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The Regional Determinants of the New Venture Formation in China's Car-Sharing Economy

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Abstract: New ventures play an important role in promoting regional economic growth, employment and innovative development. In China, the new business model centered on the sharing economy has grown rapidly in a short time, especially with regard to car-sharing, which has become one of the new governmental strategies to promote economic development in China. New car-sharing ventures have been recognized as the leading sector in sustainable development for the circular economy and resource reuse. This paper explores the regional determinants of new firm formation in the nascent car-sharing industry in China. We used panel data from 449 car-sharing new ventures established in 257 cities in China from 2011 to 2019 to conduct an empirical analysis. The findings show that the urbanization economy, human capital and venture capital in the region have a positive impact on the establishment of new ventures. At the same time, the regional population density, localization economy, innovation capacity and competitive environment have no significant relationships with the establishment of new car-sharing firms. This paper provides insights for startups entering the field of car-sharing and a theoretical basis for the subsequent research on startups in the sharing economy industry.

Keywords: new firm formation; car-sharing; agglomeration effects; knowledge spillovers; venture capital; sharing economy



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1. Introduction

The sharing economy is a prominent example of an approach adopted by emerging industries to promote entrepreneurship, contribute to regional development and solve environmental problems. To seize emerging business opportunities in the sharing economy, many new ventures have developed innovative products and services to attract customers interested in sustainable development. It is difficult for many new ventures in the sharing economy to become profitable and sizable businesses. There are still a few successful new ventures in the sharing economy, mostly in Western and developed countries, including the United States and Europe. Recently, there have been waves of new ventures in China's sharing economy that have rapidly become global leaders and paved new paths toward sustainable development.

The transportation sector pioneered the development of China's sharing economy industry. The success story of Uber in the US market has inspired many Chinese entrepreneurs to establish new car-sharing ventures in China. Especially in metropolises such as Beijing, Shanghai and Guangzhou, car-sharing services have become a major traffic trend and a popular transportation choice. The huge potential of new business opportunities in the car-sharing industry, as a sustainable solution to transportation needs, has been recognized by many researchers and practitioners [1–5]. Car-sharing can effectively reduce personal transportation costs, solve congestion and inefficient land use and reduce energy consumption and pollution emissions to conserve the environment. Rapid technological development and widespread information and communication technology have promoted the growth of car-sharing services across many cities in China.

As entrepreneurship and new venture formation are closely linked to economic growth at the national and regional levels [6,7], national and regional governments have sought to support and stimulate new venture founding to promote economic growth [8]. To promote the rapid development of shared transportation, Chinese governments from the Central State Council to local governments have issued various supporting policies from venture capital investment to new energy-efficient vehicles. The development and wide reach of the Internet and mobile services has also accelerated new ventures in growing car-sharing industries and encouraged new companies to develop new business and service models.

The results of many studies have shown that new firm formation is the main source of job creation, technological innovation and subsequent regional economic growth [9–16]. The importance of new ventures in regional economic growth has prompted scholars and policymakers to unveil and support the critical regional determinants of new venture formation. The existing research results can be divided into two schools: one that attributes new firm creation to the founder's attributes [16–19] and another that emphasizes the importance of environmental factors the new venture formation based on geographical attributes [20–22].

Geography creates a spatially changing regional environment and forms regional differences in entrepreneurial activities [23]. The prior research on regional differences in new firm formation has emphasized the importance of regional dimensions in different entrepreneurship forms [24,25]. There are many key factors of new firm formation: agglomeration effects, regional knowledge bases, government policies, spillover effects, unemployment, social capital, industrial structures and entrepreneurial cultures. Most of these factors have been identified in sophisticated and dedicated prior studies on traditional manufacturing and service industries. There is a lack of research on whether these general regional factors are still important for the developing sharing economy, especially China's car-sharing economy. The prior studies on car-sharing have shown that urban areas' high density is the critical characteristic of the target market for car-sharing services [26–28]. We still do not know what other regional determinants of the new venture formation in China's car-sharing economy are.

This paper empirically analyzes the influence of regional factors on new firm formation with unique data from 257 prefecture-level cities in China where 449 new car-sharing firms are located. This study is one of the first to test the influence of the regional environment on entrepreneurship in the sharing economy in China. Therefore, the current work contributes to the theoretical testing of the role of traditional regional factors in the formation of emerging sharing economy enterprises and provides practical implications for the location choice of new ventures in the field of car-sharing and other sharing economies. The study also provides inspiration and a theoretical basis for the formulation of regional entrepreneurship policies by government agencies.

The first section of the paper is the introduction. The second section introduces China's car-sharing industry's development history and the development status of China's car-sharing enterprises. In the third section, the previous research is presented and hypotheses are proposed based on a theoretical framework. In the fourth section, the data and research methodology are described. In the fifth section, the research results are presented. The sixth section summarizes the results, shows the limitations and future directions for research.

2. China's Car-Sharing Industry

2.1. History of Development

The development of car-sharing in China has been divided into three stages since 2010. (1) Initial Stage (2010.09–2012.12): Since September 2010, mobile internet travel services based on LBS technology began to sprout in China, and more than 10 travel platforms were born, during which time China's Uber—"Didi"—was established. (2) Competition stage (2013.01–2015.02): In 2013, the market began to change. Under the capital support of investment companies and Internet giants, several large-scale battles for users occurred among various platforms. Finally, Didi and Kuaidi merged two major platforms, and some

small enterprises withdrew from the market. (3) Differentiation stage (May 2015–present): More people know about car-sharing, and more new ventures have entered the car-sharing market. After intense market baptism, there is now basically a “one superpower and many powers” situation. Today, Didi has grown into the eighth largest platform in China in terms of market value, with 450 million users and an 80% market share. It has become a “super unicorn” in the field of shared transportation in China [29].

Although it began late, some may ask why car-sharing has grown so quickly in China in such a short time.

First, China has a huge domestic market. By the end of 2017, the number of people with driving licenses had reached 400 million, while the number of people with private cars was only 200 million. The main potential customers for car-sharing are those with driving licenses but no car. According to the survey results of the Chinese research company iiMedia on consumers’ willingness to use car-sharing services, 10.8% of respondents have used car-sharing services and 47% are willing to try such services [30]. Second, the Chinese government attaches great importance to traffic congestion and environmental pollution, and it has issued various policies to promote the development of the car-sharing industry. Measures have included tax relief for new-energy vehicles, planning for car-sharing zones and preferential parking fees. Third, traditional automobile companies such as GM and Volkswagen are actively transforming themselves in China, supplying vehicles to other enterprises and setting up their car-sharing service platforms. Other Internet giants, such as Alipay (third-party financial software) and Meituan (takeout software) and Ctrip (travel website), are also expanding their presence in the car-sharing market. Fourth, car-sharing platforms as the center link upstream vehicle suppliers (factory, car rental companies, individual owners, vehicle power battery recyclers) and downstream technology service providers (Internet of vehicles technology, driverless technology, charging and refueling facility operators, parking space resource providers, payment platforms, insurance companies), which has formed the perfect sharing platform-centered sharing automobile industrial chain. Fifth, car-sharing companies have successfully attracted a large amount of capital to flood the industry. Car-sharing companies, including Didi have quickly occupied the market with the power of capital.

