

## Governance Patterns of Vendors and Their Differences among Large, Small and Medium-sized Cities in the Yangtze River Delta Region in the Post Epidemic Era - A Case Study of Nine Cities, including Shanghai, Tonglu and Shengzhou City

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**Abstract.** Street vending has long been one of the most visible economic manifestations of urban economies in the Southern Hemisphere. Not only does it provide employment opportunities for hundreds of millions of people around the world, but it also poses a huge challenge to urban management. In the post epidemic period, governments across China have proposed policy documents related to managing vendors in order to stimulate economic recovery and strengthen urban governance. The aim of this paper is to collect data through bibliometric methods on government websites of nine typical cities in the Yangtze River Delta urban agglomeration. Subsequently, the results are analysed dialectically using swot and pestel analysis methods, which show that the governance model of small city governments is single but with intangible cultural heritage characteristics; the governance model of medium-sized cities is also single and lacks local characteristics; and the governance model of large cities is the most scientific and reasonable and the model adheres to the concept of people-centredness. Finally, the paper concludes with suggestions and expectations with reference to the governance experiences of other cities.

**Keywords:** Yangtze River Delta Region, informal economy, street vendors, government, governance model

### 1 Introduction

### 1.1 Background

The concept has been cited as one of the characteristics of the economy of the global South in a wide range of literature on the informal economy (Etim, E., & Daramola, O. 2020) [1]. The type of work performed by people engaged in street vending is classified by the International Labor Organization (ILO) under the section on labor relations that is not regulated by national legislation (ILO, 2013) [2]. According to data published by the International Labor Organization, it is estimated that more than 2 billion people worldwide work in the informal economy. This population figure represents approximately 60 percent of the total number of people employed worldwide (ILO, 2022) [3]. In this research exploration, we focus on the informal economy.

Until now, the informal economy has been one of the main features of many southern hemisphere urban settlements (Banks et al., 2019) [4]. For example, in cities of the South, such as those in Latin America, the informal economy provides a large number of jobs for the local population and demonstrates its own enormous incomegenerating potential (Bromley, 1978, Chen, 2005, Godfrey, 2011) [5][6][7]. Its importance cannot be overstated.

For those involved in the informal economy, due to the difficulty of defining their legitimacy and their extreme mobility, most of the data that are publicly available are qualitative studies of a particular urban subregion (Recchi, 2021) [8]. Most of the research on the informal economy in Chinese cities is in the Pearl River Delta (PRD) region, with cities such as Guangzhou, Foshan and Zhuhai as the subjects of study. The Yangtze River Delta region, on the other hand, has yet to be further explored. This study can supplement the gap in this area on the one hand, and on the other hand, it provides new ideas for the government to govern the vendors.

### 1.2 Objectives

In this study, we investigated the governance patterns of street vendors in different types of cities in the Yangtze River Delta region.

This study aims to answer two questions:

- (1) What are the characteristics of the governance patterns of vendors in large, medium and small cities in the Yangtze River Delta region of China?
- (2) What are the differences in the governance patterns of vendors in large, medium and small cities in the Yangtze River Delta region of China?

Answering these two questions will improve our understanding of the informal economy and street vendors in the Yangtze River Delta.

### 1.3 Scope and Methodology

This section covers the criteria and timeframe for data collection. The data of this study are all from the official government websites of nine cities. This paper studies the street vendor economy in the postepidemic period. To ensure the validity of the

data collected, the researcher entered the following keywords in the search bar in turn: ground stalls, vendors, night market, and bazaar. Subsequently, a limited time frame of 2020.06.01 to 2023.08.01 was filtered out. Then, it was cross-read by three people to ensure that each piece of information was read three times. In the end, most of the government dynamic information and policy documents were eliminated. A total of 5,271 pieces of relevant information appeared in this search, and 561 pieces of information were eventually judged to be valid. The valid data on large cities in the resulting valid information base was 476 items, with Shanghai having the most policy documents with 112 items. There are 27 pieces of valid data for medium-sized cities, with 6, 9 and 12 pieces for Shengzhou, Yuhuan and Yongkang, respectively. There are 62 valid data points for small cities. Based on these data, this paper will compare the governance models and make suggestions.

