

集群企业网络化 成长机制

理论分析与浙江经验

邬爱其 著

中国社会科学出版社

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前 言

20 世纪 80 年代中期以来，全球化竞争不断加剧，技术创新日新月异，许多企业通过与相关的企业、组织构建正式和非正式的网络关系寻求网络化成长。美国“硅谷”、“第三意大利”、印度班加罗尔、墨西哥瓜达拉哈拉等集群经济的极大成功表明，基于本地网络的集群企业网络化成长方式具有强劲的竞争力和旺盛的生命力。

针对产业发展和企业成长的新模式，探寻集群企业的网络化成长机制日益成为企业成长理论和集群理论关注与研究的重要领域之一，这一问题对于集群经济较为典型和活跃的中国来说具有重要的现实意义。在此背景下，本书系统吸收企业成长理论、集群理论、社会经济网络理论等相关领域的研究成果，以中国集群企业为研究对象，试图揭示集群企业的网络化成长机制及其蕴含的企业成长管理方面的意义。

受嵌入性、资源依赖、交易费用和组织学习等因素的影响，企业、政府部门、金融机构、中介服务组织、科研院所等行为主体在特定的地理范围内集聚形成本地网络，它可以根据构成主体的不同分为企业间的一级网络和企业与地方组织间的二级网络。本地网络发挥着提供多样化资源、顺应柔性化生产、支持非线性创新等功能，促进了集群企业的成长，但网络功能的大小要受本地网络特征的影响。因此，集群企业网络化

成长机制的核心就在于集群企业构建起有效的本地网络。它可以进一步分解为三个关键性问题:集群企业为什么要选择基于本地网络的网络化成长方式?具有哪些基本特征的本地网络有助于集群企业成长?本地网络特征的形成和发展受到哪些重要因素的影响?

本书以理论分析和实证研究相结合的方法,试图对上述问题进行较全面和系统的分析。本书的主要研究工作和内容集中在以下几个方面:

(1) 采用实地访谈和企业问卷调查等方式获取了翔实的实证资料

以浙江省椒江缝纫机产业集群、路桥汽车和摩托车产业集群和海宁皮革服装产业集群为主要对象,笔者对相关企业、政府部门、行业协会等组织进行了为期六个月的实地调研。首先对 25 家典型企业的中高层管理者和 16 个地方组织的主要负责人进行深度访谈;随后结合文献研究和访谈结果设计企业调查问卷,并在海宁皮革服装产业集群发放 45 份问卷进行试调查;在问卷修改完善后,在三个集群发放 470 份调查问卷,回收有效问卷 331 份,为本研究的实证分析提供了翔实的第一手资料。

(2) 融合多学科知识构建了集群企业网络化成长的理论分析框架

在文献梳理的基础上,本书归纳出了企业成长理论的内容体系,指出网络化成长机制已是动态复杂环境下企业重要的成长机制,它在战略思想、商业理念、成长资源等方面与内部成长机制和并购成长机制存在明显差异。针对目前网络化成长机制尚缺乏系统研究的现状,本书融合了企业成长理论、网络组织理论等多学科知识,构建了“网络—网络资源—企业成长”的理论框架。在该框架下,企业可以通过加入网络获取网络资源,而所获网络资源的状况要受到网络特征的影响。所以,具

有不同网络特征的企业拥有不同的成长能力。通过对网络特征分析模型演进的概述,本书认为网络特征代表了网络节点间不同的联结方式和联结状态,可以用“结构—关系”分析方法进行较全面的刻画。其中,结构特征主要包括网络的位置、规模和位差,关系特征主要包括关系的类型、强度和久度。在此基础上,本书进一步结合集群竞争优势理论,构建了“本地网络特征—集群企业竞争优势要素—集群企业成长”理论分析框架,认为本地网络特征通过影响集群企业的竞争优势,进而影响集群企业的成长。

(3) 运用统计分析方法揭示了集群企业的网络化成长机制

除了首先运用资源依赖理论、交易费用理论、组织学习理论和社会经济网络理论,从经济学、管理学和社会学三个视角对集群企业网络化成长的动因做出较系统的理论解释外,本书还运用因素分析、方差分析、回归分析等统计方法,重点检验了有关本地网络特征对集群企业成长的影响、影响本地网络特征形成和发展的因素等方面的假设,主要得出了以下结论:

