Master Thesis

City Branding Practices in Hunan Province and Hubei Province Based on Ecological Modernization

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STUDENT: JINCHENG YANG

STUDENT NUMBER:4626524

Title Page

Title	City Branding Practices in Hunan Province and Hubei Province Based on Ecological Modernization
Author	Jincheng Yang
Date of Defense	May 14th, 2019
Email	jchy9301@163.com
University	Delft University of Technology
Faculty	Technology, Policy & Management
Program	Engineering and Policy Analysis
Graduation Committee	Chair Professor: Martin de Jong First Supervisor: Baiqing Sun Second Supervisor: Hongyu Zang

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Executive Summary

This thesis aims to analyze the city branding practices related to Ecological Modernization of cities in Hunan province and Hubei province, which are both located in the Central Region of China.

The idea of Ecological Modernization, which has been applied by most of the countries in the world, is to transform the focus of the development mode from merely on economy to the coordination of economy and environment. Due to the vast damage done to the environment during the chase for the faster development, most regions in China are currently suffering from severe environmental deterioration. The central government has been putting focus on the solutions to this problem, and for the concern of institutional changes, the central government approved of the establishment of Two-oriented Society in Hunan and Hubei Province as a demonstration pilot zone to promote the institutional transformation based on Ecological Modernization.

Even though not the fastest developing regions in China, Hunan and Hubei provinces' economic growth rates are above the average value of the nation. According to the latest Provincial Government Reports, both governments are sharing similar development problems such as less investment from the private corporations, lack of major projects, competition from peer cities, and environmental deterioration, all of which need to be solved soon. And as pointed out in the national planning document, the central government in China is trying to boost the development of the central region of China due to its unique location and abundant resources.

As a strategy to labelize the city's unique features and create attractive images for the city, City Branding has been applied in the strategy making for most of the governments in China, especially for the cities facing the fierce competition from peer cities and striving hard for more investment and attention both from the central government and large corporations.

Based on the theory of City branding practices and Ecological Modernization, Martin de Jong and et al. proposed a Five Pathway Method, which seeks to explore the gap between the adopted and desired city branding strategies. The Five Pathway Method is able to identify the developmental pathway based on the city's current economic development stage and the regional position of the city. The developmental pathway is further compared with the adopted city strategies, which are reflected by the selected city brands and identities. Whether the adopted pathway is in accordance with the current urban stage and the regional location is analyzed.

Based on the problem faced by cities in Hunan and Hubei provinces and the Five Pathway Method, the main research question for this paper is as below:

How do cities in Hubei and Hunan province position themselves through city branding from the perspective of ecological modernization and why?

To solve the main question, the following steps are carried out based on the Five Pathway Method.

Firstly, modifications are done on the insufficiency of pathway 4 and pathway 5 in the Five

Pathway Method. Due to the complexity of the tertiary sector in the whole industry structure, the Five Pathway Method showed insufficiency in revealing the exact focus of pathway 4 and pathway 5 on the relevant sub industries in the tertiary sector in the previous studies. To solve this problem, the original pathway 4 and pathway 5 are further sub-divided into pathway4a(5a), pathway 4b(5b), pathway4c(5c) and pathway 4d(5d), and the sub-industries in the tertiary sector are also further categorized into producer service, consumer service, distributive service and social service. Besides the theory itself, the general city labels are also further classified for the implementation of the theory. Correlations between the sub-pathways and the sub-industries in the tertiary sector are also established. In the meantime, some general city labels are also further divided and re-allocated to different sub-pathways of pathway 4 and pathway 5, including service city, smart city and so on.

Secondly, the two independent variables in the Five Pathway Method (the city's regional position and the economic development stage) are determined to identify city's desired developmental pathway in Hunan province and Hubei province. The modified Five Pathway Method is applied to identify the sub city branding pathways of the cities with the feature of pathway 4. Clearly, most cities in Hubei province are predicted to adopt pathway 2 to brand themselves, while most of the cities in Hunan province are predicted to adopt pathway 4, especially pathway 4d in the modified Five Pathway Method.

Thirdly, the adopted city branding ways are identified for all the cities through qualitative and quantitative ways through looking into government official documents including the Urban Master Plan and the Outline of the 13th Five-Year Plan on National Economic and Social Development. In this part, the modified Five Pathway Method is applied on the cases of Hunan province and Hubei province for the definition of the general adopted pathways and also the sub-pathways. As for the city brand labels, the categorized city branding labels, as shown in the Appendix 1, are programmed in Visual Basic to calculate the quantitative number of the city labels used in the official documents. The frequency of the city label adopted by the city government signifies the preferred branding pathway of the city. The city brand identities are also identified through looking into how cities identify and describe themselves in the official documents. As for city brand labels and city brand identities, pathway 4 features are adopted by all the cities in Hunan province and Hubei province, and pathway 4d is the most adopted sub pathway.

In addition, the adopted city branding pathway of the city is compared to the developmental pathway of the city. In this step, the extent of how the choices made by the local government is in accordance with the current economic development stage and the regional position is measured and concluded. As can be concluded, when it comes to city brand labels, most of the cities in Hubei province are with clear gap and prefer to adopt pathway 4 instead of pathway 2, which is the predicted city branding pathway for most of the cities in Hubei province. As for sub pathways, more insights are found through adopting the modified Five Pathway Method. Wuhan, Huaihua and Xiangtan all show clear gaps as for the sub pathways of pathway 4.

Finally, the reasons for the gaps between the adopted city branding pathway and the city's developmental pathway are analyzed, based on the surmises of the Five Pathway Method and related theories, such as Westminster Model. Advice is also accordingly given for local

governments for reasonable city branding strategy making, which can better enhance city competitiveness.

Contents

1. Background Information

This paper focuses on the city branding practices of cities in both Hunan province and Hubei province.

City branding has been abundantly researched in the past years and applied in cities in China for the better positioning of cities and for better setting of the developmental goals. Through city branding, cities can increase their city competitiveness and stand out in the trend of urbanization.

In this section, the background information of the thesis is illustrated, including the developmental status of Central Region of China where Hunan and Hubei provinces are located, and the policy instructions from the State Council on the establishment of the Two-Oriented Society. In the meanwhile, a brief introduction of Hunan and Hubei Provinces, and the common problems faced by both provinces are given to better understand the studying objects -the cities in Hunan and Hubei provinces- of the thesis project and the studying necessity of the thesis project.

1.1 The Development Status in the Central Region of China

Low-level industrialization, low-level urbanization, low-level agricultural modernization, and worsening environment and resource problems have always been the main concerns of the central government in China (Hu and Zhu, 2008). Besides all of these, the increasing regional disparities, concerning about the economic development, environment capacity and industrialization, also began to show up since the implementation of the opening up policy of China. (Ying, 2003; Wei and Ye, 2009; Li and Wei, 2010; Long et al., 2011) To solve this problem, the Chinese government proposed Coordinated Development of Regions as a national strategy in the third Plenary Session of the 16th Central Committee of CPC, including actively promoting the development of the western region, revitalizing the old industrial bases in the northeast region, promoting the rise of the central region, and encouraging the eastern region to take the lead in development. (Xi, 2007)

Among all these regions in China, the Central Region of China (CRC) occupies an important strategic position in the plan, which consists of six provinces including Shanxi, Henan, Hubei, Hunan, Jiangxi and Anhui. The CRC has been offering the supplement of food, energy and raw materials for a long time in China, which makes it an important area for China's economic and social development. According to the research done by Zhou and Chen (2006), the implementation of the strategy of the Rise of CRC is supposed to actively promote the realization of China's modernization goals in the early stage, and help promoting the development of regional economic integration across the country. At the same time, it is also supposed to promote the industrial transformation and the upgrading of the eastern region and the development of the western region.