2.2. Development Status

Although Didi has almost monopolized the Chinese market, new car-sharing companies have sprung up all over China in recent years. We have collected the most comprehensive list of car-sharing companies in China. In the past 10 years, 531 car-sharing companies have been established in mainland China. Car-sharing companies exist in all provinces except Tibet. As shown in Figure 1, the number of newly established companies increased yearly before 2016, when it reached its peak. In 1 year, 97 car-sharing companies were established, followed by a year-by-year decrease, and only 33 companies were established in 2019. Of those, 97 chose to set up in Beijing, the city with the most car-sharing companies. Second is Shanghai, with 48 companies choosing to set up their headquarters in that city. The third place is Shenzhen, Guangdong Province, with 46 companies. The fourth place is Hangzhou City, Zhejiang Province, with 25 companies, and there are 22 companies in Guangzhou City, which ranks fifth, and the birth rate of new companies in first-tier cities accounts for 40% of the country.

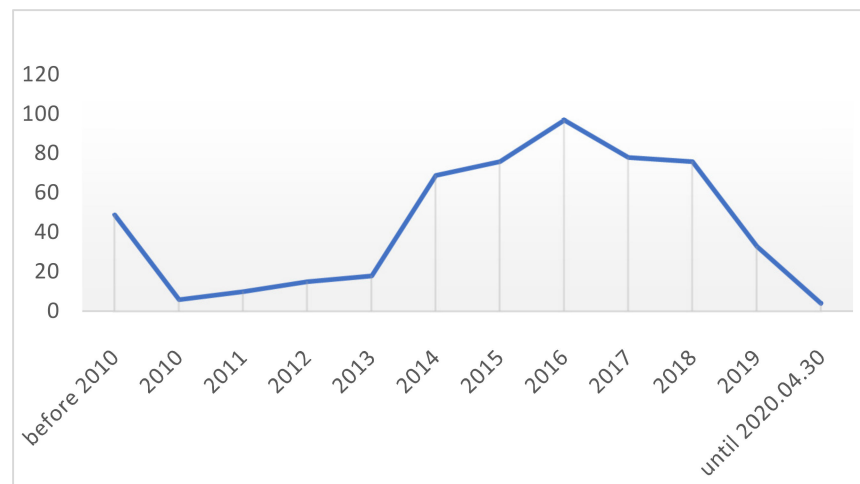


Figure 1. Trends in the number of car-sharing companies established in China.

Car-sharing means that a company or organization with car ownership provides users with convenient car services at any time. According to the time of use, the user pays the company or organization based on mileage or monthly [31]. China's car-sharing is based on the internet platform, combined with the Internet of Vehicles technology, and it mainly charges by the hour or minute. Through convenient service outlets, consumers self-use car rental services. There are mainly Business-to-Consumer (B2C), Customer-to-Customer (C2C) and Peer-to-Peer (P2P) services, which can be accessed through websites or mobile apps to complete the car borrowing, car use, car return, payment and other operations. The platform becomes a bridge between tenants and car owners, idle resources and car needs.

China's car-sharing platforms are also expanding their range of services through resource integration. Types of services can be divided into the following modes: (1) Car-sharing service (B2C model): Car-sharing companies purchase vehicles, develop rental apps, put vehicles in fixed outlets or designated areas and provide maintenance and repair services. The main types of customers are short-term rental customers. (2) Online car rental service (B2C model): The transformation of the traditional car rental industry is the main mode of operation. Online booking and offline car selection are the main modes of operation. The type of customers is mainly long-term rental customers. Another model is designed to meet the personal business needs of customers by providing a chauffeur service. Customers can choose ordinary or luxury vehicles, and are mainly short-term chartered passengers. (3) Online taxi-hailing service (C2C model): Car-sharing companies develop a mobile application, which is used by ordinary taxi drivers and customers. Taxi customers send out route demands, and taxi drivers can decide whether to accept orders according to their judgment, i.e., an online taxi booking service. Alternatively, in their course of his or her travel, the general owner will include two or three routes, basically picking up the same passengers and charging a fee. Carpooling to and from work and long-distance carpooling during holidays are the main usage scenarios. The main users of ride-hailing are individuals, and car-sharing companies act only as intermediaries, such as platforms. (4) Car owners share car services (P2P model). Individual car owners with spare time and cars that are in good condition rent their cars to customers through a car-sharing platform—private idle car-sharing in the traditional sense. As an intermediary, the platform undertakes the qualification examination obligations of vehicles and drivers and provides insurance, vehicle positioning monitoring and other security services [32].

In China, to attract more consumers, some car-sharing service platforms have gradually become comprehensive transportation service platforms by providing services such as driver-taking services, bus inquiry services, bike-sharing rental services and restricted license plate rental services. Most platforms offer at least two more services, and it is difficult to distinguish between such companies as the services are provided on a project-by-project basis. The diversification of car-sharing platform services also makes the concept

of car-sharing more extensive, more similar to shared transport or shared mobility. Thus, in this study, belonging to the company by sharing service platform and the company headquarters' location will be the object of our study. We do not consider the number of service projects or business city. The operation mode of China's car-sharing platforms shown in Figure 2 can help us more intuitively understand how the industries cooperate and how the platform operates.

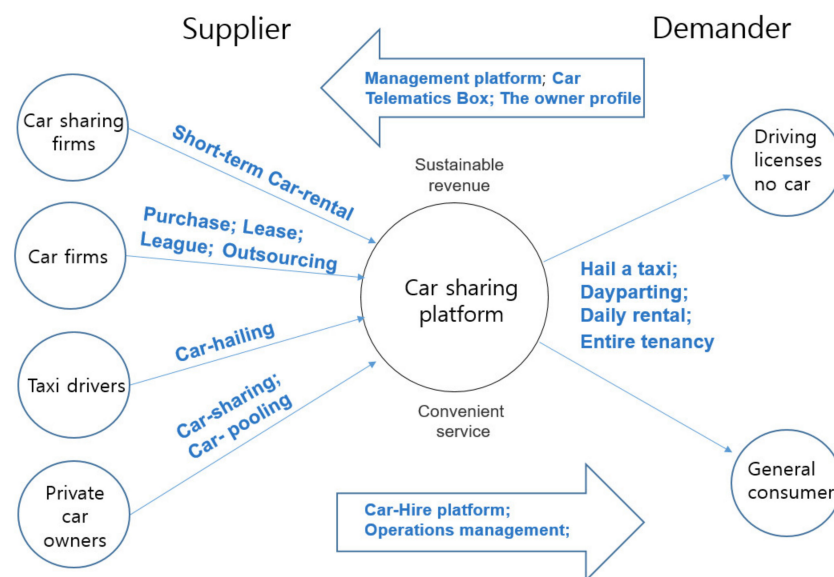


Figure 2. China's car-sharing platform operation model [32].