第一,本地网络各特征对集群企业成长有不同的影响。在一级网络方面,接近本地网络的中心位置、增强关系强度和久度,以及从本地客户处获取市场信息和与本地供应商合作研发,有助于集群企业实现快速成长;但拥有较多种类的关系、保持较大的前向网络位差和较小的后向网络位差,不利于集群企业实现快速成长。在二级网络方面,与地方组织建立较多种类的关系和保持较高的交往频率,有助于集群企业实现快速成长;但与地方组织保持越久的关系越不利于集群企业实现快速成长。而且,除了一级网络的关系强度外,本地网络其他特征对集群企业成长的影响要因企业内部拥有的资源状况而异。

第二,本地网络特征通过影响集群企业的竞争优势状况进而影响企业成长。集群企业在专精定位能力、灵活应变能力、讨价还价能力、资金获取能力、创新激发能力、创新压力感知、运作成本水平等方面拥有竞争优势。一级网络的中心度、位差、关系强度、关系久度和后向关系以及二级网络的关系范围和关系久度,能够影响集群企业的专精定位能力、灵活应变能力、讨价还价能力、资金获取能力和创新压力感知水平,进而影响集群企业的成长。

第三,本地网络特征的形成和发展受到了企业和企业家两个层面多种因素的影响。网络导向的人力资源管理、进取型的战略意图、开放的组织文化、较高的信任度、整合度较高的内部交流结构、强有力的合作承诺以及充足的内部资源配备等企业层面因素,有助于本地网络的范围扩展、关系强化和长期化。企业家层面因素的影响主要表现为:男性比女性更能实现本地关系的长期化,但不易容纳不同规模的伙伴;教育程度越高越有助于关系的长期化和容纳各类伙伴,但不利于关系的强化;地缘因素有助于强化本地关系;家庭背景和风险承受能力对本地网络的形成和发展没有影响。

本书的创新点主要集中在以下四个方面:

(1) 通过构建“网络—网络资源—企业成长”理论框架对企业网络化成长机制进行了较系统的理论解释。现有的企业成长理论主要关注企业内部成长机制和并购成长机制,对企业网络化成长问题的理论分析还缺乏系统性。本书将企业视作网络节点,引入了由节点间联结互动生成的但未被纳入资源基础理论的网络资源概念,认为后者会通过影响企业成长的资源、机会、愿望和压力来影响企业成长结果。这弥补了以往企业成长分析主要从企业内部和企业外部出发的不足,拓宽了企业成长问题研究的思路,丰富了企业成长理论体系。

(2) 基于翔实的实证资料得出了有中国特色的本地网络特征与集群企业成长的关系模式。本书融合企业成长理论、集群理论、社会经济网络理论等多学科知识,借助网络特征分析模型,实证识别出了支持集群企业成长的本地网络特征,如接近本地网络的中心位置、较强的一二级关系强度、较长久的一级关系、较多的二级关系等,同时得出了一些有国别差异的研究结论,如较多的一级关系、较大的前向网络位差、较长久的二级关系等,都不利于中国集群企业的成长,从而形成了有中国特色的本地网络特征与集群企业成长的关系模式,创新和丰富了这一领域的研究成果。

(3) 创造性地构建了“本地网络特征—集群企业竞争优势要素—集群企业成长”这一集群企业网络化成长机制的理论分析框架。现有研究集中在探讨本地网络特征对集群企业成长的直接影响关系,本书将本地网络特征、集群企业竞争优势要素、集群企业成长三者相结合,实证得出了本地网络特征通过影响集群企业的竞争优势进而影响企业成长的基本结论,表明这一原创性的分析框架具有较强的理论解释能力,可以为研究集群企业网络化成长提供参考。

(4) 从企业和企业家两个层面较系统地识别出了影响本地网络特征形成和发展的主要因素。现有研究大多从企业或企业家单个层面识别影响网络形成和发展的因素,本书从企业策略导向出发,较全面地检验分析了企业和企业家两个层面影响本地网络特征形成和发展的主要因素,并发现了一些有国别差异的影响因素,得到的因素体系可以增强该领域研究的系统性。

集群企业网络化成长的实践发展和理论探索主要发生在最近 20 年中,无论理论体系还是研究方法都还处于不断发展和完善之中。受到数据、研究时间和笔者能力的限制,本书的研究还只是初步的,还有许多不足需要克服和完善。在本书的基

