

Research on key factors that  
influence Firms' Sustainable  
Growth after the Industrial Strategic Inflection Point

# “产业战略转折点” 后企业持续成长的 内部关键因素研究

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谨以此书献给我的父亲赵世明先生和我的母亲孙存坤女士!

# 前言<sup>①</sup>

在知识和信息主导的时代，全球经济一体化的趋势使地球变得越来越平，国与国之间的界限变得越来越模糊，人与人之间的沟通变得越来越快捷，与此同时，促进人类经济发展的“细胞”——企业，其持续成长却面临着越来越大的挑战：竞争的全球化在为企业提供更广阔的发展平台的同时又为企业本土竞争领域引入了大量的竞争者，资源的全球化在为企业提供更丰富的资源获取途径的同时又使资源在激烈的竞争中日益稀缺……如果说 1997 年的亚洲金融危机还只是一个区域性的灾难，那么 2008 年始于美国次贷危机的金融风暴则已经演变成全球性的经济危机。在如此动荡、复杂和多变的环境下，企业的生存正在面临无比严峻的考验，企业如何在动态环境下实现持续成长已成为新时代企业发展亟待解决的关键问题。

在梳理相关文献的基础上，本研究发现战略转折点是理论界和实业界公认的企业在成长过程中必经的关键点，战略转折点可能为企业成功的机会，也可能使企业从此走向没落，一个又一个战略转折点的出现显示了企业所面临环境的动态演化特征，企业能否成功跨越战略转折点决定着企业能否完成那关键的“一跃”，实

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① 本研究的完成受国家留学基金委“2007 年国家建设高水平大学公派研究生项目”资助，大部分数据的收集在美国明尼苏达大学卡尔森管理学院完成。

现持续成长。据此，在将战略转折点界定为“产业战略转折点”并将其重新定义的基础上<sup>①</sup>，本研究认为“产业战略转折点”是企业动态环境下获取持续成长的关键瓶颈之一。为探析企业如何在动态环境下实现持续成长的迷思，并顺应战略管理理论界内生论与外生论结合的研究趋势，本研究提出了两个研究问题：

(1) “产业战略转折点”后企业绩效变化的影响因素是什么？

(2) 为什么一些企业在“产业战略转折点”后获得了成功？

在这两个研究问题的指引下，本研究进行了大量的相关文献综述，明确了研究情景的合理性、研究内容的合理性、研究问题提出的合理性，并获得了对两个研究问题实证研究的启示。在结合研究问题与文献综述结论的基础上，将本研究的实证阶段分解为数据分析部分和案例分析部分，其中数据分析部分的实证研究探索第一个研究问题，案例分析部分的实证研究探讨第二个研究问题。

数据分析部分结合文献综述部分的结论，将资源基础论和战略选择观作为理论基础，并在综述两部分文献的基础上搭建了本部分的理论架构，包括研究模型的构建和研究假设的提出。本研究收集了美国<sup>②</sup>半导体业、制药业、化工业、信息与通讯技术业（包括电话器械生产业和无线通讯传播业）1979—2006年上市公司10707个样本的21个指标，共计224847个数据，采用历史事件分析法为

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① 本研究认为“产业战略转折点”是指由技术范式（technological regime）的根本性变化而引起的产业结构和动力机制的根本性改变，这一改变会引起产业内成功企业战略的改变。而技术范式的变化是由技术（技术和/或科学的发展）变化、市场（消费者偏好）变化，以及/或制度（政府管制）的变化而引起的。

② 选择美国的产业原因主要有：美国这四个产业发展的全球领先地位、技术的无国界性。没有选择中国企业数据的原因有：中国现代企业仅30年的发展历史，已经遭遇产业战略转折点的产业不多，即使有，由于中国上市公司可获得的数据少，年份短，难以完成本研究的数据采集。对中国企业的意义：中国企业在这四个产业上处于发展初期，需借鉴经验和教训，中国企业的国际化进程需学习发达国家的经验并吸取他们的教训，中国企业需把握产业全球价值链转移的契机，中国企业面对经济转型期可能遭遇更多的“产业战略转折点”，四个产业是关系国计民生的命脉型产业。