However, the CRC was marginalized and neglected in the national economic sector before 2004. A relatively slow pace of economic development and a relatively weak improvement in people's living standards appeared in CRC due to the lack of strategic attention at the national level. This was mainly reflected from the fact that the per capita GDP in the CRC not only was far below

the eastern region, but also had a clear gap with the national average (National Bureau of Statistics, NBS, 2005). The development rate in the central region was not only lower than that in the eastern region, but even lower than the western region. Besides these, the level of marketization, industrialization and urbanization in the central region was also far lower than the national average level in the same period (Fan, 2010).

Not until 2004 did the Central Government propose the strategy of 'Promoting the Rise of the Central Region' to speed up the economic and social development in the CRC. In the following two years, relevant policies and measures were officially introduced by the Central Government to make sure the effective implementation. And as pointed out in 'Several Suggestions on Boosting the Development of the Central Region' in 2006(State Council, 2006), the strategic positioning for the Central Region of was 'Three Bases and One Hub', namely Important National Grain Production Base, Energy and Raw Material Base, Modern Equipment Manufacturing and High-tech Industrial Base, and Integrated Transportation Hub.

By the end of 2014, significant changes have been done in CRC with the implementation of the strategy. And at the same time, strategies were also modified by the central government. According to the 'Plan for promoting the rise of the central region of China' issued by the Central Government in 2016, the latest strategic positioning for CRC is 'One Center and Four Area', which signifies Important National Advanced Manufacturing Center, National Key Modern Urbanization Area, National Core Area of Modern Agricultural Development, National Demonstration Area for Ecological Civilization Construction, and Important Supporting Area for Fully Opening-up.

As can we conclude from the new positioning, the CRC has built solid industrial foundation, agricultural foundation and transportation network foundation in the past decade. The CRC now owns an advanced transportation network connecting the other regions of China due to its unique location. The CRC also owns various kinds of production factors, centralized human resources and educational resources. The infrastructure system also developed well together with economy. As mentioned above can we conclude that the potential of development in CRC is promising. (National Development and Reform Commission, NDRC, 2016)

However, the central region occupies 10.7% of the country's land and hosts 26.63% of the country's population. There is still a big gap between the central government's expectation and the current circumstances in the CRC and the potential of development of CRC is still to be dug up.

As pointed out in the 'Plan for promoting the rise of the central region of China', the latest development goals for the CRC until 2020 are: Firstly, maintain the rapid growth of the economy with better quality and efficiency. The pace of new-type urbanization should be accelerated, with the urbanization rate of the permanent population reaching 58% and the urbanization rate of the household registration population reaching 43%. Secondly, the overall industrial structure should the mid-to-high end level with the rapid development of the advanced manufacturing industries and strategic emerging industries and the service industries reaching over 47% among the three industries. Thirdly, the development of modern agriculture should be at the forefront of the country with the grain output stabilizing at about 30% of the country's total output and the quality and efficiency of agricultural product supply being

significantly improved. Fourthly, the quality of the ecological environment should be improved overall with the wetland reserves reaching 5.2 million hectares and the forest coverage rate reaching more than 38%. The total discharge of major pollutants should also be drastically decreased, and a sound urban water pollution prevention and control system should be formed The cultivated land holdings should remain at 377 million mu and the unit GDP energy consumption and CO_2 emissions should be by more than 15% and 18% respectively. Fifthly, the people's living standards and quality should be generally improved.

As mentioned above, it can be concluded from the government report that the current strategy planning in China no longer focuses merely on the speed of the economic development, but also on the quality of development. The growth-at-any-cost mode of development is no longer the consideration of the Chinese Government. The government is also trying to achieve industrial transformation in the process of economic development. Besides these, the improvement of the environmental condition is also the main consideration in the strategic planning of the government.

1.2 Establishment of the Two-oriented Society

In the early stage of China's Reform and Opening-up Period, the Chinese central government set up several Special Economic Zones in Shenzhen, Zhuhai, Xiamen and etc. in order to expand foreign trade, introduce foreign capital, foreign technology and foreign management experience, and increase employment opportunities. The development of these cities mainly benefited from the special policies set by the central government for extraordinary development. At this time, China was still in the early transition stage from planned economy to market economy. And the reform of the socialist market economic system did not start yet.

Even though the special economic zones developed highly in economy, a large number of social and public problems showed up, which are beyond the economy level. The problems include imbalanced development between urban area and rural area, heavy environmental pollution, and imbalanced industrial structure. All these social pressures have been hampering the further reform in China (Chen and Li, 2008). In the meantime, in the context of fierce economic competition and in order to achieve the developmental goals set by the central government, cities strove all their efforts to increase their economic growth rate, including exploring extensive resources and energy regardless the constraints and limits of environment and society. Environmental deterioration was thus caused.

Faced with the environmental deterioration and willing to achieve further reform, how to achieve new breakthroughs to converge economic reform, political reform and social reform into the framework of harmonious development becomes a major mission and concern for the country (Li, 2007).

In order to solve the institutional problems which had been hampering the coordinated development, and realize fair competition among local governments rather than relying on the country's special preferential policies (Hao and Gao, 2006), the set-up of National Comprehensive Reform Pilot Area began in 2005 as a new regional development model compared to the set-up of special economic zones. Besides institutional change and innovations (NDRC, 2010), the establishment of the National Reform Pilot Zone is trying to achieve

systematic reform instead of scattered single reforms (Wang, 2009).

In June 2005, the state set up “Shanghai Pudong New District Comprehensive Supporting Reform Pilot” for the first time, kicking off the prelude of the state's approval to establish a comprehensive supporting reform pilot zone. (Hu and Jiang, 2012) Since then, the development of the National Comprehensive Complement Reform Pilot Zone has gradually become the focus all over the country. As of November 2013, the State Council has applied for various regions and has approved the establishment of more than a dozen state-level reform pilot zones as shown in the table 1.1

Among all the target cities, Hunan and Hubei provinces are the first and the only regions where the central government set up the Two-Oriented Society Pilot Zone. The set-up of the two-oriented society did not appear in a vacuum. On April 15 2006, "Opinions on Promoting the Rise of the Central Region" was issued by the Central Committee of the Communist Party of China and the State Council, which clearly stated that "The formation of the Wuhan City Circle, the Central City Group, the Changsha-Zhuzhou-Xiangtan City Agglomeration, and the Wan River City Belt should be prior to achieve the rise of the Central Region of China. And the urban agglomerations which are supporting economic development and population agglomeration will also drive the development of surrounding areas." This is when the idea of establishing and developing city circles entered the vision of national strategies for the first time. And Wuhan City Circle and Changsha-Zhuzhou-Xiangtan City Agglomeration were formally approved as a Comprehensive Complement Reform Pilot Zone to build a national resource-saving and environment-friendly society on December 7 2007, after the 17th National Congress (Zou, 2009).