### 2 Literature Review

### 2.1 Definition and Characteristics of Informal Street Vending

### 2.1.1 Defining street vending.

The dichotomous division between formal and informal or regular and irregular economic activity is often used to define street vending (Recchi, 2021) [8]. According to Cross (1998) [9], the informal economic activity includes "the production and exchange of legal goods and services that involves the lack of appropriate business permits, violation of zoning codes, failure to report tax liability, noncompliance with labor regulations governing contracts and work conditions, and/or the lack of legal guarantees in relations with suppliers and clients." Cross (2000) [10] argues that the definition can also be employed to define street vending, which is typically considered to fall within the category of the informal economy. Similarly, drawing on other scholars' definitions of the informal economy, Kettles (2014) [11] finds that informal street vending has the dual attributes of "law avoiding" and "law breaking". On the one hand, street vending does not break any law but has been set up in a way that legally avoids any applicable legal requirements or interventions, as it is usually not controlled as stringently as shopfront entities. On the other hand, street vending is illegal from the start because vendors frequently operate in violation of existing legislation. However, regardless of its legality, the street stall economy comprises businesses that operate without a permanent built-up structure and offer goods and services on the street (Bhowmik, 2005) [12].

### 2.1.2 Characteristics of informal street vending.

The economic attributes of informal vending are as follows: locational mobility, low cost, flexibility, and product autonomy (Huang et al., 2019) [13]. First, there are three main categories of street vendors that can be identified: semi-fixed street vendors, who temporarily serve their goods on improvised structures along the street; mobile or itinerant vendors, who carry out their activities by moving to different loca-

tions throughout the working day; and fixed-stall or stationary vendors, who work in a stable place during the working day (Recchi, 2021) [8]. None of them are based on permanent built-up structures, which indicates that street vending is characterized by regional mobility. Second, without high rental payments and human resource costs, street vendors usually bear lower costs than other businesses. This could explain why street vending is mostly chosen by marginalized and poor people who have fewer resources to invest. Third, due to its potential mobility and low capital requirements, "street vending may be practiced full-time, part-time, seasonally or occasionally" (Bromley, 2000) [14]. Vendors can flexibly choose to enter and leave the market in line with the actual demand. Finally, street vendors determine the goods based on the market demand according to the location and time of the operation.

### 2.2 The significance of informal street vending in urban economies

Prevailing across the globe, informal street vending is one of the most visible segments of the urban informal economy. It is crucial in multiple contexts. After reviewing a wide range of literature, Bromley (2000) [14] summarizes that street vendors contribute directly to the general level of economic activity, and their removal would have a negative impact on competitiveness and economic activity, as they are a crucial component of the economy. In addition, Bromley (2000) [14] also reveals that through licensing fees, sales and value-added taxes taken from vendors and paid to the government, as well as any taxes imposed on the consumption, income, or property of street vendors and their dependents, street vending is a factual or possible source of government tax revenue. Rather than being viewed as a problem, street vending should be considered a potential component of the solution to the issues of poverty, subpar employment, and unemployment (Huang et al., 2018) [15]. With the low threshold, ordinary laborers can sustain themselves and their dependents during the struggling circumstances through street vending, which can effectively prevent them from being impoverished and even turning to crime, rioting or revolution. In this vein, street vending functions as a social safety net. According to Giraldo et al. (2020) [16], street vending is an innovative, revolutionary and entrepreneurial activity that benefits both personal and societal well-being. Street vending represents entrepreneurship for underprivileged and working poor (Bhowmik, 2003) [17] because it offers people with few resources entrepreneurial opportunities. Vendors can acquire many crucial entrepreneurial skills on the street. Therefore, there are wannabe entrepreneurs entering the sector to accumulate capital and business experience. It is the personal preference for entrepreneurship that drives them to become street vendors rather than disposing of exploitative jobs (Huang et al., 2018) [15]. Although street vendors sometimes hinder the progress of city beautification, they also provide aesthetic appeal for urban cities. With their vibrant booths, costumes, and items, they may also add "atmosphere" and improve visitor sights and photos. For instance, Lincoln (2008) [18] points out that foreign visitors appreciate the "traditional" and "nostalgic" street vending; thus, the restriction on street trade runs counter to the wishes of many tourists, who are concerned that the fascinating charm of Hanoi's streets may be lost if merchants are discouraged from operating.

### 2.3 Challenges and controversies surrounding informal street vending

A study by Roever et al. (2016) [19] analyzed the challenges confronted by street vendors and concluded that the four identified issues, including workplace insecurity, harassment, confiscations and evictions, considerably influence vendors' incomes and, even more, their productivity. In particular, female sellers appear to be more susceptible to confiscation and expulsion, although male vendors claim to receive penalties more frequently (Mahadevia et al., 2013) [20].

