



北京林业大学经济管理学院

“英才计划”出版工程

编委会主任：陈建成

主编：温亚利 张卫民

# 外部环境<sub>与</sub>组织柔性 对企业创新模式选择的影响研究

RESEARCH ON INFLUENCES OF EXTERNAL ENVIRONMENT AND  
ORGANIZATIONAL FLEXIBILITY ON THE SELECTION OF  
ENTERPRISE INNOVATION PATTERN

◎ 程 鹏 著

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# 出版说明

## Publication Introduction

为加强学院科研团队建设，培养经济管理青年英才，扩大学院学术交流和学术影响，产出高水平标志性成果，促进学院重点学科与基础学科的协调发展，全面提升学院整体学术竞争力和影响力，北京林业大学经济管理学院制定了“英才计划”，该计划由“创新团队工程”、“出版工程”、“奖励工程”和“论坛工程”四个建设项目组成。

“英才计划”出版工程是对学院教师完成的，以农林经济管理学科领域为主、包括学院其他学科领域中的具有重要理论意义或重大应用价值及前景，或具有独到见解或新颖体系，对科学发展有重要作用的专著出版提供资助，目的是鼓励学术创新、传播学术思想、加强学术交流、繁荣学术研究、促进学术研究更好地服务社会。

“英才计划”出版工程得到了北京东方园林股份有限公司副总经理梁明武、湖南省汨罗市长江铜业有限公司董事长余方然以及中国林业出版社的大力支持，特此鸣谢！

School of Economics and Management (SEM) of Beijing Forestry University (BFU) launched Cultivating Talents Programs including Innovation Team Project, Publication Program, Award Program and Forum Project, which aims to enhance the research team of school, to cultivate young faculties in economics and management to output high level benchmark achievement.

Cultivating Talents Program-Publication Program provide support to manuscript with significance or critical application value or prospective, or with original idea or innovative system mainly agro-forestry economics and management field and other fields completed by school faculty members

Publication Program acknowledge the great support of Mr. Liang Mingwu ( Vice president of Beijing Oriental Garden Shares Co. Ltd), Mr. Yu Fangran (Chairman of Changjiang Copper Product Co. Ltd in Miluo city) and China Forestry Publishing House.

北京林业大学经济管理学院  
“英才计划”出版工程编委会  
2011年5月10日

# 序 言

多年来，北京林业大学经济管理学院以建设和培育国家重点学科——林业经济管理学科为目标，抢抓机遇，深化改革，瞄准学科发展前沿，凝聚全院师生智慧，激发一切可利用资源的活力，团结一致，与时俱进，精思厚德，以人为本，科学发展，敢为人先，在教学、科研、人才培养和社会服务诸方面取得了显著进步。仅2010年，学院在高层次科研项目数量、科研经费总量、高质量学术论文数量、学生获奖层次、本科教学质量评价、专业学位建设等6方面实现突破，创学院历史最好成绩。2010年学院获得国家自然科学基金、国家社科基金和教育部人文社科基金等国家级课题7项；被SCI、EI和ISTP三大检索系统检索的论文共33篇；学院教师获全校理论课教学质量评价第一名；学院学生获“全国先进班集体”称号和58项省级以上学科竞赛奖；学院新增工商管理硕士（MBA）、应用统计硕士、会计硕士、国际商务硕士四个专业硕士学位授权学科点。这些成绩的取得，为学院的改革和发展奠定了良好的基础。

为了进一步推动学院在“十二五”期间快速发展，从2010年起，学院计划用五年时间，在全院推进“英才计划”建设项目。该计划包括“创新团队工程”、“出版工程”、“奖励工程”和“论坛工程”四个建设工程。“创新团队工程”旨在林业经济管理重点学科和其他具有优势和潜力的学科领域，以突出重点团队建设及领军人才培养、突出高水平标志性成果产出为原则，组建学术研究团队，择优提供研究费用资助。“出版工程”旨在鼓励学术创新、传播学术思想、扩大学术影响，资助学院教师多出具有影响力的学术专著。“奖励工程”旨在引导和激励教师申报高层次科研项目、产出高水平学术成果，鼓励教师关心学院发展、积极投身学院教学和科研工作，对在科研、教学和学院发展中取得突出成绩的教师进行奖励。“论坛工程”旨在营造学术氛围、加强学术交流、凝聚学术智慧、扩大学术视野、提倡学术创新，举办各种形式的学术论坛。