The most direct background in which "two-oriented society" was proposed is the shortage of resources and the deterioration of the ecological environment, which became the bottlenecks of the worldwide economic and social development. And the scientific background of the "Two-oriented Society" is that the government are beginning to seek for the institutional transformation while the appearance of new technologies is not enough to promote a new industrial revolution (Cai, 2010). Also, as forecasted in the IEA's World Energy Outlook 2007, global energy demand would increase by 55% from 2005 to 2030, and oil demand would increase by 37%. The accelerated industrialization brought about by the rapid technological revolution has made the problem of the shortage of non-renewable resources increasingly prominent. At the same time, the report also predicts that China would replace the US as the world's top one energy consumer, which means China would face more and more severe energy shortage problems. This is also part of the reason why the national government is trying to make Hunan Hubei as a pilot zone to establish the two-oriented society (IEA, 2008).

In the concept of Two-Oriented society, resource-conserving society stands for a society where various resources can be rationally developed, utilized and effectively protected. In the meantime, efficiency of utilization of resources should be enhanced and ecological balance should be maintained. Maximum economic, social and ecological benefits should be obtained with as little resource consumption as possible. People can effectively develop, utilize and protect the resources while resources can help supporting the sustainable development of human society and economy at the same time.

Table 1.1 National Comprehensive Complement Reform Pilot Zones in China

Time	Target	City or Area
2005.06	National Comprehensive Reform Experimental Zone	Shanghai Pudong New District
2006.05	National Comprehensive Reform Experimental Zone	Tianjin Binhai New District
2007.06	National Unified Urban and Rural Comprehensive Reform Experimental Zone	Chongqing, Chengdu
2007.12	National Comprehensive Resource-saving and Environmentally Friendly Society Reform Experimental Zone	Wuhan "1+8" City Circle, Changsha-Zhuzhou-Xiangtan City Agglomeration
2008.05	National Comprehensive Supporting Reform Pilot Zone	Shenzhen
2010.04	National Comprehensive Industrialization Reform Experimental Zone	Shenyang Economic Zone
2010.12	National Resource-based Economic Transformation Comprehensive Supporting Reform Pilot Zone	Shanxi province
2011.03	International Trade Comprehensive Reform Pilot Zone	Yiwu
2011.12	Supporting Reform Pilot Zone (Deepening Cross-Strait Exchange and Cooperation)	Xiamen
2012.03	Financial Comprehensive Reform Experimental Zone	Wenzhou
2012.07	Financial Reform and Innovation Comprehensive Experimental Zone	Pearl River Delta
2012.12	Financial Services Real Economy Comprehensive Reform Experimental Area	Quanzhou
2013.06	Modern Comprehensive Agricultural Reform Experimental Zone	Heilongjiang Province
2013.09	Free Trade Zone	Shanghai

Source: State Council

Different from the resource-conserving society, an environment-friendly society is a society in

which waste emissions in production and living are minimized, environmental pollution is effectively prevented, and the natural ecological environment is constantly protected and optimized. An environment-friendly society is a society in which people and the environment are harmonious. Human protection improves the environment and the environment can support the sustainable development of human society and economy.

1.3 Introduction on Hunan and Hubei Province

Divided by Dongting Lake, Hunan Province and Hubei Province are both located in the CRC, as shown in the Fig 1.1. Since the establishment of People Republic of China (PRC), the two provinces have been compared with each other in terms of economic development. With the development of economy and optimization of industrial structure, both provinces have achieved great development, reaching the medium term of industrialization. In 2016, the Gross Democratic Production of Hubei and Hunan are 3229.8 billion yuan and 3134.5 billion yuan, both reaching 3 trillion mark for the first time. But at the same time, the space for further development is still huge and the better industrialization is still to be achieved.

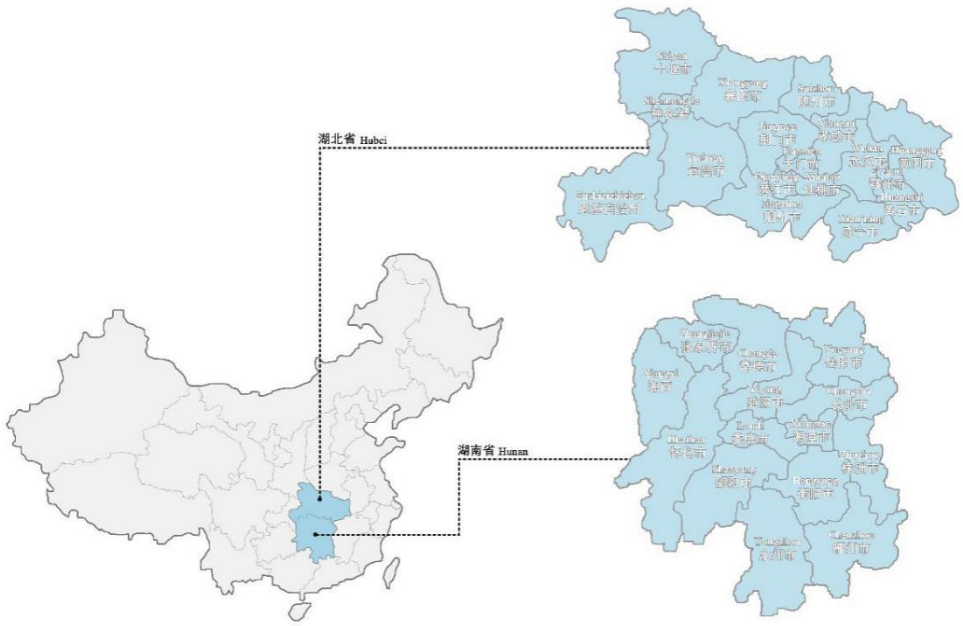

Fig 1.1 The location of Hunan and Hubei Provinces.

1.3.1 Hunan Province

Hunan province locates in the Central Region of China and its capital city is Changsha. And Hunan is known as the home province of first president Mao Zedong. As for industrial development, Hunan is not only center for agricultural products, but also center for industrial products, including steel, machinery and electronics. In 2016, the GDP proportion of primary sector, secondary sector and tertiary sector in Hunan are 4.3%, 38.2% and 57.5%（National Bureau of Statistics of China, NBSC, 2017）**.** Compared to the data in 2015, which are 4.6%, 42.4% and 52.9% for each sector, and compared to the data from the past years (NBSC), the

proportion of tertiary sector increased by 4.6% in 2016, which signifies the adjustment in industrial sector. Besides that, in 2016, Hunan's GDP reached 312.47 billion yuan and ranked the country's ninth place, achieving a year-on-year increase of 7.9%. The growth rate was 1.2 percentage higher than the national average value of that.

Hunan has been developing fast not only in economy development but also in urbanization since the financial crisis in 2008, due to the policy and investment support from the central government and the private sectors (Peng, 2015). However, as pointed out in the Government Annual Working Report in Hunan in 2017, governments need to face several developmental problems. Firstly, the downward trend pressure of economy development is significant. The GDP growth rate of Hunan Province did not reach the anticipated value, and the quality of development also need to be improved. Besides that, the substantial industry is facing difficulties. The industrial transformation of the traditional industries is in relative slow progress and the overall size of emerging new industries is still small. The running cost of enterprises are getting higher and higher and the desire together with the ability for innovation and transformation for enterprises are not enough. The proportion of private investment in the total investment is decreasing, which needs to be incented. What's more, the high debt ratio of some enterprises creates hidden trouble for the fluent running of economy.