Views on the governance of the street stall economy can be divided into two categories. According to Huang et al. (2019) [13], the modernist perspective holds that any behavior that violates control over the use of public space established by existing urban planning is illegal and should be prohibited and outlawed. However, this view based on modernism has been criticized by postmodernists. From the perspective of postmodernism, spatial formalization emphasizes the transformation of fluid and flexible informality with stable and normative normality, ignoring the characteristics and advantages of informality itself. They advocate that formalization should fully consider the characteristics and operation rules of the informal economy, thereby adopting appropriate regulations.

### 3 Informal Street Vending Governance Models in Large Cities

According to the "Notice on Adjusting the Standards for Urban Size Classification" issued by the State Council in November 2014, cities with a resident population of over 10 million in the urban area are referred to as megacities, while cities with a resident population ranging from 5 million to 10 million are classified as superlarge cities. Accordingly, a megacity, Shanghai, and two superlarge cities, Hangzhou and Nanjing, are selected as the research subjects for the study of informal street vendor governance in this paper.

### 3.1 Governance model of large cities

In the Yangtze River Delta region, the management mode of informal vendors is mainly soft law enforcement, combining publicity and education with strict management and heavy punishment. Shanghai has adopted a model of education to persuade away and temporarily confiscate the goods of stallholders who have been repeatedly indoctrinated. In the 211 valid data points obtained from the four entries of "street stalls", "street vendors", "night market" and "market" on the official website of the Shanghai Municipal Government, 40 mentioned propaganda and education, and 21 mentioned legal temporary seizure. Other data are a combination of supportive policies and regulatory measures. The informal vendor management mode in the Yangtze River Delta megacities is to actively lobby the vendors to enter the planned stalls or markets through the efforts of the urban management department on the basis of setting up temporary convenience stalls. For example, the Xingdian Sub-District Office of Pukou District (2023) [21] sets up temporary convenience stalls in pedestrian streets, which will solve the problem of the economic income of some people who have no

fixed occupation and no fixed source of income. Hangzhou has shown a more proactive and relaxed governance model, with supportive policies that go far beyond administrative penalties for stallholders.

In addition, large cities generally pay more attention to the rectification of food safety, pay attention to the management of street vendors around schools, and use the Internet and big data to track and investigate street vendors.

### 3.2 Characteristics of Governance in Large Cities

## 3.2.1 Lack of independent policies for the economic governance of informal vendors.

In large cities, the means of regulating informal vendors are mostly presented in the form of news reports in local dailies or in small entries in other documents. In Shanghai, there are only two overall policies specifically for vendors, namely, the Measures for the Management of Food Vendors in Shanghai and the Guiding Opinions on Further Regulating the Operation of Stalls (Trial Implementation). There are no governance policies for informal vendors.

# 3.2.2 Focus on the rectification of food safety and surrounding schools, reflecting people-oriented thought.

Six of the 24 valid data points obtained by searching "vendors" on the official website of the Hangzhou government are related to food safety, and food sampling and accelerating the registration management of food vendors are measures taken by the government to ensure food safety. There are more dynamics related to the management of vendors around schools, and 13 of the 201 valid data points in Nanjing are for the management of vendors around schools. The most frequent period of governance is the junior high school academic examination and junior high school entrance examination; for example, Hangzhou will increase the inspection of food vendors around the test site during the college entrance examination (Hangzhou Municipal Market Supervision Administration, 2022) [22].

## 3.2.3 Scientific and technological governance means are commonly used in governance methods.

The economy of big cities is developed, the consumption level of residents is high, and the government has also taken a series of scientific and technological governance measures for mobile vendors. Liberation Daily (2023) [23] said: in the "Shanghai urban management" WeChat public account, you can see the service map of all kinds of special stalls, even for the public, which is also convenient for supervision. The digital twin base built by UAV data acquisition, three-dimensional modeling and other technologies can display dynamic data such as video surveillance and real-time flow of people required for urban operation and management, which improves the governance efficiency of mobile vendors (Changning District People's Government, 2022) [24]. Scientific and technological governance means can effectively locate and dis-

suade street vendors in a timely manner, and the combination of artificial intelligence technology and street vendor governance is still being further explored in large cities.