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础上,进一步完善企业网络化成长的理论框架、探讨本地网络行为与非本地网络行为的动态平衡以及比较分析高新技术产业集群和传统制造业集群中企业网络化成长的差异性等都是值得进一步研究的重要课题。

关键词 集群企业 本地网络 网络化成长 企业成长机制 网络特征

ABSTRACT

Since midst of 1980s, with the ongoing acceleration of global competition and technological innovation, firms seek growth through networking, formally and informally, with relevant organizations. It is one of the basic firm growth models and named the mechanism of networked growth or network-based growth. The great success in "Silicon Valley", "The Third Italy", Bangalore of India, Guadalajara of Mexico indicates that the networked growth model of clustered firm based on local networks has powerful promising and vigorous vitality.

Some attentions were paid to the networked growth model of clustered firm in previous research, and this model also shows much realistic meanings for China where industrial clusters are prosperous and active. After absorbing thoughts from theories of firm growth, industrial clusters and socioeconomic network, this dissertation makes some efforts to explore the mechanism of networked growth and its managerial implications in China.

Considering the influence of relational embeddedness, resource dependence, transaction cost and organizational learning, lots of firms, government departments, financial institutions, intermediary service organizations, colleges and research institutions geographically conglomerate, and local networks is forming in a specific geo-

graphic region. Local networks can be divided into the first-order networks organized by local firms and the second-order networks organized by local firms and other organizations. Local networks can promote the growth of clustered firm through offering abundant resources, deepening flexible production and sustaining nonlinear innovation. And, these functions are influenced by the network characteristics. From this perspective, the core problem of networked growth model lies in the effectiveness of local networks constructed by clustered firm. This problem would divide into three key questions further: why the clustered firm chooses to grow in the way based on local networks? What essential characteristics of local networks are contributed to the growth of clustered firm? What important factors influence the forming and development of the local networks?

By integrating the normative and empirical analysis processes, this dissertation tries to explore the mechanism of networked growth of clustered firm. The following three parts are the main work of this dissertation.

(1) Obtaining the adequate data by depth interviews and questionnaires

We investigated firms, local government departments and other organizations for 6 months in three industrial clusters, Jiaojiang sewing machine industrial clusters, Luqiao automobile and motorcycle industrial clusters and Haining leather clothing industrial clusters in Zhejiang. We interviewed 25 mid- and top- managers of clustered firm and 16 principals of local institutions firstly, and carried out pretest-survey in Haining with 45 questionnaires. After that, total 470 questionnaires are handed out in three clusters and 331 valid samples are returned.

(2) Constructing the theoretical framework for analyzing the mechanism of networked growth of clustered firm by syncretizing multi-disciplinary knowledge

Based on the various previous dissertation and academic analysis, this dissertation summarizes the constitution of the theories of firm growth and points out that more and more firms adopt the networked growth model in response to the complicated environment. There are some distinct differences in strategic thoughts, commercial idea, and resource channels among the three basic mechanisms of firm growth, i. e. organic growth, acquired growth and networked growth. This dissertation syncretizes theory of firm growth and network organization theory, and constructs the theoretical framework that is "network-network resource-firm growth". In this framework, firms are viewed as one of network nodes and can obtain network resources by contacting with other network nodes. The abundance of resources obtained from networks is determined by the network characteristics. So, a firm with given network characteristics will hold corresponding growth capability. After reviewing Network Models researches, this study argues that network characteristics display the linkage form of different network nodes and can be described by the network structure and the relationship. Three indexes, position, range and potential difference of network or the difference between the upper reachability and the lower reachability in the network, can depict network structure. The relationship can be depicted by relational type, intensity and duration mainly. Integrating the theory of competitive advantage of clusters, this dissertation constructs a theoretical framework for exploring the mechanism of networked growth of clustered firm, which is "local networks' characteristics-competitive advantage of clustered firm-

growth of clustered firm", and points out that local networks exert their influence on the competitive advantage of clustered firm first and on firm growth subsequently.

