

Multiple Logics of the Development Plight of Bicycle-Sharing in the Context of Sharing Economy: An Analytical Framework

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ABSTRACT

As a typical representative of sharing economy, bicycle-sharing, featured by the concept of "solving the problem of the last kilometer travel", has become an important practice in the field of short-distance trip by urban public transportation. However, problems such as poor competition in the bicycle-sharing industry, insufficient market supervision and lack of consumer ethics have posed huge challenges for urban bike-sharing governance. This paper analyzes the management status of bicycle-sharing in an analytical framework of multiple logics by using case study to explore the root causes of its management plight. The research shows that the dual goals of policy makers determine the dual policy orientation, and policy implementers enforce laws selectively due to the influence of bureaucratic pressures. The "vacancy zone" between policy orientation and law enforcement provides space for the logic of the market.

Keywords: *sharing economy; bicycle-sharing; multiple logical framework*

1. INTRODUCTION

Sharing economy is one of "Internet plus" economic models as well as an emerging economic model, in which Internet enterprises integrate offline idle resources through the network technology to precisely match suppliers with demanders to optimize their revenues, thus promoting the transformation and upgrading of China's economic model and practicing the important concept of sharing. As a typical example of the sharing economy, bicycle-sharing meets the needs of urban residents for short-distance trips. However, due to the imperfect and immature management mechanism in all agencies, various kinds of urban governance disorders occur frequently. Existing studies have focused on the problems and plight of current operation and management of bicycle-sharing. This paper attempts to explore the internal logic of the development plight of bicycle-sharing from the perspective of the government and its hierarchical structure, as well as the interaction between enterprises and consumers, so as to provide explanations for similar problems that may arise in the context of sharing economy.

2. RESEARCH PROBLEMS

In the integration of the Internet with sharing economy, companies providing the platform for commercial Internet services have fully realized the compatibility of low cost and high benefit of urban residents demand with a large number of idle resources in society, therefore through

communication technology such as cloud computing and big data, they set up the Internet platform and match the demanders with resources-rich party in a reasonable way through Internet technology so that idle resources can be effectively used [1]. Sharing economy relies on Internet technology to share goods, services and information among consumers. It has achieved breakthrough development in finance, production, communication and other related fields, broken the original economic, cultural and social structure and gradually promoted the transformation and upgrading of traditional industries.

As a typical representative of the development of sharing economy, bicycle-sharing, to some extent, makes up for the shortage of urban public transport and provides an innovative model for solving the seamless connection of public transportation [2]. On the basis of the original urban public bike, we have canceled complex procedures for bicycle-sharing such as parking lots and manual procedures and integrated the idle bikes on the Internet mobile terminal, thus shared bikes have become an important choice for urban residents to travel for short distances. However, with the rapid expansion of the bicycle-sharing industry, the number of shared bikes and users has increased significantly, and its disadvantages have become increasingly evident. Shared bikes have been criticized due to consumers' uncivilized use. Bicycling on both sides of the road and random parking at bus stations lead to road congestion, damage the city appearance and even traffic safety accidents. Some consumers deliberately destroy bike locks or add private locks for their use. A large number of damaged vehicles also cause a serious waste of resources. Severe challenges have been imposed on the development of bicycle-sharing as problems keep cropping up.

3. RESEARCH REVIEW

In recent years, the academic world has always been researching on bicycle-sharing. In August 2017, the Ministry of Transport and other 10 government departments jointly issued Guidelines for Encouraging and Standardizing the Development of Bicycle-Sharing, which defines the bike-sharing as a new service model that integrates the mobile Internet with bike rental. It is one of the typical business forms of sharing economy. Bicycle-sharing is a sharing service in which companies use the Internet as a platform to provide paid bike rental services in public areas such as public transportation hubs and residents' gathering areas [3]. Compared with the public bikes provided by the government, shared bikes with light weight and low price have no parking lots, which is in line with the environmental protection concept of green travel for urban residents. The shared bikes have been recognized by the market as soon as they are put into operation.