主，产业综合指标值观察法为辅，并辅之以文献研究法，将本部分的时间窗口确定为半导体业（1989—2005）、制药业（1987—1999）、化工业（1979—1991）、电话器械生产业（1995—2005）、无线通讯传播业（1992—2003），通过利用计量经济学相关工具，验证了本部分提出的8个假设，发现产业情景差异与“产业战略转折点”的转折本质差异共同制约着探索“产业战略转折点”后企业绩效变化影响因素的过程和结论：

（1）“产业战略转折点”按照转折本质分为“产业内部跨越式转折”型“产业战略转折点”和“产业之间融合式转折”型“产业战略转折点”。

（2）将企业视为资源和战略的集合体，在“产业之间融合式转折”情景下，影响“产业战略转折点”后企业绩效变化的资源因素是创新能力（正相关）、物质资本（负相关）、闲散资源（正相关），战略因素是低成本战略（负相关）。

（3）影响“产业战略转折点”后企业绩效变化的资源因素在不同产业所包含的维度不同，各维度作用的方向也不同。

案例分析部分采用归纳法，在回顾个案（美国半导体业的Intel公司）成长历史的基础上，经过分析和比较研究，归纳出企业在“产业战略转折点”后成功的关键。将决策者（决策团队）认知过程和组织知识结构纳入分析框架，通过比较个案在两次“产业战略转折点”面前的不同表现和结果，根据扎根理论法，归纳出3个推论并构建了描述企业在“产业战略转折点”后获得成功的关键过程的综合模型，提出：

将企业视为决策者（决策团队）影响下的组织，决策者（决策团队）认知过程和组织知识与“产业战略转折点”后企业的成功密切相关，与环境变化保持高度一致的实时更新且具有预见性的决策者（决策团队）认知过程（避免“认知锁定”）和组织知识结构（避免“知识结构刚性”）之间的相互适应是促使企业在“产业战略转折点”后成功的关键。

综合两部分的结论，笔者发现：（1）关键资源因素的储备和整合需要决策者（决策团队）的认知实现。（2）关键战略的选择主要由决策者（决策团队）作出。（3）资源储备和整合以及战略实施主体的组织知识结构受决策者（决策团队）沟通和网络的影响。（4）“产业战略转折点”的来临标志着外部环境发生根本性的变化，当环境变化开始影响组织绩效，而又无法用现有的知识结构解释或预测时，组织现有的知识结构就会受到挑战，并会在组织成员、环境和行为之间产生交互式影响（Bandura, 1977; Davis, Luthans, 1980）。因此，在“产业战略转折点”背景下，决策者对组织知识结构产生的影响更大。（5）同时，组织的“知识结构刚性”需要决策者（决策团队）的认知过程意识到，并采取一定的措施逐渐消除，在与决策者（决策团队）认知过程相适应后才能促进企业在“产业战略转折点”后获得成功，据此，本研究认为：

**决策者（决策团队）的认知过程对“产业战略转折点”后企业的成功具有极其关键的作用。**由于“产业战略转折点”的不同类型，以及影响“产业战略转折点”后企业绩效变化的资源因素在不同产业所包含的维度不同，各维度作用的方向也不同，因此，决策者（决策团队）在企业面临或可能面临“产业战略转折点”时做决策，需要关注“产业战略转折点”的转折类型（“产业战略转折点”情景）以及资源因素在本产业作用的不同维度和方向（产业情景）。这两点被植入心智模式和战略信念，将影响认知过程和决策，影响企业在“产业战略转折点”后的成败。

本研究的学术价值主要体现在对战略转折点理论、资源基础论和战略选择观的实证研究部分、动态能力理论、企业成长理论和产业进化理论的贡献上。

除此之外，本研究还具有广泛的应用前景，有助于提升现有企业应对变化引导变革的能力，指导新进入者的进入战略，引导政府对产业结构的调整，帮助相关各方对上市公司“产业战略转折点”应对能力的判断，尤其对当今中国企业的发展具有较强的指导意义