“出版工程”作为“英才计划”的重要组成部分，其实施范围在兼顾学院各学科领域的基础上，适当向林业经济管理学科领域倾斜。众所周知，林业经济管理学科在国家生态建设、低碳经济发展及现代林业体系构建中承担越来越重要的人才培养及科学研究责任。北京林业大学林业经济管理学科作为全国同类学科中唯一的国家重点培育学科，在林业经济理论研究方面长期积累，形

## 序 言

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成具有中国特色的林业经济管理学术体系，在林业经济管理学科发展，以及参与国家林业重大问题、前沿和热点问题研究中发挥了积极作用。为促进学科发展，提升学科服务于社会发展的水平，北京林业大学林业经济管理学科正努力开展林业经济理论系统研究，以及林业经济重大问题的持续研究，尝试对中国林业经济发展进行理论与实践的梳理和总结，更好地为中国林业发展发挥理论指导作用。

“英才计划”出版工程项目将系统、全面地向社会介绍北京林业大学林业经济管理学科及相关学科领域最新的研究成果。主要涉及林业经济管理基础理论，林业经济重点和热点问题，国内外林业经济与政策比较，以及经济学、管理学和政策学最新研究成果在林业上的应用等方面。这些著作中既有青年教师在博士论文基础上形成的最新著作，也有教师最新科学研究成果。该出版工程不求研究内容及形式的系统性和完整性，更注重创新性及探索性；特别是对于新时期中国林业发展与社会经济可持续发展关系、林业在应对全球气候变化中的经济与生态环境政策、当前中国改革与发展中涉及林业与生态环境的关键经济政策问题的创新性研究给予高度重视。

这些著作大多是我校经管院中青年林业经济工作者的研究成果，在学术上可能还有不尽完善之处，一些问题在学术界可能也有不同观点，我以为，实施该出版工程的根本目的是繁荣中国林业经济管理研究，鼓励学术创新，勇于探索林业经济重大问题，更好地为中国林业经济发展服务，同时使有志于中国林业经济研究的广大中青年林业经济工作者有机会发表自己的成果，与学术界交流、沟通和争鸣，提升他们的学术水平，为中国林业发展奠定人才基础。

北京林业大学校长

**宋维明**

2011年5月16日

# Foreword

Over the years, School of Economics and Management (SEM) of Beijing Forestry University (BFU) has made a great progress with an aim of building and fostering the national key discipline - forestry economics and management. We seize the opportunity, deepen the reform, aiming at the development of frontier subjects and gather all the wisdom and inspire all available resources and energy of teachers and students. We realize a scientific development, going forward with the times and people-oriented in teaching, research, personnel training and social service. In 2010, SEM got a breakthrough of history because we got 7 major projects from National Natural Science Foundation project, the National Social Science Fund and the Ministry of Education, Humanities and Social Science Fund and other national projects. About 33 papers were cited by SCIEI and ISTP, with students winning the National Advanced Course Collective and more than 58 provincial level of academic competition awards. Four new programs of graduate studies were approved including Master of Business Administration (MBA), Master of Applied Statistics, Master of Accounting, Master of International Business. All the above achievements have laid a good foundation for the reform and development of SEM.

In order to further promote the development of college in the Twelfth Five-Year Period, from 2010, the college plans to use five years to promote Cultivating Talents Programs. The plan includes Innovation Team Project, Publication Program, Award Program and Forum Project. Innovation Team Project aims to focus on economic management in forestry and other disciplines which have advantages and potentials to highlight the building of the key leader in team and personnel training, highlighting the high level output of the principle of the landmark achievements and provide funds to the formation of research teams in the selection of the best research. Publication Program is to encourage academic innovation, disseminate of academic thinking, and expand academic impact of SEM by funding the publication of academic achievements made by teachers. Award Project aims to guide and encourage the teachers to apply for high-level scientific research projects, and academic achievement of high level, encourage teachers to care about development of the institute by taking an active part in university teaching and research work. Forum Project aims to create academic atmosphere, strengthen academic exchanges and combine academic intelligence by expanding academic horizons and holding various forms of academic forums.