The academic world has studied the existing problems of bicycle-sharing in a systematic way while acknowledging its innovative travel mode and healthy lifestyle. Bicycle enterprises do not have standard operation management and lack corresponding system design and response plan. Governmental administrative departments do not have unclear responsibilities with the absence of administrative laws and regulations, which have led to the infringement of consumers' rights and interests such as losing money and user safety, a market disorder such as vicious competition and disorderly use of bikes, and urban management difficulties such as disorderly parking and traffic jams. These have posed new challenges for enterprises' innovation and governmental regulation, thus its development has encountered bottlenecks [4].

The introduction of an analytical framework of multiple logic can better explain the deep reasons for the stagnation of bicycle-sharing. Zhou Xueguang et al. put forward the theoretical analytical framework of "multiple institutional logic" in view of the fact that a single theory could not meet previous research on institutional change. According to this theoretical framework, the study of urban problems needs to analyze the interaction between multiple mechanisms and mechanism in the process of institutional change, but it is impossible to study this problem in a partial way to ignore the interaction among different dimensions of cities[5]. Considering that the governance of urban problems is becoming more difficult with the diversification of agencies and the complication of interests, we can employ the analytical framework of multiple logic to deeply touch upon the relationship between behavioral logic and logic-driven by different interests of various agencies.

This paper will take bicycle-sharing as an example to analyze the problem of urban governance in the analytical framework of multiple logic. Policy makers, policy implementers, producers and consumers, as the governance agencies of bicycle-sharing, determine their behavior choices due to the constraints of policies, rules, technical resources and other social environments. The mutual

promotion and restriction among various logics result in the development plight of bicycle-sharing.

4. THE THREEFOLD LOGIC OF URBAN BICYCLE-SHARING MANAGEMENT

The popularity of the sharing economy model has made the development of bicycle-sharing become a social focus. The core proposition of this paper is that the behavioral choices of the four agencies, namely, the policy maker, the policy implementer, the supplier and the demander of shared bikes, are restricted by their own role logic, and there is mutual influence among the logics. As policy makers, governments at all levels are driven by political logic to participate in the formulation of relevant policies; as policy implementers, related departments are restricted to a certain extent in the process of policy implementation due to the logic of bureaucracy; for the market, efficiency logic, to a certain extent, affects the market behavior of bicycle-sharing platforms and consumers.

4.1. The Logic of Politics: the Contradiction of Policymakers

In this paper, the main body of "logic of politics" is defined as the policy-making departments such as administrative organs and legislative organs at all levels. Because policy makers are oriented by different objectives and are composed of multiple departments with different interest appeals. Therefore, the "logic of politics" is reflected here as the contradiction by policy makers on bicycle-sharing management objective and their neutral attitude in the conflict.

In recent years, the government has put forward policies and concepts like shared development, aiming to actively encourage the integration of sharing economy and traditional industries, so as to stimulate new economic vitality. Bicycle-sharing deeply integrates sharing economy and transportation. However, the lack of management of shared bikes also leads to the disorder of urban governance and industrial management. At the same time, bicycle-sharing have become a strong competitor of the government in terms of public service functions, and it is easy for the government to crack down on bicycle-sharing. In the balance between these two sides, policy makers have both positive and negative ambivalence towards bicycle-sharing.

4.2. The Logic of Bureaucracy: the Contradiction of Policy Executors

Policies are implemented by bureaucratic organizations at all levels of government and grass-roots law enforcement organizations play an important role in the management of shared bikes. Law enforcement officers hold either an indifferent or positive attitude towards the law enforcement

of the bike-sharing issue. The difference of their behavior choices reflects the logic of bureaucracy. The environment facing by law enforcement departments is extremely complex. As a bureaucratic organization, grassroots law enforcement departments must implement various policies and regulations under organizational pressure. The operation and use of shared bikes largely violate relevant urban management policies and regulations, and law enforcement departments have given certain penalties to enterprises and individuals who violate industry rules of bicycle-sharing. However, the state strongly advocates the development of the sharing economy, and once the law enforcement departments suppress bicycle-sharing, it is bound to cause collective dissatisfaction in the bicycle-sharing industry. In addition, with the rapid expansion of the bicycle-sharing market, the complexity of the problem has raised the cost of law enforcement. Grassroots law enforcement departments' attitude towards bicycle-sharing and their behavior choices are affected by multiple objectives in the law enforcement environment. Selective law enforcement which has been adopted after weighing the benefits and costs of law enforcement has no substantial impact on the management of the bicycle-sharing industry.