和警示作用，是一个符合中国经济发展现状、致力于解决中国企业当前问题的实效性研究。

**关键词：**战略转折点 持续成长 资源 战略 认知过程 知识结构



# Preface

It is an era that based on the knowledge and information. The pace of the globalization has been pushed by the development of technology which makes the communication becomes easier and easier, the transportation becomes more and more convenient...The globalization has changed the earth into a flat world, however, at the same time, it brought more challenges to the sustainable growth of firms that we could never imagine before: more and more firms from other countries have emerged into the local area that was the domain of the local firms, more and more firms are competing with each other on some resource that was shared by few firms...In 1997, the Asian Financial Crisis was only a local disaster that influenced few countries in Asia, while, in 2008, the financial crisis started from U. S. A. has put the whole world into an economic regression. It is a world that changes extremely quickly and integrates every country into one, so, I have to say that, as a firm competes in a flat world, it can not grow without an international perspective and the dynamic perspective.

From the literature of “Strategic Inflection Point” and “Firm Growth”, I found it is believed by the scholars and practitioners that the “Strategic Inflection Point ( SIP) ” is a “death valley” for the firms’ sustainable growth: if a firm can navigate the SIPs successfully, it can have more chance to gain the sustainable growth, conversely, if a firm

get lost after the SIPs, it will have a very difficult time to survive. I proposed that the SIP is highly related to the sustainable growth of firms in the dynamic world. Based on my understanding of SIP in the literature, I named the SIP as “Industrial Strategic Inflection Point” and defined the Industrial Strategic Inflection Point as a fundamental change of the industry in terms of the industry structure and dynamics that alters the types of winning strategies employed by successful companies. These changes are caused by shifts in the technological regime arising from the change of the technology, customers’ preferences, or governments’ regulations.

In order to answer the question of “how to win the sustainable growth in the dynamic environment”, I did a research on “how to attain the sustainable growth after the ‘Industrial Strategic Inflection Point’ ” in my dissertation.

The performance is one of the most popular ways to measure the sustainable growth in the literature, while the industrial leaders are the firms that has achieved sustainable growth by the standard of industry analyzers and common people. To this extent, I asked two research questions built on my research topic:

**1. What are the factors that influence the change of the performance of firms after the “Industrial Strategic Inflection Point ( ISIP) ”?**

**2. Why some firms can success after the “Industrial Strategic Inflection Point ( ISIP) ”?**

To answer these two questions, I did a literature review on “Strategic Inflection Point”, “Strategic Change”, “Firm Growth”, “Firm Life Cycle”, “Firm Survival”, “Turnaround”, “Industry evolution”, “Shakeout” to analyze whether it is a meaningful topic or not to both the academia and practice, what has been done and not been done on the ISIP, the implications to my research design and so on.

Based on the literature review, and the research context, the empirical research of the dissertation included two parts: data analysis & case study.

In the data analysis part, I applied the deductive method based on the Resource-Based View and Strategic Choice Perspective. After presenting the research model, I proponed eight hypotheses and explained how I build the theory in this part. Then, I did the research design. I collected 224,847 data from Semiconductor Industry, Pharmaceutical Industry, Chemical Industry, Information and Communication Industry during 1979–2006 from COMPUSTAT and other database. Depending on my definition of ISIP, I analyzed the logic of ISIP and constructed the system to choose the time window for the data analysis. The system includes three methods, including (1) history events analysis, (2) factor analysis in the industry level, and (3) literature review related to these industries, and five dimensions, including (1) technology, (2) market, (3) industry structure, (4) industry dynamics, and (5) firms' winning strategy. The time windows I chose are: Semiconductor Industry (1989 – 2005), Pharmaceutical Industry (1987–1999), Chemical Industry (1979–1991), Information and Communication Industry (Telephone Apparatus Manufacturing, 1995–2005; Wireless Communication Carrier, 1992–2003). The results are as follows:

Hypothesis 1a: the Innovative Capability is positively related to the change of firms' performance after the ISIP. It is supported by Pharmaceutical Industry, Telephone Apparatus Manufacturing Industry; partially supported by Wireless Communication Carrier Industry ( “U” Shape ); not supported by Chemical Industry ( negatively related ); not significant in Semiconductor Industry.