### 3.2.4 Demarcation and diversion to legal business space.

By providing legal space for street vendors to operate, such as guiding street vendors into temporary convenience points and opening markets and night markets at specified characteristic points (Shanghai Municipal Administration of Greening and City Appearance, 2023) [25], requiring permits to set up stalls - most cities call it "business publicity cards", and creating special consumption festivals to help street vendors sell. These initiatives bridge the gap between formal and informal economies, promoting economic growth while maintaining a degree of control.

### 3.3 Comparative Analysis

Entering "street stalls", "street vendors", "night market" and "market" on the official websites of the three municipal governments in turn yielded 212, 871, 927 and 1,905 search results respectively, of which only 476 were valid. In terms of the number of policy documents on stakeholder governance, there are more megacities than superlarge cities. In the search of the above four terms on the official government website, there are 112 policy documents in Shanghai, of which 20 are valid data and more than 0 in Hangzhou and Nanjing.

In addition, although the model is a combination of dredging and blocking, Hangzhou shows a more relaxed governance attitude than the other two large cities. Hangzhou's government dynamics are more about the promotion of the young market and the ancient national tide market with Song Dynasty characteristics. When searching for intangible cultural heritage market and Song Dynasty market on the official government website, 317 and 341 results will appear respectively. In terms of published information on administrative penalties against mobile vendors, it is less than that of Shanghai and Nanjing, with only 4 pieces of data. The management measures of informal vendors are also more diverse than the monotonous publicity and education in Shanghai and Nanjing and the means to guide the operation of the market. Hangzhou is incubating the evolution of informal vendors into regular stores, such as the "help stall" project to encourage stall owners to rent and open physical stores after the completion of the accumulation of original funds to transform and upgrade to "help shops" (Hangzhou Daily, 2022) [26].

# 4 Informal Street Vending Governance Models in Medium Cities

Based on the latest issue of China's State Council's criteria for classifying the size of cities. China's medium-sized cities are defined as cities with a permanent population of more than 500,000 and less than 1 million in the urban area. In this study, we selected Shengzhou City, Yuhuan City and Yongkang City, whose resident populations

in 2022 are 692,000, 652,000 and 973,000, respectively. Among them, Yuhuan City has the least and Yongkang City has the most.

#### 4.1 Governance model

Some cities continue the governance model of evicting deportation and banning. This was because decisions were made for the safety of residents during that period, even though large-scale epidemics were not breaking out. In Yongkang City, for example, 50% of the 12 pieces of valid data collected were about the cancellation of trafficking activities affected by the epidemic. This shows that in the post outbreak period, the government's governance model is still affected by the outbreak. November 2020 was an important watershed, after which government documents no longer showed a negative impact on the vending economy.

The government's governance model for street vending is overly simplistic. The main manifestation of this is a single governance model of criticizing, evicting and punishing vendors. Most of the reports on the government websites of the three cities regarding information on vendors are penalty notices.

The second model of governance involves the formal sector, such as the government, organizing temporary bazaars to help vendors increase their incomes. Compared to the first two modes of governance, the third mode of governance brings about an economic system that acts as an intermediary between the formal and informal economies. On the one hand, it eases the conflict between the vendors and the government, and on the other hand, it helps the government to better manage the problem of vendors. However, such a mode of governance does not fully resolve the conflicts between the government and the vendors. For example, activities such as bazaars are restrictive in nature, limiting the flexibility of the vendors. In addition, due to the short period of time, the model does not help vendors solve their economic problems completely.

The last model is for the government to provide street vendors with sites for long-term use and to limit the scope of business of the vendors. For the government, the benefits of this model are self-evident: on the one hand, it is easy for the government to manage the vendors, and on the other hand, it is easy to form a scaling effect, which can increase government revenue. The model is found in all three study cities. In this study, the town of Lupu in Yuhuan City is a typical case. The local government planned a temporary relief area based on the political concepts of people-centredness and the integration of congestion. The area is used intermittently to meet the needs of local vendors who sell their goods on the street. At the same time, it ensures that there is no traffic congestion during peak hours.

### 4.2 Characteristics of a medium-sized urban governance model

A single mode of governance. The main modes of governance for vendors in medium-sized cities can be summarized in two ways: driving away vendors from selling and restricting business locations. The former has always been the mode of governance of each local government. The latter is the current stopgap measure regarding the hawker economy.

Lack of local characteristics. This characteristic refers specifically to the third mode of governance referred to earlier. The hawker economy under this model presents strong political and cultural characteristics, which undermines the proportion of other cultural characteristics and tends to produce a large number of homogenized products.