4.3. The Logic of Market: the Efficiency Orientation of Producers and Consumers

The emergence of bicycle-sharing is a market behavior in which urban residents' demand for short-distance trips is satisfied. The logic of the market lies in clarifying the rationality of the market link and the new development problems brought about by the market efficiency. Sharing economy enterprises are aware of the demand for urban

travel and obtain bicycle resources through multiple rounds of capital integration, thus effectively meeting consumers' demand for short-distance trip. As for consumers, facing the situation of short supply of public transportation and road congestion, there is no doubt that bicycling is the most efficient way for them to travel. The hypothesis of "rational economist" encourages them to use the cheapest way to maximize the utility of transportation. Due to profit orientation, the rapid market expansion by several bicycle-sharing enterprises has led to fierce competition, resulting in chaos in the market. The lack of social ethics among consumers, such as vandalism and privatization of shared bikes, wastes resources and increases the cost of law enforcement. The logic of market connects bicycle-sharing platforms with consumers and exacerbates the problems of industrial management while making up for the shortage of public services. As market forces continue to emerge, the regulatory issues brought by bicycle-sharing cannot be ignored.

5. THE FORMATION MECHANISM OF THE MANAGEMENT PLIGHT OF URBAN BICYCLE SHARING

The development of bicycle-sharing industry should not only solve the market demand, but also the problem of industrial management. The logic of politics, bureaucracy and market makes multiple agencies participate in the management of shared bikes, and the logic tension among them leads to the formation of the management plight of bicycle-sharing [6]. Fig. 1 illustrates the interaction of threefold logic in the management of shared bikes. Each agency has its behavioral logic in the face of bicycle-sharing, and they affect and restrict each other.

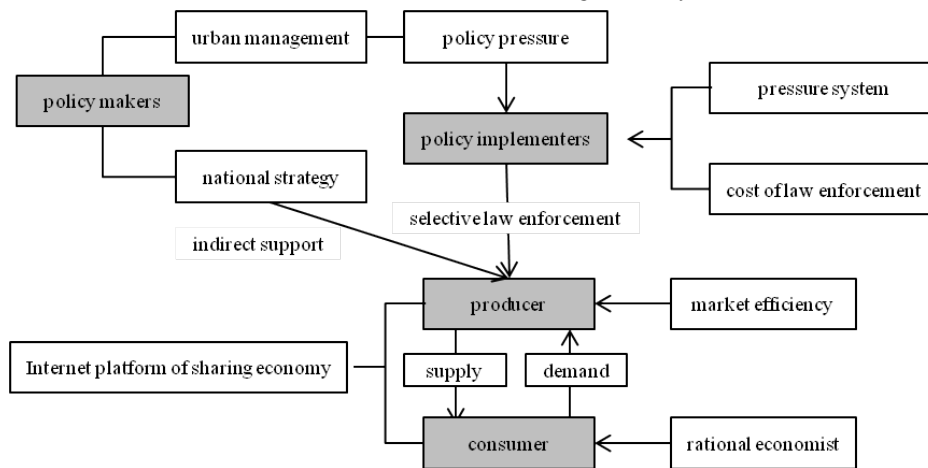


Figure 1. The Process of Interaction of Threefold Logics in the Management of Bicycle-sharing

Policy makers' consideration on multiple objectives directly leads to their neutral attitude in making policies. Policy makers, facing both the new economic situation and the industry's management norms, have adopted strict regulations on bicycle-sharing while encouraging its

development. As policy implementers, under the pressure system, policy implementers tend to have the same behaviors with policy makers, actively implementing the existing policies and regulations and strictly managing shared bikes. The neutral attitude of policy makers makes

implementers weigh the efficiency and costs of law enforcement. The deficiency of the ways of law enforcement is exposed due to insufficient law enforcement resources. Therefore, implementers enforce laws selectively in bicycle-sharing.

