



中南财经政法大学
青年学术文库

基于双边市场的 众包模式研究

冯小亮 著

中国社会科学出版社



中南财经政法大学
青年学术文库

基于双边市场的 众包模式研究

冯小亮 著

中国社会科学出版社

图书在版编目(CIP)数据

基于双边市场的众包模式研究 / 冯小亮著. —北京: 中国社会科学出版社, 2016. 4

(中南财经政法大学青年学术文库)

ISBN 978 - 7 - 5161 - 7979 - 6

I. ①基… II. ①冯… III. ①企业管理 - 研究 IV. ①F270

中国版本图书馆 CIP 数据核字(2016)第 074845 号

出 版 人 赵剑英
责任编辑 田 文
特约编辑 陈 琳
责任校对 张爱华
责任印制 王 超

出 版 **中国社会科学出版社**
社 址 北京鼓楼西大街甲 158 号
邮 编 100720
网 址 <http://www.csspw.cn>
发 行 部 010 - 84083685
门 市 部 010 - 84029450
经 销 新华书店及其他书店

印 刷 北京金瀑印刷有限责任公司
装 订 廊坊市广阳区广增装订厂
版 次 2016 年 4 月第 1 版
印 次 2016 年 4 月第 1 次印刷

开 本 710 × 1000 1/16
印 张 10
插 页 2
字 数 176 千字
定 价 39.00 元

凡购买中国社会科学出版社图书, 如有质量问题请与本社营销中心联系调换
电话: 010 - 84083683
版权所有 侵权必究

《中南财经政法大学青年学术文库》

编辑委员会

主 任：杨灿明

副主任：吴汉东 姚 莉

委 员：（排名按姓氏笔画）

王金秀 刘后振 向书坚 朱延福

朱新蓉 张志宏 张新国 李道荣

陈立华 陈景良 胡贤鑫 徐双敏

曹新明 黄志伟 葛翔宇 董邦俊

谭明方

主 编：姚 莉

总 序

一个没有思想活动和缺乏学术氛围的大学校园，哪怕它在物质上再美丽、再现代，在精神上也是荒凉和贫瘠的。欧洲历史上最早的大学就是源于学术。大学与学术的关联不仅体现在字面上，更重要的是，思想与学术，可谓大学的生命力与活力之源。

中南财经政法大学是一所学术气氛浓郁的财经政法类高等学府。范文澜、嵇文甫、潘梓年、马哲民等一代学术宗师播撒的学术火种，五十多年来一代代薪火相传。世纪之交，在合并组建新校而揭开学校发展新的历史篇章的时候，学校确立了“学术兴校，科研强校”的发展战略。这不仅是对学校五十多年学术文化与学术传统的历史性传承，而且是谱写 21 世纪学校发展新篇章的战略性手笔。

“学术兴校，科研强校”的“兴”与“强”，是奋斗目标，更是奋斗过程。我们是目的论与过程论的统一论者。我们将对宏伟目标的追求过程寓于脚踏实地的奋斗过程之中。由学校斥资资助出版《中南财经政法大学青年学术文库》，就是学校采取的具体举措之一。

本书库的指导思想或学术旨趣，首先在于推出学术精品。通过资助出版学术精品，形成精品学术成果的园地，培育精品意识和精品氛围，以提高学术成果的质量和水平，为繁荣国家财经、政法、管理以及人文科学研究，解决党和国家面临的重大经济、社会问题，作出我校应有的贡献。其次，培养学术队伍，特别是通过对一批处在“成长期”的中青年学术骨干的成果予以资助推出，促进学术梯队的建设，提高学术队伍的实力与水平。再次，培育学术特色。通过资助出版在学术思想、学术方法以及学术见解等方面有独到和创新之处的科研成果，培育科研特色，以形成有我校特色的学术流派与学术思想体系。因此，本书库重点面向中青年，重点面

向精品，重点面向原创性学术专著。

春华秋实。让我们共同来精心耕种文库这块学术园地，让学术果实挂满枝头，让思想之花满园飘香。



2009 年 10 月

Preface

A university campus, if it holds no intellectual activities or possesses no academic atmosphere, no matter how physically beautiful or modern it is, it would be spiritually desolate and barren. In fact, the earliest historical European universities started from academic learning. The relationship between a university and the academic learning cannot just be interpreted literally, but more importantly, it should be set on the ideas and academic learning which are the so - called sources of the energy and vitality of all universities.