### 4.3 Comparative Analysis: Navigating Challenges in Medium-Sized Cities

A search of the official government websites of the three cities yielded 735 messages, of which 27 were valid. More than one-third of the searches were related to the punishment of vendors. Comparing the number of messages, the number of messages related to hawker control in medium-sized cities is significantly lower than that in large and small cities, which reflects that the governments of medium-sized cities have lower efforts to control hawkers than the other two, especially lower than that of large cities. In addition, the difference between medium-sized cities and large and small cities is that medium-sized cities show a certain degree of dependence in their attitude toward vendors. For example, the market vendor economy in Shengzhou City accounts for a large proportion of the city's total economy and is on an upward trend year after year. Medium-sized city governments do not have as high a financial income as large cities and have a single mode of income. Therefore, medium-sized city governments hope to increase local fiscal revenues through scale effects while managing vendors. However, not all vendors are suitable for this model due to the natural contradiction between vendors and the government. Therefore, how to manage the remaining hawkers has become a difficult problem. When we take a closer look at the content of the information, we find that the percentage of effective policy documents in support of the hawker economy is the highest among the three types of cities, namely, large, medium and small, due to their dependence on the hawker economy.

In addition, the development of the hawker economy will inevitably affect the development of the formal economy. If the development of the local formal economy is hampered by the influence of the informal economy, how can government departments protect the security of the local formal economy while rationally managing the informal economy? This challenge is not unique to medium-sized cities, but is encountered by large, medium and small cities.

## 5 Informal Street Vending Governance Models in Small Cities

According to the criteria for classifying the size of cities issued by the State Council in 2014, those with a permanent urban population of less than 500 thousand are identified as small cities. Therefore, Tonglu, Jiangshan, and Yangzhong are chosen as the research objects of small cities in this paper in accordance with this instruction.

### 5.1 Governance model in small cities

The management model of street vendors in small cities in the Yangtze River Delta region is "government-led", and the "combination of smoothing and blocking" policy is implemented. Instead of simply shutting down and eliminating vendors, small cities relocate them, guide them to operate in compliance with the law, provide policy support, and punish those who violate the regulations.

Due to the current economic downturn, local governments have expressed their support for the development of the street stall economy. For instance, the Yangzhong City Urban Management Bureau (2020) [27] made it clear that it is necessary to lift the restrictions on the operation of street vendors in an orderly manner, strengthen supervision, and improve the level of government services to promote the sustainable development of the street vendor economy. Meanwhile, governments have never relaxed their supervision of street vendors, regularly remedying the problems of illegal occupation of the road, food safety and other issues.

### 5.2 Characteristics of governance in small cities

## 5.2.1 Shortage of independent and comprehensive policies for the street vending economy.

Small cities lack complete and independent policies for the development and management of the street stall economy, which are scattered in other industrial policies or government documents. For example, the Jiangshan government did not formulate a development policy specifically for the street stall economy, only mentioning it in other development plans. Among the measures mentioned in the "Special Action Plan for Urban Quality Improvement in Jiangshan City 2020", only two involve the street stall economy, namely, the regulation of illegal road occupation and the creation of a demonstration area for the street stall economy (Jiangshan City Government Office, 2020) [28]. The fragmented regulations may exacerbate the ambiguity of the policy perception of vendors of low literacy, not only making them miss the latest policy support but also likely to suffer "avoidable" penalties.

### 5.2.2 Monotonous means of governance.

The means of managing the stall economy in small cities are relatively simple, which is nothing more than establishing the evacuation area, adding stalls, and developing the night market economy. This may be related to the lack of management talent in the government and the insufficient consumption demand of local residents. In particular, local governments have focused on the night market to boost the stall economy. The Tonglu County Development and Reform Bureau (2022) [29] pointed out that it is essential to prosper in the night economy and cultivate night activities such as "night shopping", "night dining hall", "night tourism" and "night entertainment" to further create a night economic atmosphere. Long-term reliance on monotonous governance means by the government, along with an absence of innovation and

refinement, will probably result in disorganized management and an inferior development trend in the future.