Policy makers and implementers are both important agencies in the industrial management, but there is a contradiction between the logic of politics and the logic of bureaucracy, which forms a "vacancy zone" in the management of bicycle-sharing, providing space for the logic of the market. Since the market is both the supplier and demander, bicycle-sharing platforms and consumers have efficiently been connected through the Internet. While maximizing the benefits of both sides, industrial management problems brought about by efficiency have become increasingly prominent. The first is a traffic safety risk. Currently, there is no quality inspection or entry threshold for shared bikes before they are put into use. The second is the risk of capital security and market failure. The lack of supervision on the trading platform with financial properties will easily cause market failure.

6. SUGGESTION AND OUTLOOK

Today, with the wide application of Internet thinking and the continuous maturity of Internet technology, bicycle-sharing, as a new thing in the field of public transportation, plays a pivotal role in solving the problem of "the last kilometer" in cities. With a fully commercialized business model, bicycle-sharing effectively meets the needs of the public on short-distance trips in urban public transport, which to some extent makes up for the failure of the government in public transport services. However, from the perspective of the formation mechanism of the management plight of the bicycle-sharing, urban governance and industrial management triggered by sharing economy, an emerging industrial model, have become the problems facing by government and the social main bodies. They must immediately change thinking mode and form an urban governance mode and industry development model under the tendency of sharing economy. Based on a full understanding on the formation mechanism of the management plight of bicycle-sharing, this paper tries to point out the role or function that the government and various social agencies should assume when facing the sharing economy industry such as bicycle-sharing.

The government should be fully aware of the importance of Internet technology, actively foster social and cultural atmosphere for the development of sharing economy industry and create an atmosphere for the formation and development of related industries. Relevant departments should establish a safety supervision mechanism for products and services, use big data technology to form a supporting supervision system, strengthen their supervision on market access qualifications and credit records and prevent and control risks. In addition, a supporting industrial supervision model should be built as soon as possible and the function of market supervision should be

given full play so as to avoid new market failures. If the sharing economy industry, represented by bicycle-sharing enterprises, wants to occupy an advantage in the market, it must start with technological breakthrough to innovate their technologies according to the needs of users so as to provide high quality services.

Throughout the social development in recent years, the development of sharing economy is not only the maturity of science and technology, but also an important path for the reform of economic model. Building an industrial structure driven by the Internet is an important strategic pattern for future economic and social development. While encouraging the development of sharing economy, social agencies must further study the possible industrial management problems such as information security, financial security, etc. The weakness of this paper lies in that the analytical framework of multiple logic, as a possible explanation, can only analyze the development plight of bicycle-sharing to a certain extent. Due to the diversity and complexity of internal and external factors, more influencing factors still need to be explored. It should become an important breakthrough for follow-up research to explore the collaborative management model of the sharing economy industry and deconstruct the logical interaction among different agencies [7].

7. CONCLUSION

As a practice of the sharing economy, bicycle-sharing effectively solves the travel problem of "last kilometer" for urban residents and becomes an important breakthrough in the integration of public transportation with the development of the sharing economy. However, the industrial management, urban governance and other problems brought about by the bicycle-sharing have also troubled its further development. This paper takes bicycle-sharing as a case study and introduces the analytic framework of multiple logic to explore the root causes of the management plight of bicycle-sharing. The research shows that the dual goals of policy makers determine the dual policy orientation, and policy implementers enforce laws selectively due to the influence of bureaucratic pressures. They have similar behaviors.

The "vacancy zone" which is formed between policy orientation and the ways of law enforcement has provided space for the rapid expansion of the bicycle-sharing industry. The logic of the market has taken the initiative and formed a huge tension between policy makers and policy implementers, thus forming the development plight of bicycle-sharing. With the help of the Internet, bicycle-sharing balance between supply and demand in short-distance travel in cities, but it also causes new industrial problems. More effective industrial management and model need to be clarified and optimized, so as to promote the healthy development of the sharing economy represented by bicycle-sharing. The analytical framework of multiple logic used in this study provides a possible explanation for the development plight of bicycle-sharing, which is also an important basis for further research on the

collaborative management model of bicycle-sharing and sharing economy.

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