Zhongnan University of Economics and Law is a high education institution which enjoys rich academic atmosphere. Having the academic germs seeded by such great masters as Fanwenlan, Jiwenfu, Panzinian and Mazhemin, generations of scholars and students in this university have been sharing the favorable academic atmosphere and making their own contributions to it, especially during the past fifty - five years. As a result, at the beginning of the new century when a new historical new page is turned over with the combination of Zhongnan University of Finance and Economics and Zhongnan University of Politics and Law, the newly established university has set its developing strategy as "Making the University Prosperous with academic learning; Strengthening the University with scientific research", which is not only a historical inheritance of more than fifty years of academic culture and tradition, but also a strategic decision which is to lift our university onto a higher developing stage in the 21st century.

Our ultimate goal is to make the university prosperous and strong, even through our struggling process, in a greater sense. We tend to unify the destination and the process as to combine the pursuing process of our magnificent goal with the practical struggling process. The youth's Academic Library of Zhongnan University of Economics and Law, funded by the university, is one of our specific

measures.

The guideline or academic theme of this Library lies first at promoting the publishing of selected academic works. By funding them, an academic garden with high – quality fruits can come into being. We should also make great efforts to form the awareness and atmosphere of selected works and improve the quality and standard of our academic productions, so as to make our own contributions in developing such fields as finance, economics, politics, law and literate humanity, as well as in working out solutions for major economic and social problems facing our country and the Communist Party. Secondly, our aim is to form some academic teams, especially through funding the publishing of works of the middle – aged and young academic cadreman, to boost the construction of academic teams and enhance the strength and standard of our academic groups. Thirdly, we aim at making a specific academic field of our university. By funding those academic fruits which have some original or innovative points in their ideas, methods and views, we expect to engender our own characteristic in scientific research. Our final goal is to form an academic school and establish an academic idea system of our university through our efforts. Thus, this Library makes great emphases particularly on the middle – aged and young people, selected works, and original academic monographs.

Sowing seeds in the spring will lead to a prospective harvest in the autumn. Thus, let us get together to cultivate this academic garden and make it be opulent with academic fruits and intellectual flowers.

Wu Handong

中文摘要

互联网环境下社会化网络的发展,为人们兴趣爱好的实现和个人才能的发展提供了广阔的舞台。用户创造 (User Generated Content, UGC)、消费者参与等许多对企业影响重大的模式的诞生,为企业发展提供了新机遇。众包模式在此背景下产生,它是指企业或组织通过社会网络,将研发创新或其他内部无法完成的任务,外包给一群兴趣爱好者完成,企业可以从所提交的方案中择优选择,最终只给予中标者适当奖励。众包将社会中闲置的智力资源转化成有效的生产力,创造了新型的知识市场,同时为企业发展提供了新型分布式的问题解决和生产模式。从企业的角度来说,众包和外包不同,众包的任务是外派给社会网络上的群体,而外包的任务是外派给确定的个体;众包和开源不同,众包由某客户提出,并且以个人或小组为基础来进行,开源则是通过群体中的个体自愿地创造和合作完成任务。众包模式得到了国内外众多企业的应用,如 IBM、标志汽车、微软、宝洁、耐克、阿迪达斯、宝马等各行业国际知名企业均将此纳入企业的研发创新中,同时成千上万个中、小企业也将此作为获取外部智力资源的策略。通过众包,企业可以获取比自己组织内部更广泛的智力资本,并快速地洞察客户需求^①。然而现有关于众包模式的研究较少,而且多局限在对众包模式“是什么”和“对企业有何意义”的介绍上,呈现块状和零散化特征,缺乏能够指导企业众包活动开展和众包平台企业发展的系统性理论研究。