(3) Revealing the mechanism of networked growth of clustered firm by empirical analysis

The basic reasons why clustered firm choose networked growth are first identified according to economics, management and sociology in this dissertation. In the part of empirical analysis, some assumptions about the influence on firm growth exerted by local networks and the factors influencing the formation and development of local networks are examined. Main conclusions are as following:

First, each dimension of local networks characteristics has different influence on the growth of clustered firm. In first-order local networks, the results indicate that the probability of fast growth is positively related to the position of local networks, the intensity and duration of local relations, the action of obtaining market information from local customers and cooperating with supplier for R&D respectively. The results also show that the probability of fast growth is negatively correlated with the range of network and the potential difference of network. In the second-order local networks, there is a positive relationship between the probability of fast growth and the range of network, whereas a negative relationship between the probability of fast growth and the duration of relation to local institutions. The findings also indicate that the influence on firm growth exerted by local networks varies basically with the status of firm's internal resources.

Second, local networks influence firm growth through influencing the competitive advantages of clustered firm. The clustered firm has some competitive advantages on the competences of spe-

cialization, adaptability, bargain, obtaining fund, innovation, perceiving innovative pressure and reducing operation cost. In this dissertation, it is found that most of these competences are influenced by local networks characteristics, which are the centrality, potential difference, relational intensity and relational duration of first-order network and the relational range and duration of second-order network. It is also found that these competences are actually beneficial factors for the growth of clustered firm.

Third, the formation and development of local network characteristics is influenced by firm-specific and entrepreneur-specific factors. Network orientation of human resource management, availability of internal resources, integration of communication structure, openness of organization culture, strategic intention, trust and commitment, all affect a firm's capability to extend, intensive and prolong local relations. Male entrepreneurs can keep local relations longer than female entrepreneurs, but the former is difficult to hold different scale partners. High Education degree is helpful to prolong local relations and hold different scale partners, but it is unfavorable to intensive local relations. The birthplace of entrepreneur contributes to intensify local relations. Entrepreneur's family background and risk avoidance both have no effect on the formation and development of local networks.

Compare with former studies, the following aspects are unique points of this dissertation:

(1) This dissertation provides a more systematic framework for analyzing the mechanism of networked growth. The framework can be characterized by "network-network resource-firm growth". Lots of attentions have been paid to the mechanism of organic growth and acquired growth in previous researches. But the framework for the

mechanism of networked growth analysis is still not formed. In this study, firm is viewed as one of network nodes and the concept of network resource is introduced. Network resource was created by the linkage and interaction of network nodes. This concept was not accepted in the resource-based theory. This work points out that network resource can influence firm growth through influencing the resource, chance, aspiration and pressure of firm growth. To some extent, this work is distinct to the previous researches that was mainly focused on firm's internal and external resources and provides one new insight for firm growth study.

(2) This dissertation reveals the specific relationships between the local networks' characteristics and firm growth based on the survey data in China. After integrating the thoughts from theories of firm growth, industrial clusters and socioeconomic network, this empirical analysis identify the network characteristics that do influence the growth of clustered firm. For example, to close to the center of local networks, intensify and prolong the local relations can contribute to firm growth. By contrast, the range of first-order network or the duration of second-order relations is negatively correlated with firm growth in China. Some of these conclusions are distinct to the results of researches sampled in other countries. We hope this work is valuable for further research.

(3) This dissertation firstly constructs a theoretical framework for analyzing the mechanism of networked growth of clustered firm. The framework can be characterized by "local networks' characteristics- competitive advantages of clustered firm -firm growth". Previous researches focused on the direct relationships between the local networks' characteristics and firm growth, and ignored their indirect relationships to a certain extent. The results indicate that lo-

cal networks' characteristics can influence firm growth through influencing the competitive advantages of clustered firm. It suggests that our framework is supported by empirical results and valid to analyze the growth of clustered firm.

(4) This dissertation identifies the main factors influencing the formation and development of local networks. Some attention was paid to identify the factors that correlate with the formation and development of local networks in foreign countries, but little was paid in China. To provide more guides for firm growth management, this dissertation seek to understand what factors determine the formation and development of local networks, these factors include entrepreneur individual factors and firm level factors. Our results show some difference of previous the results of researches targeted firms in some foreign countries. We hope this work is helpful to establish a fundamental understanding of the forming and development of local networks in China.

It is within recent 20 years that the model of networked growth of clustered firm and relative researches were springing up. And its theoretical framework and methodology are still evolving. For the restriction of data, time and ability of author, there are still some limitations in this dissertation. Further research may attach great importance to provide a perfect theoretical framework for this emerging topic, and compare the difference of firm behaviors in high-tech industrial clusters and traditional manufacturing industrial clusters, etc.

Keywords: clustered firm, local networks, networked growth, network characteristics

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