Hypothesis 1b: the Human Capital is positively related to the

change of firms' performance after the ISIP. It is not significant in all sample industries.

Hypothesis 1c: the Physical Capital is negatively related to the change of firms' performance after the ISIP. It is supported by Pharmaceutical Industry, Wireless Communication Carrier Industry; partially supported by Telephone Apparatus Manufacturing Industry( "U" Shape) ; not supported by Semiconductor Industry ( negatively related) ; not significant in Chemical Industry.

Hypothesis 1d: the Slack Resource is positively related to the change of firms' performance after the ISIP. It is supported by Semiconductor Industry, Telephone Apparatus Manufacturing Industry; not supported by Pharmaceutical Industry ( negatively related) ; not significant in Chemical Industry, Wireless Communication Carrier Industry.

Hypothesis 2a: the Diversification Strategy has an inverted "U" Shape relationship with firms' performance after the ISIP. It is partially supported by Semiconductor Industry ( negatively related) ; not supported by Chemical Industry( "U" Shape) ; not significant in Pharmaceutical Industry, Telephone Apparatus Manufacturing Industry, Wireless Communication Carrier Industry.

Hypothesis 2b: the Internationalization Strategy is positively related to the change of firms' performance after the ISIP. It is not supported by Pharmaceutical Industry ( negatively related ) , Chemical Industry ( negatively related ) , Wireless Communication Carrier Industry ( negatively related ) ; not significant in Semiconductor Industry, Telephone Apparatus Manufacturing Industry.

Hypothesis 2c: the Cost Leadership Strategy is negatively related to the change of firms' performance after the ISIP. It is supported by Pharmaceutical Industry; partially supported by Semiconductor Industry

( “U ” Shape ) , Wireless Communication Carrier Industry ( “U ” Shape ) ; not significant in Chemical Industry , Telephone Apparatus Manufacturing Industry .

Hypothesis 2d: the Differentiation Strategy is positively related to the change of firms’ performance after the ISIP. It is partially supported by Pharmaceutical Industry , Telephone Apparatus Manufacturing Industry ( inverted “U ” Shape ) , Wireless Communication Carrier Industry ; not supported by Chemical Industry ( negatively related ) ; not significant in Semiconductor Industry

I discussed the results industry by industry and found that Chemical Industry did not support any of my hypotheses. Comparing the Chemical Industry with other industries , I proposed that **the ISIP should be classified into two types contingent on the source of the technological regime**: if the technological regime comes from the destructive technological change in the industry , I call it “inside ISIP ” ; if the technological regime comes from the destructive technological change by the converging with other industry/industries , I call it “converging ISIP ” . The results showed that the hypotheses in my research are supported by more sample industries encountered the “converging ISIP ” .

Thus , my conclusions to the first research question are: ( 1 ) **under the context of the “converging ISIP ” , the innovative capability and the slack resource is positively related to the change of firms’ performance after the ISIP , while the physical capital and Cost Leadership Strategy are negatively related to the change of firms’ performance after the ISIP ;** ( 2 ) **the dimension of different factors and the direction ( positive / negative / “U ” Shape / Inverted “U ” Shape ) of their influence to the change of firms’ performance after the ISIP are subjected to the characteristics of the industry they are competed in .**

In the case study part , I applied the inductive method. Based on

the in-depth case study of Intel Corporation, I compared how Intel dealt with two ISIPs, why it succeeded at the first time, while lost twice at the second time. With the implications from the literature review part, I paid a lot of attention on the key decision makers' cognitive process and organizational knowledge structure when I interpreted the case. I came up with three propositions using the ground theory method, and the conclusions to the second research question are: (1) the key decision makers' cognitive process should be coincided with the change of the environment, and keep it from "lock-in"; (2) the key decision makers' cognitive process and the organizational knowledge structure should fit with each other, which means the key decision makers should understand the path-dependence of the organizational knowledge structure and be patient when the change comes, and he/she/they should take actions beforehand to prevent the organizational knowledge structure from "rigidness".