Scholars find that, the development of the finance, insurance and real estate in Hunan Province is far below the expected value regarding the current development stage. The development of the new tertiary sector in Hunan, including Finance, real estate, scientific research, and comprehensive technical supporting service, and public management and social service, is promising. However, even though the industrial structure in Hunan province is continuously being upgraded and optimized, the industrial structure upgrading is inverse with the economic development in some cities in Hunan province, including Zhangjiajie, Yongzhou, and Huaihua. And in these cities, the industrial transformation should be undergoing in parallel with the development of industrialization. (Hong and Zhang, 2017)

1.3.2 Hubei Province

Hubei also locates in the Central Region of China and its provincial capital is Wuhan. Hubei consists of 12 prefecture-level cities and 1 autonomous prefecture. Being called the 'Land of Fish and Rice', Hubei is known for its agriculture. Hubei is also rich in mineral resources. Hubei has a promising future in industrial development and owns various Economic and Technological Development Zones, including Hubei Jingzhou Chengnan Economic Development Zone, Wuhan East Lake High-Tech Development Zone, Wuhan Economic and Technological Development Zone and etc. The Gross Democratic Production of Hubei in 2016 is 3229.8 billion yuan, ranking the seventh among the other provinces in China. The growth rate of GDP is 8.1% over that of last year, which exceed the average value by 1.4%. The industrial transformation is also taking place in Hubei Province. In 2016, the GDP of Hubei is 3229.8 billion yuan, ranking the seventh among all the provinces in China. The GDP proportion of primary sector, secondary sector and tertiary sector in Hubei in 2016 are 4.3%, 38.2% and 57.5%, while in 2015 the data for each sector are 4.7%, 42.4% and 52.9%.

Also, problems accompany with the high-speed economic development. As pointed out in the

Province Government Working Report by Hubei Government (2017), there are also problems of which the government need to be aware. As for the economic development, the proportion of private investment decreased dramatically. The economic goals were not reached, and the speed of the transformation of the traditional industries is below the expected. The difficulties in running substantial economy and the financial and economic risks of the substantial economy are all increasing with the industrial transformation from the real economy to the virtual economy. Scholars also found that, due to the well establishment of the transportation network in Hubei Province and its plain landscape, Hubei is well developed in heavy industry (Hu, 2014), which also indirectly lead to the unreasonable overall arrangement of the local industrial structure. And from the perspective of social development, the quality of environment thus harmed need to be remedied.

1.3.3 Current developmental status and problems

When compared with each other, differences between the two provinces can be found even though located next to each other.

As shown in the Fig 1.2 is the GDP growth rate of Hunan and Hubei Provinces and that of China. Clearly, Hunan and Hubei both have higher GDP growth rates than that of the whole country. And in some years, Hubei's GDP growth rate is apparently higher than that of Hunan Province.

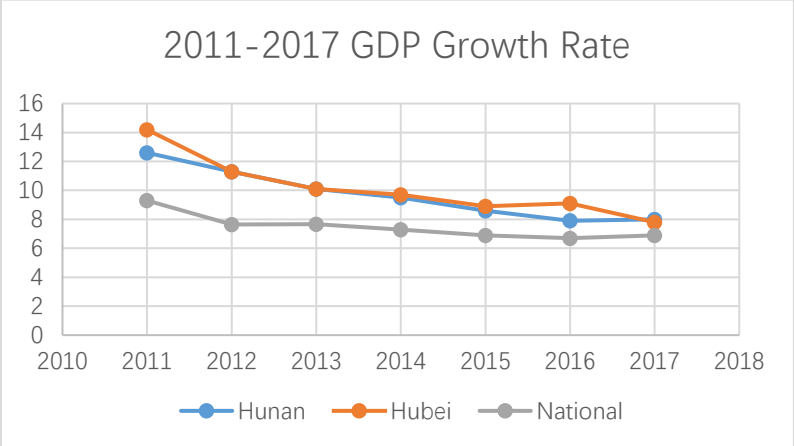

Fig 1.2 Annual GDP Growth Rate

Data source: Chinese National Statistical Yearbook

According to the researches done by Chen (2017), both Hunan province and Hubei province are in the middle stage of industrialization and urbanization based on the model proposed by Chenery and Taylor (1968), and both provinces are about to step in the final stage of industrialization. But when it comes to different sectors and being compared to the national industrialization status and industrial transformation status, details can be further navigated.

As shown in Fig 1.3 and 1.4 are the contributing rate of the secondary sector and tertiary sector to the GDP in China and in Hunan and Hubei provinces. (Contributing rate is the contribution share of the three components to the increase of the GDP refers to the proportion of the increment of each component of GDP)

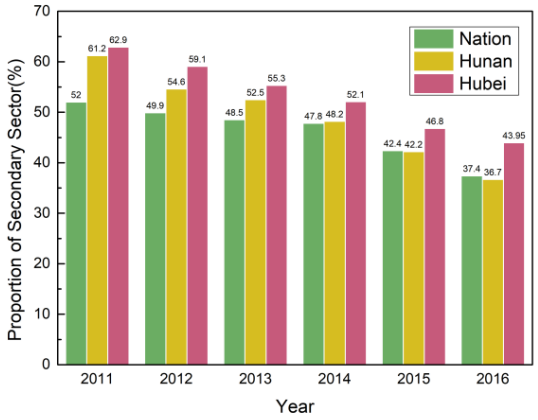

Fig 1.3 The Proportion of Secondary sector in China and in Hunan and Hubei Province

Data source: Chinese National Statistical Yearbook (2017), Hunan Domestic Statistical Yearbook (2017), Hubei Domestic Statistical Yearbook (2017)

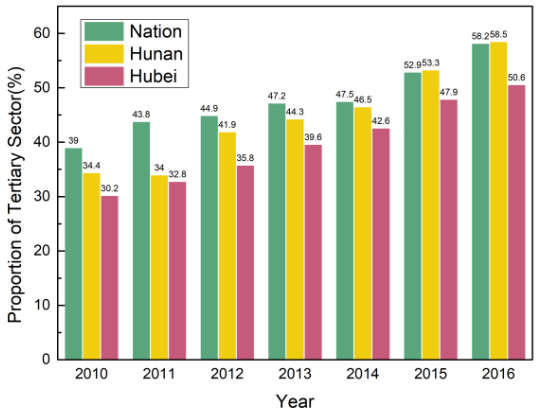

Fig 1.4 The Proportion of Tertiary sector in China and in Hunan and Hubei Province

Data source: Chinese National Statistical Yearbook (2017), Hunan Domestic Statistical Yearbook (2017), Hubei Domestic Statistical Yearbook (2017)

As can be seen from the two figures, the contributing rate of tertiary industry has been increasing nationwide, while the secondary sector goes the opposite way. The proportion of the tertiary sector in Hubei is below the average of that all over the country from 2011 to 2016, while that of Hunan Province exceeded the average value of the nation in 2015. The contributing rate of the secondary industry in Hubei is more than the national average value, while Hunan secondary industry's contributing rate decreased below the national average value in 2015. In 2011, the gaps between the contributing rate of the secondary and tertiary sector in Hunan and Hubei provinces are 1.7% and 4.2%, while in 2016 the gap is already 7.25% and 7.9% respectively. As can be concluded from the two figures, the nation, including the two provinces, are fastening the adjustment in industrial structure through boosting the development of the tertiary sector, which is more profit-earning, and compared to Hubei province, Hunan is achieving faster industrial transformation than Hubei province. Also, due to the significant

changes happened in both provinces, the requirement for the structure of human resource is also changing, which requires more talented workforce. (Zhou, 2017)

Also, as for particular industries, Hunan has been developing its tourism due to its landscape advantage with great mountains. Zhangjiajie, Fenghuang Ancient City, and the Dongting Lake are all attributing the economic development in Hunan province (Hu, 2014). Different from Hunan province, Hubei province is taking its advantage of its landscape as plain to develop the heavy industry. As for the economic development, the industrial structure in cities in Hubei Province are less balanced than that of the cities in Hunan province. Also, the development of the tourism and culture-related industries in Hunan is better than that of Hubei, while the overall development of central cities in Hubei province is better than that of the central cities in Hunan province.

