穿于联盟合作过程始终,共同推动联盟演化并影响联盟绩效。

(3) 心理—行为自激励机制,从心理上揭示了循例收益、完美收益、货币损失、精神损失、价值、决策权重和收益函数等诸因素之

间如何相互作用、影响联盟成员的决策行为和信任强度。

(4) 行为—收益竞争机制,从行为上揭示了联盟各方的共同收益、私人收益和决策行为如何相互作用、影响联盟的收益边界。

(5) 收益—心理反作用机制,从收益上揭示了联盟各方的共同收益、私人收益、机会收益和预期收益等诸多收益之间,如何相互作用、影响联盟成员的心理。

与现有战略联盟理论或研究成果相比较,本书的主要创新之处在于:

(1) 将在自然科学、系统科学中广泛应用的自发性对称破缺视角,首次引入到对战略联盟演化机制研究中,直接与联盟“和而不同”的本质建立联系。通过深入挖掘和剖析影响联盟绩效的破缺因素,力图有的放矢、对症下药,旨在从根本上保障和提高联盟绩效。

(2) 关于联盟演化机制,传统和现有的研究多集中分析联盟演化的单阶段或者单机制,缺乏全过程、系统性的整体观照。本书从心理、行为、收益三个维度全面审视联盟演化,由此深入探究联盟的自激励、竞争和反作用三大演化机制。

(3) 传统研究多将心理因素作为条件变量,而本书通过引入Hart的契约参考点、Tversky和Kahneman的价值参考点,有利于深度刻画联盟成员对收益的心理感知差异,从而更好地诠释联盟心理破缺;传统研究偏重于分析主观机会主义,而本书将机会主义划分为主观和客观两类,丰富和发展了联盟机会主义研究的内容;现有研究多将联盟收益视为因变量,而本书关注收益—心理反作用机制,弥补了过往研究的不足。

本书由高杲的博士论文改编而成,本书同时受到国家自然科

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徐 飞

2012年1月18日



STUDY ON THE EVOLUTION MECHANISM OF  
CORPORATE STRATEGIC ALLIANCES BASED ON  
THE SPONTANEOUS SYMMETRY BREAKING

ABSTRACT

Strategic alliances, with their flexible organization forms and aggregated competitive advantages, were taken seriously by many corporations. Since 1980s, strategic alliance as a new organizational form flourished in Europe and the United States, and began to take root in China in the late 1990s. The strategic alliances' practices promoted academic researches of strategic alliances. Scholars explored the causes of strategic alliances, analyzed the processes of strategic alliances, concerned the performances of strategic alliances and had already gained fruitful results, which greatly enriched our understanding of strategic alliances.

Typically, two companies decided strategic direction,

formed strategic alliances through cooperation, and pursued win-win strategic performances. Organizational relations within alliances showed “harmony” property and cooperation characteristic in the whole. In the premise of the overall strategic objective, alliances interacted constantly and gained win-win benefits. Contract became a powerful tool for alliance members to bargain, reach a consensus, and maintain cooperation. The classical alliance theories analyzed alliances’ causes based on “harmony” and cooperation. Through logical thinking and reasoning, we thought that if the “harmony” property and the overall cooperation in the alliance relations remained unchanged, the alliances should remain relatively stable in evolution, and should obtain the contracted performances.

However, many academic researches (Kogut, 1988; Beamish, 1985; Park & Ungson, 1997) also found that the failure rate of strategic alliances was very high. Empirical researches (Kogut, 1988; Bleeke & Ernst, 1993) found that alliances had nearly 50% failure rate, and 24 of 49 alliances were considered unsuccessful by either or both. In reality, alliances had frequent litigations and endless dissolutions. Danone-Wahaha alliance had dissolved. Telecommunications operator-SP alliance was confronted with litigation. The factors of alliance failure such as opportunistic behavior and uncomplete contract had been provided. However, the classical theories

didn't provide us with a holistic, logical thinking to explain how the negative factors generate and take effect in evolution of the alliance, to explain how the alliance contains other unfavorable factors in pursuit of "harmony" objective.