3. Regional Determinants of Entrepreneurship

Entrepreneurship is often thought of as the result of personal competence and the pursuit of opportunities without regard for the currently controlled resources. It is understood in terms of the ability to recognize opportunities and use them to create profitable products or services [33,34]. A great deal of research in this area has been devoted to addressing three core sets of questions about entrepreneurship. (1) why, when and how opportunities for the creation of goods and services come into existence; (2) why, when and how some people and not others discover and exploit such opportunities; and (3) why, when and how different modes of action are used to exploit entrepreneurial opportunities [34]. Most of the research assumes that given equal opportunities, individuals will differ in their ability to value and exploit opportunities (see for example [25,35]). On the other hand, an increasing number of scholars have noted that the sources of entrepreneurial opportunities are related to differences in entrepreneurial rates among different industries or countries and regions [36]. Therefore, some scholars have begun to focus on the hypothesis that under the same individual characteristics, different environments impact differences in the rate of entrepreneurship. Differences in entrepreneurship rates are interpreted as differences in available and identifiable opportunities. The main research objective in this field is to identify the sources of these regional differences in entrepreneurial opportunities. This is usually studied by linking regional differences in entrepreneurial rates with possible entrepreneurial opportunities sources [36].

Uneven geographical distribution of innovation can also lead to regional differences in entrepreneurship rates. Therefore, we need to draw on the concept of Regional Innovation Systems (RIS) to explain the vital role that regions play in coordinating Innovation activities and supporting local entrepreneurship. RIS's broad definition includes all regional economic, social and institutional factors that affect enterprise innovation [37]. In a narrow sense, it consists of two subsystems, namely, the participants who capture, explore and generate new knowledge and the companies engaged in innovative development. Knowl-

edge exploration subsystems usually refer to universities, public and private research institutions, technology intermediaries, labor intermediaries and educational institutions.

RIS believes that innovation is a complex, interactive and accumulated knowledge and learning process among various participants, rather than simple linear behavior, that is, investing in research and development, producing new inventions, and then commercializing them [38]. In grassroots RIS or regional RIS, innovation is driven by geographic proximity and companies' interaction. RIS emphasizes the importance of geographical proximity to knowledge transfer and learning, thereby legitimizing the innovation system's regional perspective [38].

Cooke [39] has divided RIS into two specific structures, Institutional RIS (IRIS) and Entrepreneurial RIS (ERIS). IRIS is well suited to promoting incremental innovation in traditional industries because of its system features: strong user–producer interactions, supportive regulatory and institutional frameworks, public investment in research and development (applied), human capital prevalence and the long-term perspective of a broad range of stakeholders. ERIS provides the conditions for radical innovation and emerging industries to flourish, and their dynamism is based on (local) venture capital entrepreneurship, scientific excellence market demand (local) venture capital and shareholder short-term profit growth [38,39].

3.1. Agglomeration Effects

Agglomeration theory originated from the economic growth theory of Marshall–Arrow–Romer (MAR) [40–42]; it is the fundamental factor leading to the formation and expansion of cities. The agglomeration effect refers to the economic effect produced by the concentration of various industries and economic activities in space and the centripetal force that attracts economic activities to a certain area. An agglomeration economy refers to the advantages formed because enterprises are located in concentrated areas with other enterprises and organizations. Agglomeration economies usually have a limited spatial scope as they can overcome the types of transaction costs arising from geographical distances such as transport, commuting and communications costs [43].

Part of the influence of an agglomeration effect on new ventures comes from the demand effect, including population size, per capita income, spatial population distribution and population age distribution. The more densely populated the region, the more diverse the demand for products and services, which stimulates the emergence of niche markets and more opportunities for success, leading to higher rates of new firm formation [7].

In the face of the increasing population density, many cities' traffic is under great pressure due to factors such as urban congestion and imperfect parking facilities. Many cities have also implemented "car purchase restriction" policies and measures for obtaining automobile license plates using free lotteries or paid to bid. The emergence of car-sharing can satisfy some consumers who cannot obtain a car license plate but need to drive. Many scholars and consumers have recognized the contribution of car-sharing in alleviating traffic problems and saving travel costs [26,44]. The local government also hopes that the entry of shared car companies can improve how local consumers travel and alleviate local transportation problems. High-density areas with more potential consumers have become the main target market for car-sharing new ventures. Therefore, we propose the following hypothesis:

Hypothesis 1a. *Population density is positively associated with new firm formation in the car-sharing industry.*

However, the influence of agglomeration effects on new ventures is reflected in supply and demand, which is mainly related to regional spillover effects. Spatial agglomeration enables enterprises in a region to share suppliers and labor force through the division of labor and cooperation. The external policy environment and technology spillover effects promote information exchange and experience learning and thereby realize the continuous accumulation of knowledge and circular innovation, thus affecting enterprise financing,

technological innovation, entry and exit market and other economic activities [45–47]. The agglomeration economy is a kind of external spatial economy of scale, which is mainly manifested as industrial clusters or interdependent regional economic networks formed by the concentration of the same or complementary industries in a specific geographical location.

An agglomeration economy can be divided into the following categories. First is the category of a specialized economy or localization economy, that is, the same industry enterprises in a regional cluster generated by the increasing income. Second, is the category of a diversified economy or urbanization economy, that is, enterprises in different industries that gather in a certain region to form increasing returns due to the diversified development of an industrial pattern [48].

A localization economy emphasizes that a large number of enterprises in the same industry will produce agglomeration externalities in the same spatial concentration. Specialization within the industry can improve productivity, promote information and knowledge spillover between internal enterprises, reduce production costs and labor search costs and promote industrial and innovative growth [49]. An urbanization economy is the result of the specialization economy of enterprise agglomeration from industry to region. For example, it will lead to the expansion of market scale and an increase in consumer demand, knowledge spillover and information dissemination among different industries, and the sharing of the labor market to improve the level of human capital. The spillover effect of an urbanization economy is more extensive than that of a localization economy. The diversification of the industrial structure in the agglomeration region can bring more vitality to the region than simplification.