针对这一研究现状,本书以众包模式发展为主题,探讨了三个核心问题:问题解决者 (solver) 为什么会参与到众包活动中? 企业开展众包活动时如何吸引问题解决者? 众包平台如何促进买卖双方交易的顺利进行? 本书以双边市场为研究视角,与以往的研究具有很大的差异性,同时

^① Busarovs, Aleksejs. "Crowdsourcing As user-driven innovation, new business philosophy's model", *Journal of Business Management*, 2011 (4), pp. 53 - 60.

也是众包研究的关键点。众包是通过第三方平台凑合买（任务发包方）、卖（任务参与者）双方，因此存在双边市场发展的两个基本问题：“众”的聚集，构建买卖双方的交叉网络效应，需要一定数量的双方参与者；“包”的实现，如何促进买卖双方交易的顺利进行。本书对于问题解决者参与动机和发包方策略的研究，是对“众”问题的回答。而平台方治理机制的研究，则可以回答“包”的问题。本书的研究旨在进一步系统性地完善众包模式理论，并为发包企业和众包平台企业提供管理启示。

本书共开展三项研究，分别回答与各参与方相关的核心问题。首先，我们通过内容分析法，对问题解决者的博客内容进行分析，探讨了问题解决者的参与动机（研究1），分析了参与动机的组成要素以及各种动机之间的关系机制。其次，我们采用企业开展众包活动的二手数据，对发包方策略效果进行了检验分析（研究2），分别检验了奖金策略、时间策略、任务难易程度对于问题解决者的关注度、参与度和投入积极性的影响效果，并进一步结合任务难易程度的不同，分析了奖金策略、时间策略的影响差异性，提出了发包组合策略的设计建议。最后，我们采用众包平台客户交易的相关二手数据，对众包平台方如何促进众包交易的顺利开展进行了探究（研究3），分析了平台第三方应该如何帮助买卖双方信任体系的建立，以促进平台内双方交易绩效的提升。三个研究分别从卖方、买方和平台方展开，可以系统性地服务于众包实践的开展。

本书共分为导论、基础理论、三个研究和总结四大部分，共六个章节。各章概要如下：

第一章导论，主要阐述了本书的研究背景、选题意义和研究的关键问题。众包是一种分布式（distributed）的问题解决模式，它将企业面临的研发难题或无法完成的任务，转交给社会网络大众群体完成，为企业获取外部智力资源创造了全新的模式。众包模式创造了新型的知识市场，通过社会网络将分散、闲置的智力资源聚集起来，为企业的资本市场提供服务，是典型双边市场的体现。对众包模式的研究具有较大意义，但现有关于众包模式的研究非常零散，主要介绍众包模式“是什么”和“有何意义”，缺乏学术性和系统性，不能有效指导众包活动的开展。众包模式发展面临的问题是如何发挥网络外部性，促进参与双方规模“众”的问题和“包”的顺利实现。为此本书从三个方面展开系统性研究：众包中问题解决者为何要参与？发包方如何吸引问题解决者？众包平台如何促进交易的