In the meantime, Hunan and Hubei province are also sharing similarities in the process of economic development.

Both provinces are going through the period of industrial structure transformation. Hunan and Hubei are shutting down the outdated production capacity and excess production capacities, including industries as steel, mining, paper manufacturing and etc.. The rebuilding and upgrading of the old industrial area is also undergoing in parallel. But in the meanwhile, the economic gap thus caused need to be made up through boosting the development of the other modern and clean industries. Also, due to change of the industrial structure, more talented human resources are needed for adapting to the current industrial development. (Zhou, 2017)

In addition, both provinces are sharing common developmental problems as can be concluded from the annual working reports of the provincial governments. Due to the gradually weakening market and the lack of major projects for both Hunan and Hubei province, the growth rate of investment showed a downward trend. Also, both provinces are suffering from the loss of private investment which is an important factor in boosting the development of both provinces.

Besides these, the environment deterioration in Hunan and Hubei Province is also severe. With governments having been chasing the mere improvement on the economic data for years, the environmental capacity is far from enough for the current economic activities. The resource-based industries are the structural cause of the environment deterioration. And as the hydropower base and raw material mining base for China, Hunan and Hubei are highly dependent on the resource and energy industries, which are leading to sever pollution and damage to the local environment (Fan and Zhao, 2010).

Facing the challenges from the deteriorating environment, the severe competition from the peer cities and the changing exotic economic circumstances, cities in both provinces are making institutional changes from the perspective of Ecological Modernization. And in the meantime, various city branding practices are also taken by the city governments, which are seen as good methods to attract investment, consumption, and talented human resource (Demirbag Kaplan, Yurt, Guneri, & Kurtulus, 2010). The relative theories and backgrounds it to be studied in the next chapter.

1.4 Chapter Summary and Research Question

As can be concluded, Hunan and Hubei province, which are both located in the Central Region of China, are of great economic importance for the development of China. And both provinces are trying to establish the Two-oriented Society to achieve Ecological Modernization and faster industrial transformation.

At the same time, the two provinces are faced with similar problems, such as the fierce competition from peer cities and each other. Both provinces are trying achieve institutional innovation and industrial transformation to increase their city competitiveness. In addition, both provinces are seeking out for more investment from the national government and private entrepreneurs to increase the investment on the economic development.

Based on all of these problems faced by the provincial governments and the policy instructions from the central government, what are the city branding practices adopted by the cities in Hunan province and Hubei province is the studying objective of this thesis project. Theories related to city branding and ecological modernization are studied and illustrated in the next chapter.

2. Theoretical Framework

In this part, literature related to theory of City Branding, Ecological Modernization and the Five Pathway Method are looked into, which are closely related to the research background, research methodology and the case of Hunan province and Hubei Province.

As for the theory of City Branding, the origin of the theory and how the theory has been evolving along with the practical use and academic research are illustrated. The concepts, including brand, city brand and city branding, and the application of the concepts are explained for the introduction of the Five Pathway Method.

As for the theory of Ecological Modernization, which is an important theory lies in the Five Pathway Method, the reason of the emergence of the theory Ecological Modernization is analyzed. Also, the common meaning of Ecological Modernization is better summarized through looking into the research of different scholars to better understanding of the concept. How Chinese government has been applying the idea of Ecological Modernization in the national strategy making is also illustrated to stress on the importance of Ecological Modernization

As for the Five Pathway Method, the method itself and the relative concepts are explained with the application steps of the method. The application cases of the method on regions of China are also illustrated. In the meanwhile, the insufficiency in the theory is also illustrated, which are to be improved in the latter sectors.

2.1 City branding

With the achievements made in Globalization and Urbanization, the national boundaries for the competition over resources and investments are disappearing. Due to the fierce competitions of economy from the cities in the same developmental stage with similar industrial structure, and the eagerness thus caused to attract more attentions from the investors and the central government, most of the domestic governments have been looking for new ways to distinguish themselves from the other peer cities so that resources and investments can be absorbed for further development. In order to realize the goals, city branding is seen as a way for them to stand out among the peer cities.

Brand is a concept firstly emerged in business market and mostly used in Commercials. Brand is seen as a powerful tool to show customers the images of a product, a kind of service, or some indeed place in a preferred way (Aitken, 2011; Campelo et al., 2011). It associates the product, service or a place with the name, symbols and reputation of it (Anholt, 2007). Branding is the process to promote all the chosen images of a product to customers (Gold & Ward, 1994) so as that a favorable reputation can be spread among its customer (Anholt, 2010).

Pointed out by Kevin in 1998, the idea that cities can also be branded like products began to be accepted by scholars and governments, long after the concept was practiced firstly in the 19th century (Molotch, 1976). Kevin (1998) thinks of city more than an administrative area, but also a commercial product, whose images can be branded as a product in the market and be promoted in the ‘city market’ so as to attract the resources the city are in need of. Zhang Rui and Zhang

Yan (2006a) think city brand should be a reflection of the integrated differentiated brand elements, such as cities unique endowments, historical and cultural precipitation and industrial advantages, which are supposed to provide continuous, trustworthy and personalized commitments to relevant stakeholders in order to improve the recognition and satisfaction of the stakeholders and increase the aggregation effect, scale effect and radiation effects of the city. As an important intangible asset, city managers need to carefully manage and cultivate the chosen city brands (Zhang and Zhang, 2006b).

Vast of scholars have studied into city brands since 1998 (Kavaratzis, 2004; Houghton J P, 2011; Sevin, 2014), but as a new-born theory and due to the fragmented manner of researches into the theory which is criticized, scholars have been trying to perfect the structure of the theory system (Papadopoulos, 2004). Multiple categorization methods for city brands are conducted by scholars. Yin (2003) categorized city brands into 5 categories, including politics, economy, transportation, culture and tourism city brands. Also, he proposed multiple ways to achieve ecological city brand including the modernization of the city's infrastructure, the construction of the supporting system in accordance with the need of the citizens and city's development, and the enrichment of the local green projects. Du (2004) tried to set better categorizing ways and classified city brands into core brands, sub-core brands and factor brands, and when it comes to the type of the typical customers, Du thinks city brands can also be categorized into residential type, tourist type, capital accumulation type and product-market type. In order to attract the target citizens, appropriate brand factors should be chosen according to the attributes of the city through principle component analysis.

Governments are all taking various measures to make and strengthen their city brands so as to strengthen their city competitiveness. Features of cities are exploited and integrated to different kinds of city brands. The city features can be from multiple perspectives, ranging from tourist attractions and industrial advantages. Governments are also holding various kinds of events to create their unique city brands. For example, mega-events are always seen as an important city branding practices. Through the examination on the Olympic events effect in Beijing, Zhang (2009) found that the Olympic Games held in Beijing did achieve positive effects in boosting the development in terms of tourism, employment and business opportunities. Besides mega-events, the held-up of exhibitions, advertisements, conferences and the explorations on the public relations are also see as good methods to establish city brands (Yu and Jiang, 2004).