The car-sharing industry can be divided into two parts: the core business chain and the service support chain. Among them, automobile suppliers and operation platforms in the core business chain and the industrial agglomeration of vehicle recyclers can reduce transportation costs. The service support chain includes technology suppliers, energy suppliers, insurance, payment and telecommunications providers. The aggregation of different industries can increase the efficiency of enterprise operations and the competitiveness of enterprises. Car-sharing is a whole new field, and innovative consumption patterns make it easy to lose customers if they are not responsive to market changes. The agglomeration of car-sharing enterprises can increase the information exchange among enterprises in the same industry, obtain market information, reduce information asymmetry and promote enterprise innovation and development. Thus, based on the above, we propose the following hypothesis:

Hypothesis 1b. *An urbanization economy is positively associated with the new firm formation in the car-sharing industry.*

Hypothesis 1c. *A localization economy is positively associated with the new firm formation in the car-sharing industry.*

3.2. Knowledge Spillovers

Since Arrow put forward the concept of a spillover effect based on the characteristics of knowledge externality, this potential benefit has attracted extensive attention from scholars. The knowledge spillover effect is the correlation effect such that the recipient or demander of knowledge assimilates and absorbs innovative knowledge to promote enterprise development and economic growth [50]. Griliches believed that knowledge overflow is a kind of unconscious knowledge transfer. In this process, the benefits generated by knowledge recipients' utilization of spillover knowledge are reflected in the knowledge overflow effect [51]. The theory of knowledge spillover in enterprises [52] shows that knowledge spillover is an important source of entrepreneurial opportunities because the generation of knowledge comes from the intentional investment of companies or other organizations (such as universities and scientific research institutions). Entrepreneurs combine untapped knowledge in the marketplace to create new value. Similar to the ability

to identify and take advantage of entrepreneurial opportunities, the ability to assess the economic value of new knowledge varies between organizations and individuals.

The stronger the knowledge spillover effect in a region, the more low-cost and valuable knowledge an enterprise can acquire from the outside. From the transaction cost theory perspective, economic organizations carry out organizational innovation activities intending to minimize production and transaction costs [53]. Knowledge spillover is an important way for enterprises to obtain resources, and its economic and technological effects are an important guarantee for enterprises to carry out innovation activities. O'Mahony and Vecchi analyzed the relationship between intangible assets and productivity using the statistical data of the United States, Britain, Japan, France and Germany. The results showed that knowledge spillover effects promoted innovation capacity improvement in technology-intensive industries [54]. The overflow of knowledge constitutes the essential characteristic of a cluster's innovation capability [55]. Then, when a group of people has the capability to innovate, they are more likely to try to capture that value by starting a company that aims to use that knowledge. Entrepreneurship or the formation of new companies is considered to be a mechanism for spreading knowledge spillovers. A large amount of the literature emphasizes the localization characteristics of knowledge spillover (e.g., [56]). Therefore, the knowledge spillover theory of entrepreneurship posits that regions with more knowledge-generating organizations or regions with more knowledge-generating capabilities will show higher entrepreneurship rates [52].

Car-sharing ecosystems are much more complex than those of other sharing economies. From system technology (such as SAAS scenario customization) to hardware technology (such as smart car energy batteries) to new technology application solutions (such as driverless valet-parking), knowledge storage and innovation capacity determine the extent and timing of these technologies. Regions with more knowledge and more innovative capabilities are more attractive to companies. Thus, based on the above, we propose the following hypothesis:

Hypothesis 2a. *The regional innovation capability brought by knowledge spillover is positively associated with the new firm formation in the car-sharing industry.*

Human capital refers to the knowledge and skills embodied in the individual [57]. Knowledge is hidden in individuals' characteristics within a certain range, and it is derived from the continuous accumulation of human capital over time. Therefore, the recognition of knowledge or the amount of knowledge storage and human capital are indistinguishable. As Audretsch and Lehmann posit, knowledge is exogenous and will eventually be reflected in the learner or worker [58]. Researchers and scientists turn their knowledge into innovative technological products. Entrepreneurs use their knowledge and skills to identify business opportunities and make judgments. Employees use their knowledge to create economic and technological value for the enterprise. Many scholars use human capital as an agent of knowledge [59,60]. They believe that knowledge is embodied in human capital, that is, people with good education or skills. Therefore, the knowledge storage of a region can represent the level of human capital.

In the process of promoting the establishment of new ventures, human capital becomes one of the important factors that cannot be replaced. Qian and Acs proposed the absorptive capacity theory of enterprise knowledge spillover, which complements the theory of enterprise knowledge spillover and proposes that entrepreneurs are the key factors in spreading knowledge spillover [61]. This is because the extent to which new knowledge's market value is discovered and developed depends on the entrepreneur's ability to recognize such an opportunity and use resources to bring new inventions to market [62]. The level of education determines the level of cognitive and practical ability. A large number of studies have linked human capital and education level, indicating that education is the most basic main means to improve human capital, the source of the creation of new companies and the source of competitive advantage [40,63]. People with more education are more likely to start new companies than those with less. Moreover, regions with higher education

levels also produce higher labor force levels, and the output of a highly skilled labor force is significantly higher than that of a low-skilled labor force [64–66], which is also one of the conditions that attract new businesses to be created in a given area.

As a new sharing business model, car-sharing has no previous experience upon which to rely, and the ability to recognize the value of new knowledge is more important. As human capital is understood to be a competitive advantage source [40,63] but has regional limitations, choosing a region with a high level of human capital to establish a company can provide enterprises with a high-quality labor force and help entrepreneurs to find business opportunities. Based on the above, we propose the following hypothesis:

Hypothesis 2b. *The regional human capital brought by knowledge spillover is positively associated with new firm formation in the car-sharing industry.*

3.3. Venture Capital

Starting a new company requires not only knowledge but also money. The source of money can be an entrepreneur's personal property, bank loans, government research subsidies or venture capital investment funds. Start-ups exhibit high growth and high-risk characteristics, making it difficult to gain support from traditional industries such as banking [67]. The limitations of personal property also make it difficult to support the creation and development of new ventures. Simultaneously, the complicated application process and evaluation criteria for government research subsidies can discourage many enterprises. Therefore, venture capital is one of the important sources of capital support for new ventures.

As Sorenson and Stuart stated, early investors play an active role in identifying emerging technologies and verifying their value [68]. The growth of the financial sector has spurred the flow of venture capital to more valuable companies. In economies with a higher overall level of financial development, industries that rely heavily on external financing grow faster [69] because venture capitalists are not merely passive investors, they also advise businesses on legal finance and strategy and help entrepreneurs build relationships between talent buyers and suppliers. However, venture capitalists are also the most active social builders, seeking to shape the future in a way that improves investment outcomes and aiming to influence market outcomes in favor of their investments [70].