Publication Program is an important part of Cultivating Talents Programs, which will put emphasis on economic management disciplines with the scope of all various disciplines in SEM. As we all know, forestry economics and management assumes an



## Foreword

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increasingly important responsibility for personnel training and scientific research in the national ecological construction, low-carbon economic development and construction of modern forestry system. Forestry economics and management of BFU, as the only nation greatly supported in all similar universities, has formed an academic system of the forestry economy with Chinese characteristics with long-term accumulation, and played an active role in the development of economic management disciplines and participation in national forestry major issues and hot issues of frontier. To promote academic development and enhance academic services to the community, economics and management disciplines of BFU are working to carry out systematic study on forestry economic system theory and continuous study on major forestry economics issues, trying to summarize and sort out the Chinese forestry economic development in both theory and practice to play a better role in guiding the development of forestry in China.

Publication Program will make a comprehensive introduction of the latest achievements in forestry economics and related disciplines to the society, including forestry management based on economic theory, economic priorities and hot issues in forestry, domestic and international comparison of forestry economics and policy, as well as economics, management and policy studies on the latest academic achievements in the forestry aspects of the application. All of these works include the latest work based on doctoral thesis of young teachers and the latest scientific research of teachers of SEM.

The publication does not seek a systematic integrity in the content and form, just to put more on innovative and exploratory research, particularly focuses on the relationship of forestry development in new period and sustainable economic and social development, including the global climate change in response to the economic and environmental policies, China's current reform and development related to forestry and ecological environment, etc.

These works are mostly works of young research workers in forest economics of SEM of BFU. They may not be quite complete and there may be different point of view in the academia, but our purposes are to make the research of forestry economics more prosperous, encourage academic innovation, the courage to explore major issues of forestry economy and better economic development of China's forestry services, which will give chances to young researchers in forestry economics to publish their achievements, and push the exchanges and communication and contention to improve their academic standards for laying a base of talents for forestry development in China.

President of Beijing Forestry University

**Song Weiming**

May 16, 2011

# 前 言

随着科学技术对经济和社会影响力的不断扩展，全球的竞争越来越体现在经济和科技实力的竞争，技术革命以及国际市场日益激烈的竞争使创新在竞争中的作用越来越重要，创新日益成为促进经济增长和提高科技竞争力的关键。中国政府也及时意识到创新对国家经济和企业发展的重要性，并制定了一系列鼓励创新的政策和措施，在国家宏观政策积极引导下，中国企业的创新热情不断高涨。但是对中国企业来说，的确存在一个在高涨热情背后如何理性的选择有效创新模式的问题，也就是说，中国企业面临着如何创新和创新什么的抉择问题。如何从理论和实证两方面解决这个关键问题，探究企业创新模式选择的影响因素及其内涵，揭示影响因素发挥作用的约束条件，以及影响因素和创新模式之间的内在作用机制，从理论及实践的视角来看都具有深远的意义。

以往关于企业创新的研究，绝大多数或者从企业竞争环境的角度或者从组织资源的角度来探索影响企业创新的各种因素。随着市场竞争和技术变化日益加剧，企业不能仅仅只依靠某一种竞争优势来创造顾客价值，如何把企业资源储备与企业所面临的环境有机联系起来，进而分析二者的有机组合对企业创新的影响，已经现实地摆在了战略管理研究者和企业经营者的面前。但目前的研究仍然是支离破碎的，外部环境与在外部环境约束下的组织柔性对企业创新模式选择的影响机制研究并不成熟。

基于上述研究背景和相关理论综述，本书正是针对这种情况，从企业应对环境变化的能力入手，以外部环境、组织柔性和企业创新模式为基本研究要素，将外部环境、组织柔性和企业创新模式整合在一个框架下研究三个要素之间的作用机理，建立了包括外部环境、组织柔性和创新模式的概念模型，并对概念模型进行了实证检验。研究结论为企业如何根据环境特征匹配相应的冗余资源进而创造有利于制订某种创新模式的决策提供了定量化依据。

围绕上述研究目的，本书主要做了如下工作：

(1) 在综述国内外有关外部环境、组织柔性和企业创新已有成果和有关

## 前 言

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影响企业创新因素的基础上，提出了企业面临的外部环境以及在外部环境约束下的组织柔性状态对企业创新模式选择影响的研究要素分析框架，识别了外部环境、组织柔性和创新模式三个研究要素的界定范围和内涵。