顺利进行? 这些问题的研究可以丰富众包理论, 同时为发包企业和众包平台企业开展众包实践提供策略指导。

第二章基础理论, 主要阐述了众包模式的相关理论基础, 从社会化生产理论、开放创新理论和双边市场理论展开。首先, 众包中的任务完成以群体参与为特征, 属于社会化生产的一种形式。社会化生产的最大特征是群体自愿参与创造, 生产方式可以是相互合作的, 如开源活动中参与者是协同推进程序发展的也可以是相互竞争的, 如众包中参与者独立竞争任务奖金。基于群体创造的社会化生产理论为众包模式的研究提供了理论背景, 同时由于活动方式的独特性, 众包的问题解决者参与动机是社会化生产中新的研究课题。其次, 众包是利用外部智力资源, 为企业研发创新或其他任务提供服务, 符合开放创新思路对于企业资源整合的要求。众包是企业开放创新的具体实施表现之一, 因此开放创新理论为发包方企业采用众包模式提供了理论背景, 但企业如何开展好众包活动则是开放创新理论背景下新的研究问题。最后, 众包平台的运作是基于双边市场理论模式开展的, 众包平台面临两个具有差异性的客户群体: 问题解决者和任务发包方。而众包平台内的交易对象是以知识创意型产品为主的, 相较于传统的实物产品交易型平台具有差异性, 因此众包平台应该如何促进知识创意型产品的交易, 则是双边市场理论中出现的新问题。以往的理论为本书研究提供了背景知识, 同时也提出了新的研究问题和挑战。

第三章开展了研究一: 问题解决者参与动机研究, 主要分析了众包中问题解决者参与动机的组成要素以及相互之间的关系机制。众包主要是为企业提供智力资源服务, 问题解决者提交的方案成果归发包企业独享, 因此与以往的群体参与活动形式有所差异。本研究通过对问题解决者博客的内容分析发现, 他们的动机由内部、外部和内化的外部动机三大类别组成, 一共有十六个维度, 兴趣爱好、奖金刺激和能力锻炼是其中的主要代表。本研究进一步发现, 问题解决者各动机之间呈现相互强化的共生状态, 对于奖金的追求和满足兴趣爱好、能力锻炼并不冲突。这与开源程序中问题解决者的动机关系状态相反, 因此本书的研究可以丰富和拓展社会化生产、开放创新中问题解决者的动机理论。

第四章进行了研究二: 发包方策略研究, 主要检验分析了现有发包策略的影响效果, 并根据任务难易程度的不同提出了众包策略组合的建议。众包类似于企业开展的任务竞赛活动, 只是参与者为企业外部的网络大

众,而且是由参与者先完成任务后投标,发包企业采用实物期权的思路逻辑进行活动管理。根据实物期权理论在任务竞赛中的应用,总结出发包方可以操控的主要策略有奖金额度、时间周期和任务难易程度三种。本研究发现奖金策略只能吸引问题解决者的关注和参与,但对于核心问题解决者的投入积极性反而有负面影响,时间周期与关注者、参与者数量呈现倒“U”形关系,众包活动的策略设计具有复杂性。研究进一步发现高奖金和长周期策略组合适用于简单任务,可以提升参与者人数,保证方案选择的多样性;低奖金和短周期策略组合反而适用于难度较大任务,此类任务关键在于调动问题解决者自身兴趣爱好、能力锻炼等内部和内化外部参与动机,可以帮助提高方案质量。发包方制定策略时应根据任务类型特征和问题解决者的动机,制定相应的策略组合,以达到影响效果的最大化。本研究旨在为企业开展众包活动,进行策略组合设计时提供有效指导。

第五章开展了研究三:平台方治理机制研究,主要分析了众包平台企业如何有效促进买卖双方交易的顺利进行。由于众包平台内交易对象均为虚拟的知识创意型产品,此类产品最大特征是缺乏衡量质量的统一标准,信任是促进此类产品交易的关键。任务参与者是否值得信任,发包方是否愿意信任他们。本研究发现,由于双方处于网络环境下,交易信任体系的建立成本高、难度大,因此需要第三方平台完成。第三方平台对于买卖双方资质验证的控制管理,是建立双方信任的前置因素,信任机制的建立可以促进双方交易绩效的提升。买卖双方的控制管理和平台内信任体系的建立,是平台治理工作的重点,同时也是企业核心竞争力的体现,本研究旨在为众包平台企业发展提供合理建议。

第六章结论,通过对前述研究进行总结并加以评论。本研究从问题解决者、发包方和众包平台方三个角度对众包模式系统性地进行了探究,首先,分析了问题解决者为何参与到众包活动当中来,发现兴趣爱好、奖金刺激和能力锻炼是其参与的主要动机代表;其次,分析了发包方如何吸引问题解决者参与,难度较大任务应设计低奖金和短周期组合的策略。简单任务则与之相反,策略设计时应结合问题解决者的动机分析和任务类型;最后,探究了平台方应如何促进众包交易的顺利进行,众包平台企业应加强参与双方的控制管理,以促进交易双方任务体系的建立,从而促进平台内众包交易的绩效提升。