Different from city brands, which are the labels chosen for cities and represent the city's identity (Briciu, 2016), city branding is another concept, which refers to the process of the strategy making to make a city more attractive to their targets, including talented human resource, investors and the favorable resources the city is longing for (Vanolo, 2008a, 2008b). In the process, cities are supposed to select the most favorable information to create the attracting and positive images of the city. However, the vague concept and various kinds of city brands is making the carrying out of city branding process rather difficult for the governments. Besides these, due to the fact that city branding process is rather complex, including the involvement of governments, scholars, local inhabitants and relevant corporations, many mistakes have been made in practice in China. For examples, the concept of city branding can be far-fatched; the chosen city brands for cities may not be systematically organized and expressive enough; or the concept of city branding and operation mode may be not clear enough for practice (Zhang 2002).

All these mistakes have led to the bad performance of the designated effect of the chosen city brands, and governments should start to consider solving the relevant problems.

As shown in the research of Ma (2007), a well-established city branding strategy shows a positive relation with the competitiveness of the city, and city branding practice has been taken as a strategic establishment for the governments in China. In his opinion, city branding not only provides an image of the city's future, but also points out a path where there is method for the city to achieve the future goals. And Avraham and Ketter (2008), Baker (2012) and Paddison (1992) also share the same opinion. Therefore, a complete and well-organized set of city branding practices and a well-chosen set of city brands for a city is sure to increase the city's competitiveness.

2.2 Ecological Modernization

The reason for ecological deterioration can be categorized into two perspectives. One reason is the lack of protection on environment while the economic and industrial development are prospering, which at the same time leads to pollution and environment deterioration. The other reason for ecological deterioration is the under-developed economy and the excessive reclamation thus caused. In the latter circumstance, the main problem to solve is to boost the economic development of the region. But when it comes to the former situation, the idea of Ecological Modernization is always applied to solve the problem.

In the 1970s, environmental protection was seen as a burden for both the industry sector and the government. Policy makers must choose between increasing the employment opportunities together with economic growth, and protecting the environment. The idea of Ecological Modernization (EM) was proposed in the 1980s through the work of the German social scientists Joseph Huber (1982) and Martin Janicke (1985), who focused on providing a path in which the institutions and governments should be transformed and ecological crisis would be avoided in the city's future economic development. And the appearance of the concept Ecological Modernization redefined the relationship between the environment and economic development.

Many scholars have worked on the theory of Ecological Modernization, but there is no unite and clear description on Ecological Modernization so far. WIKIPEDIA identifies EM as a positive process to a 'win-win' situation where environmentalism can be achieved and resources can be better utilized while economy and society can develop. Based on the researches done by Janicke (1985), Hajier (1995), Huber (2004), Anderson and Massa (2000), Pataki (2009), Murphy and Gouldson (2000), Buttel (2000) and Mol (1997), the meaning of Ecological Modernization can be summarized as a reasonable explanation for the economic development and environment protection, a new mode of economic social development, a disciplinary description for the progress made in both environment and economy, and a transformation process in economic and social institutions, policies and modes.

Ecological Modernization are currently being worldwide applied to solve the problems caused by economic and industrial development. As for China, where economy and industries are developing in a rapid speed, challenges not only lie in the environment deterioration, but also the policy and strategy making related to ecological modernization. Confronted with the large

population as a developing country, China is faced with the problem of ecological fragility and inadequate per capita resources. To solve the problem institutionally, Scientific Outlook on Development, which may also be called scientific development perspective, was firstly proposed by Jintao Hu, the former president of China, in 2005 in the 11th Five Year Plan (FYP) for National Economic and Social Development. The concept also became one of the guiding principles for the CPC and was written into the 'Constitution of the People's Republic of China in 2018 (Mo, 2018). The appearance of the scientific outlook on development was a marked step for the Chinese Government signifying the beginning of the Chinese Government to focus on Ecological Modernization. (Dan, 2012)

Besides that, in the China Modernization Report in 2007 and in the speech given by Jintao Hu in the 17th Party Congress, the importance of Ecological Civilization and Ecological Modernization are all emphasized. And in the 13th Five-Year Plan which is approved by the Fourth Session of the 12th National People's Congress, the feature 'Green' was defined for the development concept in China in order to promote low-carbon and green development mode and lifestyle to protect the ecological system (Sustainable Development Knowledge Platform, SDKP, 2016). The establishment of the 'two-oriented society' is also a policy reflection of Scientific Outlook on Development and green development.

2.3 The Five Pathway Method

2.3.1 Introduction on the Five Pathway Method

Besides all mentioned above, the two concepts -City Branding and Ecological Modernization- are also intimately connected due to the common core value in the economic development and the common perspective of the long-term consideration shared by both concepts. Based on the theory of City Branding and Ecological Modernization, the Five Pathway Method is proposed by De Jong, which aims to define the theoretical city branding pathways of cities and provide an objective method to examine cities' city branding practices based on its development status and regional position (De Jong, et al., 2018).

In the Five Pathway Method, the city branding pathway is seen as a dependent variable defined by two independent variables- the regional position of the city and the stage of economic development. Namely, the current economic situation and the position of the city are seen as the two most important pre-requirements for the selection of city brands for all the cities.

Due to the eagerness and compelling obligation to engage themselves to the trend of EM, cities would choose city brands to reflect their intentions, and the city brands within their range of choices are decided by their regional positioning and their urban economic development stage. The choice range provides not only possibilities but also limitations for cities when making strategic choices in city branding.

In the Five Pathway Method, the stage of economic development of the city can be classified into urban stage 1, 2 or 3, each of which represents the dominating industry of the city to be primary sector, secondary sector or tertiary sector in the whole industry structure. The primary sector includes agriculture, forestry, animal husbandry and fishery. The secondary sector includes manufacturing, mining, production and distribution of electricity, gas and water, and

construction. The tertiary sector includes wholesale and retail trades, traffic, transport, storage and post, information transmission, computer services and software, financial intermediation, real estate and leasing and business services. Namely, the three sectors are each agriculture and extraction oriented, manufacturing oriented, and service oriented.

The second independent variable in the Five Pathway Method -city's position within the region- are classified into regional position, national position and international position.

The two independent variables, which have close relations with the possible solutions to be taken by cities when facing Ecological Modernization challenges, will together decide the theoretical branding pathway of the city, as shown in Table 2.1.

Table 2.1 Urban developmental pathways and expected branding choices (De Jong, et al.)

Stage of economic development/ Position within the region	**Primary sector dominates**	**Secondary sector dominates**	**Tertiary sector dominates**
Regional orientation	PATHWAY 1 Eco-tourism (accommodating manufacturing)	PATHWAY 2 Advanced, low carbon manufacturing	PATHWAY 4 Knowledge and culture-oriented services
National orientation	n.a.	PATHWAY 2 Advanced, low carbon manufacturing	PATHWAY 4 Knowledge and culture-oriented services
International orientation	n.a.	PATHWAY 3 High-tech innovation	PATHWAY 5 Global advanced producer services

The five pathways, which are the dependent variables, are the result of the two independent variables.