The book analyzes strategic alliance's essential attributes, discusses the evolutionary mechanisms of alliances, and gives a logical explanation in theory. It includes: analyzing the classical alliance theories' deficiencies in evolutionary mechanisms, which caused the performance degradation; introducing the spontaneous symmetry breaking from Natural Science and System Science; analyzing the evolutionary mechanisms of alliances based on the spontaneous symmetry breaking, which is about the interactions of the "breaking" factors in alliance (contract reference point, value reference point, objective and subjective opportunistic behavior, opportunistic benefit, expected benefit), and how these interactions influence the evolution of alliances; on this basis, developing specific measures to solve the problem of alliance performances.

This book uses a combination of research methods, such as literature mining, comparative analysis, theoretical analysis, concept interpretation, conceptual modeling, game analysis, logical deduction, modeling and simulation, case studies, integrating theory with practice. Conclusions include:

(1) Three categories of spontaneous symmetry breaking exist in the evolution of strategic alliances: psychological

breaking — contract reference point, value reference point; behavioral breaking — subjective opportunism, objective opportunism; benefit breaking — opportunistic benefit, expected benefit.

(2) In the perspective of spontaneous symmetry breaking, the evolutionary mechanisms of strategic alliances include psychology-behavior self-excited mechanism, behavior-benefit competition mechanism and benefit-psychology reaction mechanism. Three mechanisms interlock and co-evolve.

(3) The psychology-behavior self-excited mechanism can be expressed as: in psychology, there are interactions between routine benefit, perfect benefit, currency loss, spirit loss, value, decision weight and revenue function, and the interactions influence the alliance members' decision-making and trust behavior.

(4) The behavior-benefit competition mechanism can be described as: in behavior, the interactions between common benefit, private benefit and decision making influence benefit boundaries of alliance.

(5) The benefit-psychology reaction mechanism can be expressed as: in benefit, the interactions between common benefit, private benefit, opportunistic benefit and expected benefit influence psychologies of alliance members.

Compared with the classical theory of strategic alliances, this article has the major innovations as below.

(1) Introducing the perspective of spontaneous symmetry breaking to analyze the evolution mechanisms of alliance. The classical alliance theories often discussed the mechanisms from the perspective of cooperation, and didn't concern the mechanisms causing the performance degradation. The article introduces the perspective of spontaneous symmetry breaking, which has been widely used in Natural Science and System Science. Then it analyzes the relations between the spontaneous symmetry breaking and alliance nature of "harmony but not sameness", and explores the three major evolutionary mechanisms associated with the alliance performance degradation.

(2) Thinking alliance evolutionary mechanism through the whole process. Traditional researches often analyzed the single stage of alliance evolution or the specific mechanism, and were lack of systematic thinking of the whole process of alliance evolution mechanism. The book discusses the specific evolutionary mechanisms from psychology, behavior and benefit. It describes the alliance evolutionary mechanism as interlocking processes, which is composed of psychology-behavior self-excited mechanism, behavior-benefit competition mechanism, benefit-psychology reaction mechanism.

(3) Deep thinking on the spontaneous symmetry breaking in the alliance's evolution. Traditional researches often considered psychological factors as the condition variable, but the book

describes the alliance's psychological breaking through reference point, and depicts alliance members' psychological perception of benefit breaking. Traditional researches focused on the subjective opportunism, but the book divides opportunism into subjective opportunism and objective opportunism, enriching the alliance studies. Traditional researches often regarded alliance benefit as the dependent variable, but the book focuses on benefit-psychology reaction mechanism, and makes up for the lack of traditional researches.

In summary, this study shows that: if we want to prescribe the right medicine to enhance and protect the fundamental alliance performance, we should control specifically perfect benefit, currency loss, spirit loss, value, decision weight, revenue function, opportunistic benefit and expected benefit, and curb effectively the three major evolutionary mechanisms including self-excited, competition and reaction. The conclusions provide the alliances with important guidelines.

**KEY WORDS:** Symmetry Breaking, Spontaneous Symmetry Breaking, Strategic Alliance, Evolutionary Mechanism

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