总之,本书通过三个研究,采取定性和定量相结合的方法,采用与众

包活动相关的实际二手数据，力求研究内容和结论的可靠性。本书的研究丰富了众包模式的理论，也补充了社会化生产理论、开放创新理论和双边市场理论，为发包方企业活动开展的策略设计提供了直接策略指导，同时也为平台企业的管理工作提供了借鉴和参考。

关键词：众包模式；参与动机；发包策略；治理机制；双边市场

Abstract

The development of social network has provided a lot of chances for the fulfillment of personal interests and achievement of individual talent. It brings the emergence of certain business models such as “User Generated Content” (UGC), consumer-participation, etc., which have given many a new opportunities for the enterprises. The Crowdsourcing Mode was given birth against such background, which indicates an enterprise or organization outsource its R&D and innovation, or other undone tasks to a group of enthusiasts, from which the enterprise picks out the optimal proposal on the basis of the competitive selection, and properly rewards the successful bidder in the end. The Crowdsourcing mode will transfer the unused intelligence resources into effective productivity, produce a new type of knowledge market, and provide new distributed solution and production mode for the development of an enterprise. The crowdsourcing is different from outsourcing: firstly, while the crowdsourcing task is assigned to the groups of the social network, the outsourcing task is to the appointed individual; moreover, the crowdsourcing tasks are dissimilar from the open source software, as the former are posted by certain clients and accomplished on the basis of groups or individuals, the latter is done by voluntary creation and cooperation from the individuals of a colony. The Crowdsourcing mode has been applied by many companies such as IBM, Peugeot, Microsoft, Procter & Gamble (P&G), Nike, Adidas, BMW and other renowned enterprises for their research and development of the company innovation. Meanwhile, hundreds of small and medium-sized enterprises are rapidly adapting to the crowdsourcing mode for their strategy of acquiring the external intelligence resources. Through crowdsourcing, the enterprise can obtain wider intellectual capital from the outside and quickly observe the customer demand (Busarovs, 2011). However, few research shed light on

crowdsourcing mode, most of existed researches are limited in introducing “what it is” and “what does it mean to the enterprise”. Therefore, the dispersion and unsystematic academic research in the present could hardly guide the development of crowdsourcing mode.

In order to enrich crowdsourcing mode research, we focus on three key questions in the dissertation: Firstly, why the solvers will take part in crowdsourcing task? Secondly, how the crowdsourcer attract solvers? Finally, how the crowdsourcing platforms boost the trade between solvers and crowdsourcer? As the difference from prior research, we analyze crowdsourcing from the perspective of two-sided markets, which is the key point in the crowdsourcing research. The third-party crowdsourcing platform bridge the buyer (crowdsourcer) with the seller (solver), so there are two basic problems in the crowdsourcing mode: “crowd” combination, the crowdsourcing market needs two-sided participators constructing cross network effect; “outsource” implementation, how to make the trade goes smoothly. The research on solvers’ motivation and crowdsourcers’ outsourcing tactics can figure out the “crowd” effect, and platform governance research can help the achievement of outsource. The purpose of this research is to guide the practice of the crowdsourcer and platform, enlighten the crowdsourcing mode theory systematically.

We have conducted three researches corresponding to each participator’s key question. Firstly, in study 1 we applied content analysis method to solvers’ blog, exploring constitutes and relationship mechanisms within solvers’ participating motivation. Secondly, in study 2 we used secondary hand data from crowdsourcers’ task activities to test the effect of tactics, verifying the respective influences of prize incentive, time framing and task types on solvers’ attention, participation and efforts. Furthermore, the different tactics combination of prize incentive and time framing according to task type are analyzed, some suggestions are made. Finally, in study 3 we also adopted secondary hand data from crowdsourcing platform’s trading track, to explain that how platform building the trust system between sellers and buyers to enhance their trade performance. The three studies are corresponding to the solver, seller and platform respectively, which are useful to crowdsourcing practice.