Most economic models assume that capital markets operate nationally (if not globally) and capital flows freely to the best, most valuable, business opportunities. However, due to the lack of public information on new ventures, the problem of information asymmetry poses great limitations for venture capitalists in evaluating investment objects. In many cases, venture capitalists gain personal information about founders and their ability to start businesses through personal relationships and their ability to visit the start-up team directly [71,72]. Major investors visit companies an average of 19 times per year, and they spend more than half of their time supervising, advising and mentoring investment companies [73]. Geographic convenience saves travel and time costs and facilitates communication between venture capitalists and portfolio companies. The research results of Samila and Sorenson also confirm this point; that is, venture capital funds show a local preference when choosing to invest in target companies, which becomes a catalyst for the commercialization of innovative products [74].

The barriers to entry in the car-sharing industry are much higher than in other sectors. Creating a car-sharing company requires money to keep the business running and invest heavily in technology development and the purchase of operating vehicles. The support of venture capital can solve the difficulty of lack of funds in the initial stage of car-sharing company development. Choosing a geographical location closer to the venture capital institution, or an investment area preferred by the venture capital institution provides geographic convenience for the new enterprise in terms of applying for funds. Therefore, new businesses may decide to establish their operations in such regions. Thus, based on the above, we propose the following hypothesis:

Hypothesis 3. *The intensity of venture capital investment in a region is positively associated with new firm formation in the car-sharing industry.*

3.4. Environment for Sustainable Public Transportation

Before the emergence of car-sharing, we would have chosen to take buses, taxis, subways and other public transportation to meet our short-distance travel needs. After the emergence of car-sharing, this travel mode has only enriched the diversified demands of travel, and it has not become the only irreplaceable mode of travel. The key to the car-sharing industry's rapid growth is its ability to provide people with the same convenience of travel without having to buy a car. In high-density cities, and for consumers who do not need to use vehicles daily, car-sharing can save on travel costs [44]. A survey of car-sharing consumer intentions in Beijing, China, also suggests that a person who usually rides in an expensive taxi is more likely to use ride-sharing as an alternative. Another finding is that consumers who use sheltered modes of transportation (e.g., buses, subways, cars, taxis, buses) are more likely to choose car-sharing as an alternative to using unprotected modes of transportation (e.g., bicycles, electric cars, motorcycles and walking) [75]. Similar evidence has been found for car-sharing behavior among consumers in Lisbon, Portugal. Car-sharing replaces taxi use (17%) for both shopping (excluding food products) and health issues, and it substitutes private cars for private trips (visiting parents) (13%) and subways (8%) for shopping and personal activities [76].

In the early stage, car-sharing had to attract a large number of customers and occupy the market by issuing free experience coupons and employing other marketing methods. However, when the platform gained enough coverage, there was less incentive to subsidize consumers, and instead, it increased the price of passengers' use to achieve profits. When the cost of car-sharing is higher than that of traditional means of transportation (in 2019, the starting price of buses in Beijing was CNY 1 (USD 0.14), taxis CNY 13 (USD 1.83) and subways CNY 3 (USD 0.43)) or when the parking spaces for car-sharing are not as convenient, consumers can easily choose to use other means of transportation to replace car-sharing services. Car-sharing is a more attractive solution to long-distance vehicles than traditional vehicles. It can help achieve broader public goals (e.g., reducing exhaust emissions from electric vehicles, reducing fuel consumption, sustainable recycling). Local governments are also actively supporting the development of the car-sharing industry. However, we cannot deny that traditional transportation will become the strongest competitor and the most direct substitute of the car-sharing industry. The more developed the local public transport, the more marketing means enterprises will be required to use in the initial stages to occupy the market. However, after entering the market, the fierce market competition will make it more difficult for car-sharing new ventures to survive. It is also a survival strategy to choose a region with less fierce competition in the transportation market. Based on the above, we propose the following hypothesis:

Hypothesis 4. *Public transport availability in a region is negatively associated with new firm formation in the car-sharing industry.*

4. Data and Methods

4.1. Data

To test our hypotheses, we collected data on car-sharing new ventures and prefecture-level cities in China. We took two steps to determine the number of car-sharing new ventures in China. First, we searched through China's National Enterprise Credit Information Publicity System (owned by the State Administration for Market Regulation) and the Qichacha Enterprise database. We found 895 companies, including car-sharing keywords, excluding 260 companies whose business scope does not include car-sharing services. Second, we searched Android and iOS app stores for mobile apps under the names of

635 new ventures. The results showed that apps of 132 new ventures were not found, and we excluded these enterprises. Then, we examined 503 new ventures, of which 54 new ventures were established 2010 years ago and were used to run other industries (such as apparel, catering, wholesale and retail enterprises) or ancillary aspects of the car industry. We deleted the new ventures, ultimately determining the years from 2011 to 2019 for the 449 registered companies.

For the Chinese cities' data, we used the 2010–2018 Yearbook of Chinese Cities Statistics published by the National Bureau of Statistics of China. Most of the studies on China are based on provinces' statistics due to the large economic differences between coastal provinces (such as Zhejiang and Jiangsu) and central and western provinces (such as Gansu and Guizhou). To avoid endogeneity, we decided to conduct the study in the administrative level above 297 prefecture-level cities. As prefecture-level cities are the main body of administrative regions in China. Among them, 38 cities belonging to five ethnic autonomous regions were not included in our study because the cultural customs, administrative policies and systems of the autonomous regions are slightly different from those of other cities. Additionally, one prefecture-level city in Hainan province is an island located far away from the Chinese mainland, and one prefecture-level city is a military garrison city. The statistics are not available to the public; thus, we also excluded these two cities. In the end, we identified 257 cities.

For the data related to regional venture capital, we used the China ITJUZI database, an authoritative pan-Internet industry (TMT) structured venture capital database and information service provider. In this database, we identified the number of investment events completed in each city from 2011 to 2019. Among them, the investment industry, investment rotation and currency type are not limited, but only the investment time and the investment city. The purpose of this approach was to distinguish as much as possible the differences of the attractiveness of each city to venture capital investment.

4.1.1. Dependent Variable

The formation of new car-sharing companies is measured by the number of new business entities created in each city. Thus, the study did not include branch offices or new institutions created by changes in location and name, nor did it include the number of cities in which a business has expanded. We also identified 449 companies, each with an independent car-sharing app, which means they are new car-sharing companies that have been or are still operating in the market. We did not exclude those enterprises that have withdrawn from the market because this is not the purpose of our research. We counted 449 new ventures according to the registration place and registration time into the panel data.

4.1.2. Independent Variables

The first variable to measure agglomeration effect is population density, which is an important indicator to measure the population distribution of a country or region and represents the local market's size [36]. The population density was calculated by dividing the local resident population (people) by the administrative area (square kilometer). Predictably, car-sharing is concentrated among the young and middle-aged. Still, since the Statistical yearbook of Chinese cities we use does not break down age groups in detail, only the resident population is used. The other two proxy indicators of agglomeration effect are urbanization effect and localization effect; thus, we used the total number of jobs per square kilometer of the region to measure the urbanization effect. We believe that the car-sharing industry's labor force is mainly distributed in information transmission, computer service and software industry, transportation industry, residential service, repair and other service industry. Therefore, we used the share of the total labor force in these three industries in the industry's total labor force to measure the degree of localization effect [36].