### 5.2.3 Combined with the inheritance of cultural heritage.

Governments have combined the street vending economy with the preservation of cultural heritage. In small cities, there are some villages and towns with distinctive cultural heritage, but due to scant attention, the inheritance of these traditional cultures has become a problem. Therefore, governments organize villagers or cultural heritage inheritors to set up stalls in the market to sell handicrafts and specialties, which not only tackles the income and unemployment problem of these villagers but also effectively alleviates the cultural inheritance crisis. In 2021, Tonglu held an intangible cultural heritage night market, where nonmaterial cultural heritage projects, products and inheritors from the whole county gathered by the Fuchun River, including She township ribbon, Tonglu paper-cutting and She township snacks. This event attracted tourists from all over the province to participate (Tonglu County Culture, Radio and Television, Tourism, and Sports Bureau, 2021) [30].

### 5.2.4 Borrowing practices from big cities.

Small cities will learn from the experience of large cities when formulating policies for the management of the street stall economy. Yangzhong looks to the southern Jiangsu region, the southern part of the province where Yangzhong is located, to learn how to deal with the problem of road occupying operation. Jiangshan learns from Changsha, the capital of Hunan Province, about how to prosper in the night market economy. By adapting the governance tactics of major cities to local realities, small cities can improve governance efficiency while lowering the cost of policy experimentation.

### 5.3 Comparative analysis

Inputting "street stalls", "street vendors", "night market" and "market" in turn on the official websites of the three city governments, 29, 234, 161 and 197 search results were obtained, respectively, among which only 62 results were valid.

Although these three cities all adopt the "combination of smoothing and blocking" mode, Tonglu's and Jiangshan's management of the street stall economy is mainly guided by "smoothing", while Yangzhong's is dominated by "blocking" because more than half of the 25 valid data points of Yangzhong are about the control and punishment of street vendors.

### 6 Influence of Informal Street Vending Governance Models

In this part, PESTEL analysis is used to explore the impact of the informal street vendor governance mode in large, medium and small cities in the Yangtze River Delta region from six aspects: politics, economy, society, technology, environment and law.

### 6.1 Political aspects

The political impact is reflected in the flexible strategies adopted by the government in governance, such as adopting a "combination of channel-and-block" approach rather than total restrictions, which may gain broad political support and response. Large and medium-sized city governments often adopt the mode of setting up and transferring street vendors to temporary stalls for the convenience of the people, combining publicity and education of street vendors with severe punishment and heavy punishment, reflecting the political consideration of the government in balancing the image order of the city with the provision of employment opportunities and the satisfaction of citizens' needs. However, large, medium and small cities generally lack independent economic governance policies for informal vendors, which reflects that the government has certain blind spots in the policy field, and more systematic and comprehensive governance strategies are needed.

### 6.2 Economic aspects

On the economic front, effective informal street vendor governance models can stimulate local economic activity, promote small-scale entrepreneurship and produce consumer spending. This is particularly evident in medium-sized cities and helps to solve the employment problem. The legalization of the street vendor economy creates an additional source of income for economically depressed cities in the postpandemic era and has a positive impact on the diversification of the urban economy. However, the implementation of the policy also needs to take into account the actual economic situation of stallholders to ensure their economic income and sustainable development. Feng (2009) [31] indicates that while street vending helps vendors stay above the poverty line, it fails to provide sufficient income to match the average income levels of local residents. This reflects the lack of economic incentives for stallholders to operate according to regulations. The level of economic development and market demand of different cities will also affect the effect of governance model.

### 6.3 Social aspects

The governance model has a significant impact on society, especially on employment opportunities and social integration. In large cities, the government pays attention to food safety and the improvement of surrounding schools, reflecting people-oriented thought. This shows that the government is concerned about the health and safety of the people and maintaining social harmony and stability. In small cities, by holding intangible cultural heritage markets, fairs and other activities, the government has eased the economic pressure on the inheritors of intangible cultural heritage, promoted the spread and development of traditional culture, enhanced the popularity of intangible cultural heritage, and promoted the social atmosphere of civilization and etiquette.

### 6.4 Technical aspects

The impact on technology is mainly reflected in the application of information technology. Big cities have adopted technological means in governance, such as the use of WeChat public accounts, big data to track and locate vendor information, and artificial intelligence technology to improve governance efficiency. The regulation and supervision of stall owners under formalization requirements urge the invention of more efficient technologies. However, small and medium-sized cities may be limited in the application of technology, resulting in relatively single management means and the need to strengthen the construction of technical infrastructure.

### 6.5 Environmental aspects

The governance model has a significant impact on the urban environment. The development of stall economy poses challenges to urban environmental management, including garbage sorting, urban cleaning, noise pollution and light pollution. Urban governments need to consider environmental protection and sustainable development in the governance model and formulate corresponding regulations and measures to solve environmental problems.