(2) 研究了外部环境、组织柔性和创新模式之间关系的概念模式。在外部环境、组织柔性和创新模式三个研究要素内涵研究的基础上，对不同类型的外部环境与不同类型的组织柔性及其相关创新模式之间存在的相关关系进行了研究，提出了若干假设，建立了外部环境、组织柔性和创新模式的概念模型。在三个研究要素量表测度的基础上，通过 108 家企业有效数据对概念模型进行了实证检验，并修正模型。

(3) 在概念模型实证的基础上，根据三种环境维度强弱变化，使用聚类方法对中国企业面临竞争环境进行划分，并分析了在每一种不同的环境类型下，企业能够有效选择的创新模式种类，以及与该外部环境和创新模式相匹配的不同类型组织柔性的分布。

本著作综合创新管理、决策学等学科的相关理论和文献，研究结果丰富和发展企业创新模式的研究，并为企业推进创新活动实践提供了有意义的指导。

著 者

2013 年 5 月 30 日

# Preface

As the influences of science and technology on society and economy increase, global competition is gradually embroidered in the power of economy and technology. Technology revolution and increasingly fierce competition in international markets make innovation more essential in competition. Innovation becomes a key factor of facilitating economic growth and increasing technological competitiveness. Chinese government also comes to realize the importance of innovation to national economy and enterprise development, thereby setting down a series of policies to encourage innovation. As a result of guidance of favourable national macroeconomic policies, Companies in China show a growing passion towards innovation. However, a problem arises as to how to choose an effective innovation pattern rationally, that is, Chinese companies are confronted with problems of selection on how to innovate and what to innovate. It is important to resolve this key issue in both theoretical and empirical way. We find it also essential to explore the factors which influence the selection of enterprise innovation pattern, and unveil these binding conditions affecting the effectiveness of these factors as well as the internal operational mechanism between the factors and innovation pattern.

Tracing back to previous studies on enterprise innovation, we find that most studies discuss the factors affecting enterprise innovation either from the viewpoint of competition environment or organizational resources. But, as market competition and change of technology grow intense, companies can not solely rely on one competitive advantage to create customer value. How to relate organization resources to its operational environment and further analyze the effects of the organic combination of these two factors on innovation pattern stands out as a serious challenge to researchers on strategic management and company managers. Recent researches in this field are still not systematic, as researchers haven't established a mature view on the influencing mechanism of external environment and organizational flexibility on the selection of enterprise innovation pattern.

On the basis of above research background and related theories, This study takes external environment, organizational flexibility and enterprise innovation pattern as basic research factors, trying to figure out the functioning mechanism among them by integrating these factors into a complete framework, as well as building a conceptual model including all the three factors. Using the effective data collected from Chinese companies, this study makes an empirical examination to the conceptual model, also gives a measurable reference on how to match slack resources of enterprise with its environment and thereafter makes decisions in favour of stipulating a certain innovation

pattern.

The research of this study involves jobs as follows:

Upon summarizing current studies on external environment, organizational flexibility and enterprise innovation as well as a few new factors influencing enterprise innovation, this study forms a framework of analyzing these three factors, and identifies their boundaries and essentials.

This study also conducts a research on the conceptual model on the relationships of the three factors. Based on respective study of the essentials of these factors, it also researches different types of external environment and organizational flexibility as well as the relationship with their related innovation pattern, raises a few hypotheses and establishes a conceptual model of the three factors. Also, with reference to the measurement scale of three factors, it conducts an empirical examination to the conceptual model by using the data of 108 companies and makes a correction on the model wherever necessary.

Again on the basis of empirical practice of the conceptual model, this study adopts the method of cluster to classify different types of competition environment companies' face in China in terms of the variation of environmental dimension and comes up with three types of competition environments. Meanwhile, it works out innovation patterns available to enterprise in each of different environment situations as well as the distribution of different types of organizational flexibility matching with the organization's external environment and innovation pattern.

This study integrated the theory and literature from innovation management, decision-making and other related subjects, adapted the method combining standardized research and empirical research, aimed at enriching and development the research of innovation model, and provided meaningful guidance for businesses to implement innovation practice.

**Author**

May 30, 2013

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