To examine the impact of knowledge spillover on car-sharing creation, we used two variables to represent local knowledge spillover effects. First, the number of R&D

personnel was used to measure the intensity of local innovation. The R&D agencies include government, scientific research institutions, and industrial enterprises. Second, we used two types of data to measure the degree of local human capital. One is the number of students (Persons) in regular higher education institutions, and the logarithm was calculated. Another is the proportion of college students. The number of college students in the area was divided by the area's resident population to calculate the number of college students per 10,000. The purpose of this is to compare the difference between absolute and ratio values in the analysis.

The level of venture capital investment in the region was measured using the number of VC investments. We did not use the local venture capital amount as a measurement tool. The amount of investment in China is not a clause that must be announced; thus, many investment projects chose not to disclose the amount of investment. Therefore, we had no way to accurately count the specific investment amount of each region for each year, so the investment events become the most suitable measurement tool.

We chose two vehicles that most represent public transportation availability: buses and taxis. The number of taxis per 10,000 people and the number of buses per 10,000 people represent the current state of public transportation in the area to measure the environment for sustainable transportation.

4.1.3. Control Variable

We also controlled for several variables that had a significant impact on the formation of new car-sharing firms. First, we used the household registered population at year-end (10,000 persons) variable as the standard to measure the city's size and calculated the population logarithm. Second, we controlled for the growth and unemployment variables, two very important "traditional" variables. Economic growth was measured in terms of GDP per person. The unemployment (person) variable was measured using the number of local unemployed. We also identified another prerequisite for the car-sharing domain—Road—as control variables. The inclusion of these control variables is that regional road conditions are the basic conditions for the operation of the car-sharing industry. We used the ratio of road area to administrative area in each city to measure the status of the city's roads. Although some inland cities in China have a large area, they are located in the plateau or mountainous areas, so the proportion of road use can reduce the difference in road area between coastal cities and avoid endogenous problems.

4.2. Methods

To test the proposed hypothesis, we constructed a unique panel dataset of 257 prefecture-level cities (2010–2018) in China on the number of newly established companies (2011–2019) in the car-sharing industry. Due to the lack of 2019 city statistics, our panel data were unbalanced. We used Poisson's regression to estimate the model. As the dependent variable (the number of new ventures) is a nonnegative counting variable, it usually follows the Poisson distribution. It is a common method to analyze counting data using a Poisson regression model. The Poisson regression model in this paper's data had excessive dispersion problems, which may have led to invalid results or deviations in estimation; thus, we used a negative binomial regression model for estimation. To further determine an appropriate estimation model and consider the problem of individual heterogeneity that often exists in panel data, a Hausman test was also used to conduct random model and fixed model tests of panel negative binomial regression. The Hausman test results were $\chi^2(6) = 6.67$, $\text{prob} > \chi^2 = 0.3523$; thus, in this study, a random-effects model in panel negative binomial regression was used for estimation, and the cluster robustness standard error was used to make the model more robust.

5. Results

The descriptive statistics of all variables are shown in Table 1. Some cities were missing data; thus, our values are inconsistent. The correlation between dependent variables and

independent variables is shown in Table 2. As shown in Table 2, the correlation between most independent variables is relatively low. This proves some of the theoretical part's contents; however, some variables have a high correlation. These high correlations were not surprising given the nature of the variables. In subsequent regression analyses, they also showed signs of statistical significance and theoretical credibility, suggesting that multicollinearity was not a critical problem.

Table 1. All variable statistical descriptions.

Variable	Observation	Mean	Std. Dev.	Min	Max
Number of car-sharing new firms	2313	0.194	0.994	0	23
Population (Log_Population)	2056	5.940	0.674	2.970	8.133
Unemployment	2056	27,408	36,525	1297	601,000
Real GDP per capita	2055	51,279	31,226	6457	192,000
Urban road area ratio	2055	0.274	0.590	0.002	6.498
Density of population	2056	465,817	344,209	5.1	2648.11
Urbanization (Regional employment per square kilometer)	2056	0.008	0.017	0	0.244
Localization (Share of transport, service, software in regional employment)	2039	5.044	25,578	0.012	562,125
Innovation (Regional R&D intensity)	1921	18,008	37,006	0	397,000
Human Capital person (Log_Number of college students)	2053	10,576	1327	4625	13,898
Human Capital ratio (Number of college students per 10,000 people)	2056	185,707	243,564	0	1,311,241
Number of VC Investments	2313	21.034	168.977	0	3548
Taxi (Number of taxis per 10,000 people)	7503	8.57	0.099	55,002	7503
Bus (Number of buses per 10,000 people)	3573	6814	0.102	110,519	3573

Table 3 shows the analysis results of the panel negative binomial regression random model. Model 1 provides the analysis results that only control variables was considered. We can see that in addition to the unemployment variables, population ($\beta = 1.027, p < 0.01$), economic growth ($\beta = 0.000, p < 0.01$) and road ($\beta = 0.590, p < 0.01$) have a strong positive impact on establishing car-sharing new ventures.

The analysis result of Model 2 is to test the hypotheses in the agglomeration effect (H1a, H1b, H1c). The results of Model 3 and Model 4 test the impact of knowledge spillover on establishing car-sharing new ventures (H2a, H2b). Model 5 provides the results of the impact of venture capital on establishing new ventures, testing hypothesis H3. Model 6 considers only the impact of the traditional public transportation market environment on establishing new ventures, corresponding with hypothesis H4. Model 7 and Model 8 is the negative binomial regression estimation result of all independent variables.

As seen from the analysis results in Table 3, we did not find any influence of densely populated areas on establishing car-sharing new ventures; thus, hypothesis H1a was rejected. Although many studies have suggested that densely populated areas are the preferred market for car-sharing companies [26], urban population density is not an important factor influencing Chinese car-sharing new ventures to set up in these areas. Celsor and Millard-Ball also showed that demographic characteristics were not an important indicator to influence car-sharing success. This may also be because China has 1.4 billion people, which is the largest population in the world [77]. Although population represents the size of the market, car-sharing new ventures in China consider the convenience of other environmental factors more than the size of the market when choosing a location to set up.

Table 2. Matrix of correlations.