### 6.6 Legal Aspects

The influence of the governance model on law is mainly reflected in the government's formulation and adjustment of relevant regulations and policies. The flexibility of the governance model can lead to policy instability and changes, requiring more specific and clear laws and regulations to regulate the operation of informal street vendors. In medium-sized cities, disputes may arise due to space competition, zoning conflicts, or disagreements among vendors. Therefore, there is a need to establish a clear legal framework to resolve potential disputes. At the same time, the government needs to pay attention to stallholders' understanding of laws and regulations and can strengthen training to reduce violations.

# 7 A SWOT analysis of governance models of the street vending economy in the Yangtze River Delta region

### 7.1 Strengths

Irrespective of the size of cities, current governance models adopted by local governments for the street stall economy are a combination of positive and negative policies, replacing the previous model of blindly banning and eliminating. Although the proportion of positive and negative policies varies from place to place, compared with before, the street vending economy has generally been promoted under the new governance model. Due to low commodity prices, a low risk of investment failure, and a low threshold for entrepreneurship, the prosperity of street vending is conducive to

stimulating household consumption, improving the survival of the unemployed, and promoting entrepreneurship in a grim economic situation.

When summarizing the economic processes and the governance of the population, Michel Foucault put forward the idea of good governance, the basic principle of which is to respect the natural processes or properties of the governed objects or at least to take them into account to make them work (Huang et al., 2019) [13]. At present, the compromise of "smoothing and blocking" meticulously considers the peculiarities and underlying reasons for the street stall economy, resolving the tension between upholding the urban image and order and ensuring employment and people's livelihood.

### 7.2 Weaknesses

Small and medium cities typically lack independent regulations to manage the street stall economy on account of their reliance on higher-level administrations, making it challenging to establish organized governance. In addition, the policies of small and medium cities are abstract, usually highly general principles lacking detailed provisions and explanations, resulting in the low efficiency of civil servants. Similarly, there are few specialized stall management committees or policy documents specifically for the management of vendors in metropolises. Citizens in large cities need to go through complicated procedures before setting up stalls, which can reduce their enthusiasm.

The governance models of the street vending economy in large, small and medium cities are essentially "government-dominated". In this manner, the demands of large groups of street vendors cannot be addressed by the government alone, and enormous governance costs ensue, placing a significant financial burden on the government. The government can try to establish a consultation mechanism involving street vendors, the government and residents to accomplish pluralistic co-governance or outsource the management of the street stall economy in some areas to third parties.

### 7.3 Opportunities

To encourage the recovery and flourishing of the national economy, the state has issued a variety of documents supporting the growth of the street vending economy. For example, at the end of May 2020, the Civilization Office of the Central Committee of the Communist Party of China issued the 2020 National Civilized City Evaluation Indicators, which clearly required that road occupying operations, road markets, and mobile vendors should not be listed as assessment content (People's Daily Online, 2020) [32]. The political security situation in China is stable. All these factors provide a good opportunity for the government to explore innovative governance models for street vending so that the governance model is no longer restricted to expulsion and suppression.

The progress of Internet information technology facilitates breakthroughs in the governance model. Particularly in large cities, the use of information technology tools is widespread. Examples include intelligent WeChat official accounts where the loca-

tions and operation status of markets are presented and the utilization of AI for realtime monitoring and capturing mobile sellers' illegal activities. Additionally, an increasing number of academics have engaged in the study of street vending governance, contributing their expertise to the design of a creative governance model.

#### 7.4 Threats

There are four challenges that plague the current governance models for the street stall economy. First, it is arduous to direct street vendors to avoid homogenization and vicious competition since the product categories they sell are limited and their spatial distribution is irrational. Second, it is urgent to formulate and improve the supervision system of the product quality and after-sales service of stallholders to safeguard the rights and interests of consumers. Third, noise pollution, air pollution and a large amount of garbage produced by street vendors have exerted significant negative effects on the urban environment, which is a problem that cannot be underestimated. Fourth, most practitioners fail to comprehend the laws and regulations related to the street vending economy, thereby leading to an endless stream of illegal incidents that require the urban management department to devote special attention.