This paper is divided into four major parts: introduction, theory background, three empirical studies and the overall discussion, including six chapters. Summary of each chapter is as follows:

Chapter I describes the main studying questions of this paper, research motivation, significance of the topic and innovation. Crowdsourcing is a distributed problem solving method to the company, it brings outside human intelligence for the development of enterprise. The company can outsource the difficult R&D problems and unable finished task to the internet crowd via crowdsourcing. It gathers the distributed and unoccupied human intelligent resources by social network, connected them with entrepreneurial capital needs, building a new knowledge two-sided market. Though it is significant to study on crowdsourcing mode, prior research is rare and lacks of systematic and academic analysis. The existed research just told us “what is the crowdsourcing” and “what it means to the company”, but how to conduct a successful crowdsourcing practice, prior research can provide little guidance. So there is a research gap. The difficulty in the development of crowdsourcing is yielding the cross network externality, to boost the “crowd” and “outsource” successfully. Three complementary research questions are arisen. Why the solvers will take part in crowdsourcing task? How the crowdsourcer can attract a lot of solvers to joint the task? How the platform can push the trade between their clients? Those researches can enrich crowdsourcing mode theory and are helpful to the crowdsourcer and platform.

Chapter II mainly sorted out the literature about crowdsourcing mode, from social production theory, open innovation theory to two-sided market theory. Firstly, crowdsourcing is a kind of social production, because the task is finished by a group of voluntary solvers, which is the typical feature of social production. There two kinds of relationships among solvers during the social production process, one is collaboration, for example the solvers work together to develop computer system in open source software; another is competition, take the crowdsourcing for an example, solvers competed with each other for prize. Social production provide basic theory and new research topic for crowdsourcing mode research, because the uniqueness of crowdsourcing activity. Secondly, Crowdsourcing is making use of outside human intelligence for R&D and other task, obey the

logic of open innovation, which advocates company should integrate outside resource for development. So open innovation is the theoretical background of crowdsourcing, however how to crowdsource is a challenge for research. Thirdly, crowdsourcing platform is stand for two-sided market, solvers and crowdsourcer are two different clients to the platform. The trading object is knowledge based creative product, which is different to the traditional platform business, so how to service transaction better is new research question for the two-sided market theory. Prior researches provide theoretical background for this dissertation, and also bring about new challenges.

Chapter III is the study 1, which focused on the solvers' motivation, analyzing constitutes and relationship mechanism of solvers participating motivation. Crowdsourcing is different from prior mass activity, it provides human intelligent service for the enterprise, and the final proposal is only belonging to the crowdsourcer company. After contents analysis of solvers' blog, we found solvers motivation can be divided into three groups, consisting of 16 dimensions. Hobbies and interests, prize incentive and self learning capabilities are the main representatives. Furthermore, we found that the relationship among motivations is complementary; it is not contradictory to pursue prize, hobbies and interests, and self learning capability in the same time for solvers. The result is opposite to the open source software, so this research can enrich the theory of solvers' motivation in social production and open innovation background.

Chapter IV paid attention to the strategy of the crowdsourcing task givers, which mainly tested their strategic impacts, and provided systematic advices for crowdsourcing tactics of tasks with different levels of difficulty. Crowdsourcing is similar to a competition event, while the participants are the netizens in the outside of the enterprises; meanwhile, the competitors fulfill a task before they enter the bid, the crowdsourcing task-giving companies adopt the logical thinking of the Real Option for their managerial practices. In line with the application of the Real Option Theory in competition, the main strategies of which could be operated by the enterprises are concluded as the bonus amount, time cycle and task difficulty. Our research has found that the rewarding strategy attracts only the concerns and participation of the problem solvers, whereas on the other hand, it po-