	New Firms	Population	Unemployment	Economic Growth	Road	Population Density	Urbanization	Localization	Innovation	Human Capital Person	Human Capital Ratio	Venture Capital	Taxi	Bus
New firms	1.000													
Population	0.196	1.000												
Unemployment	0.330	0.444	1.000											
Economic Growth	0.336	0.009	0.354	1.000										
Road	0.346	0.017	0.246	0.521	1.000									
Population density	0.290	0.408	0.359	0.337	0.537	1.000								
Urbanization	0.504	0.093	0.315	0.511	0.871	0.597	1.000							
Localization	0.060	0.018	0.079	0.083	0.046	0.019	0.048	1.000						
Innovation	0.546	0.373	0.590	0.494	0.292	0.343	0.333	0.039	1.000					
Human Capital person	0.295	0.579	0.543	0.477	0.328	0.410	0.320	0.035	0.570	1.000				
Human Capital ratio	0.252	0.097	0.414	0.511	0.424	0.271	0.331	0.035	0.493	0.723	1.000			
Venture Capital	0.786	0.175	0.297	0.282	0.261	0.267	0.441	0.063	0.587	0.225	0.154	1.000		
Taxi	0.424	−0.212	0.339	0.491	0.554	0.170	0.539	0.045	0.454	0.288	0.528	0.412	1.000	
Bus	0.417	−0.048	0.218	0.508	0.778	0.371	0.851	0.049	0.275	0.283	0.377	0.324	0.624	1.000

Table 3. Panel negative binomial regression random model analysis results.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Population	1.027 *** (5.57)	1.036 *** (5.16)	0.359 * (1.69)	1.087 *** (5.30)	0.933 *** (5.13)	1.123 *** (6.11)	0.276 (1.17)	1.140 *** (5.16)
Unemployment	0.000 (1.53)	0.000 (1.31)	0.000 (−0.03)	0.000 (0.24)	0.000 * (1.90)	0.000 (0.72)	0.000 (−0.41)	0.000 (−0.03)
Economic Growth	0.000 *** (6.71)	0.000 *** (5.89)	0.000 *** (4.25)	0.000 *** (4.64)	0.000 *** (6.23)	0.000 *** (6.27)	0.000 *** (3.69)	0.000 *** (4.27)
Road	0.590 *** (3.95)	0.414 ** (2.02)	0.433 *** (4.21)	0.437 *** (3.87)	0.560 *** (4.17)	0.447 *** (2.98)	0.023 (0.14)	0.018 (0.10)
Density of population		0.000 (−0.84)					0.000 (0.19)	0.000 (−0.02)
Urbanization		15,936 ** (1.97)					11,561 * (1.71)	12,717 * (1.78)
Localization		−0.001 (−0.67)					0.000 (−0.09)	0.000 (−0.26)
Innovation			0.000 (0.38)	0.000 (0.35)			0.000 (−1.39)	0.000 * (−1.76)
Human Capital person			0.734 *** (6.27)				0.821 *** (6.95)	
Human Capital ratio				0.002 *** (5.86)				0.002 *** (6.03)
Venture Capital					0.000 *** (3.81)		0.001 *** (4.00)	0.001 *** (3.98)
Taxi						0.031 ** (2.16)	0.014 (0.95)	0.015 (0.89)
Bus						0.004 (0.23)	−0.003 (−0.22)	0.002 (0.13)
Constant	−8.330 *** (−7.01)	−8.088 *** (−6.52)	−12,539 *** (−8.72)	−9.331 *** (−7.15)	−7.694 *** (−6.56)	−9.128 *** (−7.74)	−12,882 *** (−9.38)	−9.460 *** (−6.83)
Number of obs	2054	2037	1916	1919	2054	2052	1898	1901
Wald chi-square	187,700	178,505	247,072	230,304	224,180	215,052	361,662	291,523
Log likelihood	−658,074	−655,338	−595,024	−594,745	−651,709	−654,105	−580,225	−580,943

T-values are in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Of the two variables of urbanization and the localization of agglomeration effects, only urbanization has a weak positive impact on establishing car-sharing new ventures, supporting hypothesis H1b ($\beta = 15.936, p < 0.05$). Additionally, the localization effect had no impact on the formation of new ventures; thus, hypothesis H1c was rejected. The diversity of the existing industrial structure positively influences car-sharing enterprises, which is a surprising and realistic result. As the platform providing services, car-sharing enterprises must not only integrate vehicle supply and technology suppliers, but they also require operational support (such as vehicle maintainers, gas stations and charging piles) and third-party service providers (such as insurance, mobile payment and communication providers). This non-direct competition has promoted the realization and development of car-sharing. It is convenient and beneficial to set up new ventures in regions with diverse industrial structures. Therefore, the urbanization effect generated by the agglomeration of enterprises in different industries in a certain region has a positive and significant impact on establishing car-sharing new ventures.

The statistical results of industrial agglomeration in the same industry are not significant for the establishment of car-sharing new ventures. Contrary to many of the extant research results (such as [36,49]), they support the analysis results of the regional determinants of the formation of new ICT companies [78]. It is once again proved that the agglomeration externalities produced by the regional economy are not applicable to emerging industries. In the early stage, new ventures must urgently communicate with other peers to obtain useful industry information; however, each enterprise's core technologies and market secrets are the foundation for the survival of new ventures. New ventures use these advantages first to occupy the market, and there is no desire or objective condition to share with other enterprises. This leads to the fact that even in the dense area of regional economic effects, enterprises in the same city may not be able to compel peer enterprises to be willing to communicate with them. They may not be able to obtain the expected relevant useful information. Therefore, the beneficial effects of regionalization cannot be realized.

For the hypothesis test of innovation ability brought by knowledge spillover effect, in Model 3 and Model 4, there is no influencing relationship. In Models 7 and 8, which take all variables, we did not find any effective evidence of regional innovation ability to establish car-sharing new ventures; thus, we rejected hypothesis H2a. This suggests that local innovation, if nothing else, is very important. However, when taken together, regional innovation is less attractive to car-sharing new ventures. Perhaps this is because although the Chinese government actively has promoted the construction of a regional innovation environment, the national engineering research center, state key laboratory and national-level scientific research institutions, such as the national engineering laboratory, accounted for 70% of the innovation (China national high-tech zone innovation ability evaluation report, 2019). The national high-tech industry knowledge spillover effect is obvious. Even when car-sharing new ventures move into such cities, they have little access to more knowledge and help. Such an innovative environment is not sufficiently attractive for car-sharing new ventures.

Absolute value of the number of college student ($\beta = 0.734, p < 0.01$) or regional college student ratio value ($\beta = 0.002, p < 0.01$) both prove that regional human capital has a strong positive impact on the establishment of car-sharing new ventures, which supports hypothesis H2b. "People" are the most important factor in production activities. In areas with high-value human capital, knowledge, skills, quality, values and the ability to find opportunities cultivated for a long time, people will be more willing to try to realize their personal "capital" through entrepreneurship. Regions with a higher degree of human capital also indicate that they invest more in human capital and pay more attention to the cultivation of a high-level labor force. Having knowledge and a highly qualified workforce promotes the development of innovation. Compared with mature enterprises or industries, car-sharing new ventures in emerging industries require more human capital support and will be more affected.