Pathway 1 is for cities that are dominated by agricultural activities and resource extracting activities. These cities don't really have talented human resources but green and plain landscape. So as for these cities, clean industries should be their branding target. And these cities are supposed to brand themselves through modern agricultural city, tourism city, eco city and livable city.

Pathway 2 is the branding choice for cities which are of regional or national importance and have active and dominant manufacturing and material processing industries. With the policy requirements from the central government, these cities are trying to achieve industrial transformation for more advanced and cleaner industries. And these cities are supposed to choose advance manufacturing city, low carbon city, and smart city for their city brands.

Pathway 3 is for cities of international importance. Secondary industry is dominant in these cities and in the meantime, these cities are also trying to transform the current secondary industry to the advanced and cleaner industries. Cities herein are more likely to choose city labels such as advanced manufacturing city, innovation city and smart city.

Pathway 4 is for the service-oriented and trading-oriented cities of regional or national importance. The economy in these cities are usually driven by tertiary industry and most of the human resources are also devoted to these industries. These cities' main purpose for city branding is to strengthen their current position in the service industry. The city brands labels, which may satisfy the requirement of these cities are service city, innovation city, livable/green city and tourism city.

Pathway 5 is for cities of international importance, where citizens are mostly working in the tertiary industry. These cities aim to focus on developing and expanding their current industries and aim to build better infrastructure network and eco-system. In the meantime, they are also trying to be differentiated from the other international cities and make themselves more distinct and outstanding in the world map. These cities usually brand themselves through sustainable city, tourism city and livable city.

Due to the research targets of the thesis, none of the cities in Hunan and Hubei Province has the feature of the international orientation. The pathway 3 and pathway 5 in the Five Pathway Method are not the results of the Five Pathway Method in this thesis.

To better apply the method and further analysis, some concepts should be clarified first.

(1) city brand identities and city labels

City brand identity and city label are two closely related concepts, but there are still differences in between them. City identities are closely related to the how the city defines itself when comparing itself with the other cities (Kavaratzis, 2007). City brand identities refer to the strategy taken by the city and the way it wants to acknowledged by the investors and the other cities. So city identity can usually be concluded through the self-descriptions of the city in the government official document.

Different from city brand identities, city labels are the generic labels that cities use to define themselves when promoting themselves. These label are usually policy-related academic phrases, and easy to remember. The categorizing method of city labels in this paper is same as the one identified by De Jong et al. (2015), which is shown in the Table 01 in Appendix 1.

This thesis aims to collect and analyze both the city identities and city labels used by the cities in Hunan and Hubei Province to show how cities brand and label themselves. And this two-pronged method is based on the work done by Goess et al. (2016), Lu et al. (2017) and De Jong et al. (2017)

(2) Adopted city brands and predicted city brands

The adopted city brands and predicted city brands can also be called the existing city brands and the desired city brands, which are the basis of this study.

Different cities adopted various city branding practices. However, the credibility of the articulation and framing process for the city branding are not always high. Whether the local government are taking the process seriously is to be tested through comparing the adopted EM developmental pathways with the predicted pathway, which are determined through the application of the Five Pathway Method for the cities.

Applying the Five Pathway Method on each city is able to identify the predicted EM-related

developmental pathways for each city based on the two independent variable mentioned above. In order to define the adopted pathway for cities, the frequency of the adopted city labels and the identification of the city identity should be collected.

As surmised in the Five Pathway Method, if cities are aware of their current urban developmental stage and their regional position, they are supposed to reflect their predicted EM-related pathways in their city branding practices through city identity and the chosen general city labels. In contrast, if cities' adopted pathways are out of sync with their predicted pathways, these cities may have chosen the brands without considering the urban developmental status and their regional position or out of random.

The application procedure of Five Pathway Method is further elaborated in the following chapters.

2.3.2 Applications and Problems

The Five Pathway Method has been applied to various cases in China, including the Jing-Ji-Ji region, the Yangtze River Delta, the Great Pearl River Delta and the Northeast Region of China. All of these regions are of great importance from the perspective of economic development and are under industrial transformation and ecological modernization. Through applying the Five Pathway Method and identifying the predicted EM-related developmental pathways and the adopted EM-related developmental pathways, the city branding trends in different regions are concluded and in the meantime, the gaps between the adopted and predicted city branding pathways showed up in these regions are analyzed.

As can be concluded in the previous studies, cities in the same regions usually have clear preferences and similar trends over city identity and city labels. For example, the combination of pathway 2 and pathway 4 is the most popular choice for most of the cities in the Mega City Regions. In the meantime, corresponding advice on the strategy making for governments on city branding were also provided based on the gaps showed up in different regions (Han, et al., 2018; De Jong, et al., 2018).

However, problems and insufficiency also showed up when applying the Five Pathway Method on different regions. When applying the Five Pathway Method to the regions where industrial transformation is better achieved and the dominant industry is tertiary sector, the desired developmental pathways are all in the form of pathway 4 or pathway 5, instead of being further classified. However, according to the classification standard in China, the tertiary sector can be sub divided into 15 sectors in China. And due to the complexity of the tertiary sector, the current EM-related developmental pathways for the tertiary sector, namely the pathway 4 and pathway 5, are not able to reveal the real features and developmental priorities of the corresponding sub sector. Besides these, it is also difficult to distinguish the differences between cities with the features of pathway 4 and pathway 5 to get more insight of the cities.

Above all, theoretical improvements need to be done for better analysis and application of the method so that deeper understanding on the city branding practices of the local governments can be achieved. Namely after improvements, the analysis is done more specifically on specific service industries instead of the overall tertiary sector, which would bring more insights into

the city branding practices of different cities.

2.4 Chapter Summary

As can be concluded in this chapter, city branding has been seen as an effective method to increase the competitiveness of cities. Also, feeling compelled to engage themselves in the trend of Ecological Modernization, cities are all choosing their own EM-related city brands so as to attract their desired resources and achieve their developmental goals.

As concluded in Chapter 1, both Hunan province and Hubei province are with the background of coordinated development of the CRC and the establishment of the Two-Oriented Society, and at the same time, the two provinces are faced with similar problems, such as the fierce competition from peer cities and each other, and the decreasing investment from not only enterprises but also the central government. Both provinces are trying to increase their city competitiveness and seek out for more investment from the national government and private entrepreneurs to increase the investment on the economic development.

As part of their strategy planning, how cities are adopting their city branding strategy and if cities in both provinces are taking the correct city branding strategies are examined in this thesis project.

But before examination, the insufficiency of the Five Pathway Method is to be firstly modified in the following chapter and then to be applied to all the cities in Hunan province and Hubei province for the examination of the EM-related developmental pathways.

3. Research Methodology

In this chapter, the research question will be firstly proposed based on the background information analyzed in the previous chapters.

In order to better carrying out the research, the Five Pathway Method should also be modified. The background information and the modifications on pathways and city labels are illustrated in this chapter.

3.1 Research Question

With the background of the Coordinated Development of the CRC and the establishment of the Two-oriented Society, faced with the competition from the peer cities and the environmental deterioration, seeking out for more investment from the national government and private entrepreneurs, how cities in Hunan and Hubei provinces are adopting city branding practices to increase city competitiveness from the perspective of Ecological Modernization is to be investigated. And based on all of these, the research question is stated as the following:

How do cities in Hubei and Hunan province position themselves through city branding from the perspective of ecological modernization?