What's more, I found that it is the key decision makers that who recognize the importance of the resource that can influence the firms' performance after the ISIP, who choose the strategic decision, who interpret the environment to the organization based on his/her/their understanding of the environment, and influence the organizational knowledge structure especially when the environment is going through fundamental change such as ISIP. In this wise, I proposed that the key decision makers' cognitive process has played a key role in the firms' sustainable growth after the ISIP. He/she/they should be aware of the characteristics of the industry the firm is competing in, distinguish different types of the ISIP, escape from "lock-in", and be patient and wise when dealing with the organizational knowledge structure's "rigidness".

In conclusion, the research has some contributions to the academia:

( 1 ) Strategic Inflection Point Theory: I named the Strategic Inflection Point as Industrial Strategic Inflection Point, and defined the ISIP; I framed the logic of ISIP and present the system to analyze the time when the ISIP happened/might happen; I categorized the ISIP into “inside ISIP” and “converging ISIP” ; I found that the innovative capability, physical capital, slack resource and cost leadership strategy are the resource and strategy factors that influence the firms’ sustainable growth after the “converging ISIP ”. ( 2 ) RBV and Strategic Choice Perspective: the context has a very strong influence on these two theories. My dissertation built a theory on these two theories and did an empirical research under the context of ISIP , so it expanded the application of these two theories in this particular background. ( 3 ) Dynamic capability theory: the dissertation specified what kind of resource and capability the firms should apply, how the key decision makers could search for new opportunities and integrate the resource and strategy factors successfully when the ISIP comes, so it is a development of the dynamic capability theory in the ISIP dimension. ( 4 ) Firm growth theory: the research suggested how firms could achieve sustainable growth in the dynamic environment. ( 5 ) Industry evolution theory: ISIP is an important period that can not be escaped in every industry. So the research improved the industry evolution theory by distinguishing “inside ISIP” from “converging ISIP” , and presenting solutions to navigate the “converging ISIP” .

The implications of the research are as follows: ( 1 ) to the firms and the key decision makers: when ISIP comes, what kind of resource should be stored, integrated, reduced, what kind of strategy should be given up, how to understand the environment, the attitude and strategy to integrate it into the organization. ( 2 ) to the new comer: how to recognize the ISIP by using the evaluation system with five dimensions to

maximize the probability of survival; how to choose a right time to enter into a right industry; how to apply the industrial innovation by converging technologies. ( 3) to the government: how to reconstruct the industry structure with the regulation which can fundamentally change the technological regime that can cause the ISIP. ( 4) to other groups that have some something to do with the firm: the factors that influence the change of firms' performance after the ISIP can be measured in details in different industries; we can make a list of sustainable growth indicators after the ISIP based on these measurements which can give some suggestions to the venture capital when they evaluate different investment portfolio, to the firms that are searching for partners for strategic alliance, Merger & Acquisition and other cooperation activities. ( 5) To Chinese firms: American experience can guide the development of the Chinese firms especially for these four industries and now, the reasons are: the four industries are either technology-based industry or science-based industry, and it is well-known that technology and science has no difference in different countries. In the information and knowledge era, these industries are extremely important to the economic growth, however, in China, these industries are at the beginning of their development, so the experience from one of the top players in the world will make more sense to Chinese companies; China is at a transformation stage, so it will have more chance to encounter the ISIP than any other time in the history; the location of the industrial value chain has its regulation, usually it will transform from the developed country to the developing country, then to the under developed country, so, the research on the experience of how to deal with the ISIP in the USA can give Chinese firms some ideas on how to prepare for the next generation of the value chain, or, how to create the ISIP to restructure the value chain and make it more beneficial for the sustainable growth of the



Chinese firms.

**Key words:** strategic inflection point, sustainable growth, resource, strategy, cognitive, knowledge