As we expected, the degree of venture capital has a significant positive impact on establishing car-sharing new ventures, supporting hypothesis H3 ($\beta = 0.000, p < 0.01$). As we described in the background on the theory, in the beginning, to formulate a suitable development strategy, all of the new ventures consider how a product or service can get more customers, and most entrepreneurs must face the problem of how to gain access to venture capital investment. Choosing a location close to a venture capital firm may also be a good idea. The facts also proved our guess that nearly 20% of the car-sharing new ventures we studied had received at least one investment from venture capital companies. The proportion of these venture capital institutions and car-sharing new ventures in the same city was 64%.

What surprised us most was measuring the impact of public transportation in a competitive environment on the establishment of car-sharing new ventures. We did not find a significant statistical relationship; thus, we rejected hypothesis H4. This may be explained by the unique way in which car-sharing in China operates. As we introduced in the second part, car-sharing platforms in China have slowly developed their comprehensive traffic software. For example, on Didi's app, users cannot only rent a car or take a taxi, but they can also make an appointment for driving, rent a shared bike and check the routes and times of buses. This comprehensive service enables consumers to use one app to solve all their travel needs. Instead of becoming competitors, buses and taxis complement other services on car-sharing platforms. Turning competitors into partners is also one of the development strategies of China's car-sharing new ventures. Table 4 summarizes the final results of all hypotheses.

Table 4. Summarizes the final results of hypotheses.

Hypothesis	Result
H1a: Population density is positively associated with the new firm formation in the car-sharing industry.	Rejected
H1b: Urbanization economy is positively associated with the new firm formation in the car-sharing industry.	Supported
H1c: Localization economy is positively associated with the new firm formation in the car-sharing industry.	Rejected
H2a: The innovation ability brought by knowledge spillover is positively associated with the new firm formation in the car-sharing industry.	Rejected
H2b: The human capital brought by knowledge spillover is positively associated with the new firm formation in the car-sharing industry.	Supported
H3: Venture capital is positively associated with the new firm formation in the car-sharing industry.	Supported
H4: Public transport is negative associated with the new firm formation in the car-sharing industry.	Rejected

6. Discussion

Taking China's car-sharing new ventures as an example, this paper explores the regional determinants of forming new ventures of the sharing economy type. First, we introduce in detail the development status and characteristics of shared cars in China. Second, based on 257 Chinese cities' panel data from 2010 to 2019, the study empirically analyzes the "traditional" factors such as economy, unemployment, and urban infrastructure. The agglomeration effect, knowledge spillover, venture capital and competitive market on the formation of new ventures are also discussed. We also apply regional economics and entrepreneurship to the study of sharing-economy businesses to explore China's car-sharing industry in a new way.

Urbanization economic effects, human capital effects and venture capital effects have important positive influences on establishing car-sharing new ventures in China. However, population density, regional economic effects, innovation ability of knowledge spillover and the competitive market of car-sharing do not play an obvious role in establishing car-sharing new ventures. As a business model of the sharing economy for sustainable

development, car-sharing is booming in countries worldwide. We also hope that our research results can provide other scholars with research methods that can be used to discuss the important factors affecting the establishment of new ventures in the sharing economy in other countries.

In China, the development of each region is unbalanced. China's coastal provinces surpass the central and western regions in terms of resources, talent, economy and other aspects. In this study, to avoid the endogeneity problems caused by huge differences among provincial data, we chose to analyze prefecture-level city data. Although there are some differences between cities (such as Beijing, Shanghai and other big cities), we follow prefecture-level cities' standards to minimize the endogeneity problem. This also breaks the tradition of researching the development of Chinese enterprises in units of provinces. We hope that our research can contribute to the re-examination of enterprise research in China's administrative regions.

The results of this study will have some enlightening significance for startup companies that are newly entering the sharing economy market. At the same time, it will have certain practical value in the theory of entrepreneurship and innovation. As many scholars have noted, radical innovations are often developed by new entrants to the market [79–81]. New ventures represent the entrepreneurial spirit and replace existing enterprises through the process of "creative destruction". Our research results offer a theoretical reference for start-ups in choosing a location and inspire local governments to understand the needs of start-ups. As they have been established to promote new businesses, local governments should guide the balanced development of various industries in their region. They should pay attention to the cultivation of talent, improve the labor force's quality, improve the market environment, provide the correct guidance and moderate support for the venture capital industry. They should also allow market mechanisms to be maximized, and they should attach great importance to the enterprise survival status of new firms after entering the market.

The establishment of new companies is regarded as an important means of solving employment problems and promoting regional economic growth. The Chinese government has an open and supportive attitude toward the sharing economy industry, allowing enterprises to compete freely in the market and introduce a series of supportive policies, such as tax exemption for SMEs and providing entrepreneurial space. The influencing factors of policy have not been considered in this paper, and they have become one of the limitations of this study. Shared transport is the development trend of the future transportation field. Meanwhile, car-sharing also contributes a lot to the sustainable development of the environment. In this context, the government will pay more attention to the innovation of the car-sharing industry. In future studies, it is necessary to explore the influence of policies from Institutional Entrepreneurship. As Sotarauta and Pulkkinen [82] put forward, to study institutional entrepreneurship is to study forces changing the institutions governing regional innovation systems and more broadly regional development.

China's sharing economy industry has been involved in all aspects of life such as bike-sharing, space-sharing (similar to Airbnb, WeWork) and shared manpower. We only consider single car-sharing new ventures, and the diversity of service types may lead to different analysis results. We believe that the urbanization, human capital and venture capital factors that directly impact the car sharing new venture formation will also have an important impact on the other new venture in the sharing economy. However, when studying other industries in the future, it is still necessary to consider the industries' characteristics and finally determine the different influencing factors of each industry. Additionally, at the data level, we also have insuperable limitations.

As far as we know, we have found all the car-sharing new ventures in China; however, some companies have not been counted. At the time of completing this paper, the statistical Yearbook of Chinese Cities in 2019 had not yet been published; thus, we missed one year's statistical data. In the follow-up research, we will update important factors such as policies and industrial diversity to make up for this paper's limitations.

This paper's main conclusion is to reveal the agglomeration effect, knowledge spillover, venture capital, and sustainable public transport environmental factors on the formation of China's car sharing new ventures. Despite these limitations, the inclusion of all determinants at the same time can prevent model studies from being incomplete. We believe that our research can help researchers and entrepreneurs obtain a more comprehensive understanding of China's sharing economy market and car-sharing platform in many respects. We have provided a meaningful results to the sharing economy literature. We also hope that our research will stimulate more discussions on management, policy and the market.

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