### 8 Future directions and recommendations

For local governments in the Yangtze River Delta region in terms of governing the informal economy, this paper makes three recommendations:

### 8.1 Establish an inclusive regulatory framework for street vendors

Local governments in the YRD region could in the future establish a regulatory framework that is inclusive of informal economy practitioners, recognizing the economic and social significance of street vendors while ensuring the health and safety of urban residents, and at the same time ensuring that the smooth flow of urban traffic and the city's outward appearance are not compromised. The framework could be involved.

- (1) Regular random testing and inspection: The government may set up a department for random testing of the quality and legality of vendors' products and services to ensure that so activities are carried out within the limits of the law. This could be monitored remotely using equipment such as road surveillance, allowing vendors to schedule inspections and receive feedback on their compliance with standards.
- (2) Public Participation: Through the establishment of a relevant management department, invite a portion of the vendor representatives to become members of the department. By soliciting views and feedback from the street representatives, street vendors are somewhat involved in the decision-making process. This may result in policies that are more responsive to their needs while still maintaining public order.

### 8.2 Support the integration of innovative technologies

The future of street vendor management policy may also involve embracing technological advances and encouraging innovation in the street vending industry. Such an approach could include:

- (1) Digital platforms: government-funded development of digital platforms or apps that enable street vendors to use devices such as smartphones and iPads to receive orders, process payments, and communicate with customers. This not only improves customer convenience, but also provides a way for vendors to adapt to changing consumer preferences.
- (2) Data-driven insights: China's roads have extensive electronic surveillance, and local governments can use surveillance data analytics to monitor and evaluate the performance of street vending areas. These specific data can be used to adjust governance policies, predict peak demand times, and provide insights for future urban planning.

### 8.3 Promote cultural and culinary diversity

The Chinese government's street vending governance policy could also focus on celebrating the cultural and culinary diversity that street vendors bring to urban spaces. This approach could be involved.

- (1) Cultural protection: The government ensures that policies recognize and protect the cultural significance of street vendors in certain communities. This may involve designating certain vendors as "cultural ambassadors" to contribute to the preservation of local traditions. For example, Changsha's street food stinky tofu not only perpetuates the food culture of the people of Changsha but also preserves related ancient buildings.
- (2) Tourism Integration: Integrate street vending experiences into tourism packages to encourage travelers to explore authentic local cuisine and culture through street food experiences.

Whether it is creating an inclusive regulatory framework or embracing technology and innovation, and celebrating cultural diversity, we hope to ease the tension between the government and street vendors, and help transform the informal economy into a formal economy as quickly as possible.

### 9 Conclusion

The purpose of this study is to explore the quantitative research on the governance model of street vending market in urban agglomerations in the Yangtze River Delta region, filling the gap of insufficient quantitative research in this field. By analyzing and comparing the governance models of megacities, megacities, medium-sized cities and small cities, we draw the following conclusions:

First, cities of different sizes generally adopt a governance model of "dredging and blocking", replacing the previous single model. This model aims to balance the relationship between urban image order and employment and people's livelihood. Second,

big cities pay attention to food safety regulation, the management of vendors around schools, and the use of the Internet and big data for tracking investigations. Smaller cities are more focused on government-led governance, trying to manage street markets by supporting policies, punishing violators, and combining them with cultural heritage.

Further comparative analysis shows that large cities have more diversified governance models and a larger number of policy documents, but they are also accompanied by higher governance costs. Medium-sized cities are more dependent on a single model led by the government and lack local characteristics, while small cities focus on governance combined with cultural heritage inheritance, but the policy documents are scattered and lack a complete policy system. Then, city clusters in the Yangtze River Delta region face some challenges, such as homogenization and vicious competition, environmental pollution problems, and high governance costs. However, there are also opportunities, including national policy support, the application of Internet technology and the contribution of academic research, which provide opportunities for innovation in governance models. Finally, we made some suggestions for the future. Local governments can establish a regulatory framework that includes practitioners, taking into account the image of the city and the health and safety of residents. In addition, the government can learn from the experience of big cities and try a pluralistic cogovernance approach while combining innovative technologies to promote the transformation of street vending markets into the formal economy. At the same time, the government can also focus on celebrating the cultural and culinary diversity that street vendors bring to the city, integrating the street vending experience into tourist packages, and promoting cultural inheritance and economic prosperity.

In general, the study of the street vending market governance model in the Yangtze River Delta urban agglomeration provides useful enlightenment for urban governance and reveals the challenge of finding a balance between promoting economic prosperity and safeguarding public order. In the future, further research is needed to explore in depth the impact and effects of different governance models, as well as their applicability in different urban contexts.

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