In order to solve the main research question, the following sub-questions are proposed and will be answered to solve the main question.

1) How can the Five Pathway Method be improved?

2) What are the features of the Hunan and Hubei provinces and the cities of the two provinces?

3) What are the city identities of the cities in Hunan and Hubei province?

4) What are the city labels of the cities in Hunan and Hubei province?

5) How should the cities set appropriate city branding goals?

3.2 Improvement on the Five Pathway Method

To answer sub-question 1: How can the Five Pathway Method be improved?

Step 1: The improvement on the original Five Pathway Method

Due to the fact that the pathway 4 and pathway 5 in the original Five Pathway Method are not able to reveal the priority of the city's branding practices related to specific tertiary sub sectors, the original Five Pathway Method is insufficient in providing enough insights. Therefore, the pathway 4 and 5 is to be better divided and categorized in this thesis project through sub-dividing and sub-categorizing the tertiary sectors.

In this step, the process of sub-dividing pathway 4 and pathway 5 and the theoretical background of that will be illustrated.

The tertiary sector in the Five Pathway Method is further categorized into four sub sectors, including producer service, distributive service, consumer service and social service, which are respectively the focus of pathway 4a(5a), 4b(5b), 4c(5c) and 4d(5d). Also, the relative general

city labels are also further categorized based on the sub-categorization of the developmental pathway 4 and 5, including tourism city and service city. Besides these, the city label- 'smart city' is also better categorized to pathway 4 and 5.

After improvements, the modified Five Pathway Method will then be applied to predict and examine the city branding practices in cities in Hunan province and Hubei province to be validated.

The background information and the details of the modifications are illustrated in the coming sub sector, including the insufficiency of the original Five Pathway Method, the modifications on pathway 4 and pathway 5, and the modifications on the classification of the city labels in the original Five Pathway Method.

3.2.1 Background information

The Five Pathway Method has been applied on the cases of the Northeast Region of China, the Yangtze River Delta, the Jing-Ji-Ji Region, and the Great Pearl River Delta to study on their city branding practices. However, when being applied to identify the predicted and adopted developmental pathways for cities, the Five Pathway Method shows insufficiency in revealing the real circumstances of cities in urban stage 3 and the details of their branding strategy related to pathway 4 and 5.

Different from the primary sector and the secondary sector which only consist of few industries and can be easy sub-categorized, the tertiary sector consists of much more sub-types of industries, which make it a lot more complex than the other two sectors in the whole industrial structure and harder to be analyzed. According to the categorization method of the National Bureau of Quality Supervision, Inspection and Quarantine, National Bureau of Standardization Administration of China (NBQSIQ & NBSA, 2017), which is based on the United Nations Statistics Division and the International standard industrial classification, the primary, secondary and tertiary sectors in China are categorized respectively into the following sectors as shown in the Table 3.1. And as can be concluded from the table, 15 types of service industry in the tertiary sector are included in the Chinese Industrial classification the economic activities, including 'Wholesale and Retail Trades', 'Traffic, Transport, Storage and Post', 'Hotels and Catering Service', 'Information Transmission, Computer Services and Software', 'Financial Intermediation', 'Real Estate', 'Leasing and Business Services', 'Science Research, Technical Service and Geological Prospecting', 'Management of Water Conservancy, Environment', 'Service to Households and Other Services', 'Education', 'Health, Social Security and Social Welfare', 'Culture, Sports and Entertainment', 'Public Management and Social Organization', and 'International Organization'.

Due to the complexity of the tertiary sector, merely adopting pathway 4 and pathway 5 in the Five Pathway Method are rather vague in revealing the exact key emphasis on the exact sub-sector of tertiary sector related to the cities' EM-related developmental pathway, which is seen as an insufficiency of the method in the previous studies. And this is where modifications need to be made in this chapter.

Table 3.1 Industrial classification for national economic activities of China

Industrial sector	Industries included
Primary sector	Agriculture, Forestry, Animal Husbandry and Fishery
Secondary sector	Mining
	Manufacturing
	Production and Distribution of Electricity, Gas and Water
	Construction
Tertiary sector	Wholesale and Retail Trades
	Traffic, Transport, Storage and Post
	Hotels and Catering Service
	Information Transmission, Computer Services and Softwares
	Financial Intermediation
	Real Estate
	Leasing and Business Services
	Science Research, Techincal Service and Geological Prospecting
	Management of Water Conservancy, Environment
	Service to Households and Other Services
	Education
	Health, Social Security and Social Welfare
	Culture, Sports and Entertainment
	Public Management and Social Organization
	International Organization

3.2.2 Modifications on the Five Pathway Method

3.2.2.1 Modification on Pathway 2 and 3

According to the National Statistical Yearbook, the Manufacturing sector in the secondary industry can be further classified into Heavy Manufacturing and Light Manufacturing. Heavy manufacturing's products are usually of the quality of 'heavy', such as iron and coal, which are usually business-oriented manufacturing. Contrary to heavy manufacturing, the products of light manufacturing are usually consumer-oriented, such as consumer electronics and clothing manufacturing. Through looking into cities' specific manufacturing type may also lead to deeper understanding in cities' city branding strategies.

This classification method has been applied in the previous research. Based on the findings of de Jong and et. al. (2018), cities in the three mega-city regions on developmental pathway 2 usually refuse choosing the pathway 2 for city branding practices. Their chosen city identities and city labels also show clear trends. The richer cities in Yangtze River Delta (YRD) on pathway 2 with light manufacturing domination prefer to adopt pathway 4 or the combination of pathway 4 and 2. Less developed cities on pathway 2 with heavy manufacturing dominating

usually adopt the mixed pathway of 1, 2 and 4.

In the meantime, as is shown in Table 3.1, the secondary sector can be categorized to 4 sectors according to the National Bureau of Quality Supervision, Inspection and Quarantine, and National Bureau of Standardization Administration of China (NBQSIQ & NBSA, 2017). In order to better look into the consistency between the adopted pathway and the real industry structure of the cities, modifications on pathway 2 and 3 are supposed to give credits.

The secondary industry consists of Mining sector, Manufacturing sector, Production and Distribution of Electricity, Gas and Water sector, and Construction sector. The predicted pathway 2 and pathway 3 could be accordingly sub-divided into pathway 2a, 2b, 2c and 2d; and pathway 3a, 3b, 3c and 3d. But when it comes to the city labels related to the pathway 2 and pathway 3, in the original Five Pathway Method, the city labels related to both predicted pathway 2 and 3 are 'advanced manufacturing city' and 'low carbon city'. The adoption of 'low carbon city' can be from multiple perspectives, including the process of manufacturing, the process of construction, and the transportation network upgrading. And the adoption of 'low carbon city' signifies that the cities are stressing on the transformation of the overall secondary sector, instead of specific sub-sector. As for the label 'advanced manufacturing city', all the sub general labels it includes are stressing on the total manufacturing sectors, instead of specific manufacturing sector. In the meantime, there are also limitation on the collection of data required for the carrying out of the Five Pathway Method. The carrying out of the Five Pathway Method requires data related to the proportion of the working population in different sub-sectors, which are not provided in various reachable data sources.

Above all, due to the limitation of data source and the limitation in sub-dividing the general city labels in relative to pathway 2 and 3, the city labels will not be sub-divided for pathway 2 and pathway 3, and predictions on the sub pathways of pathway 2 and pathway 3 will not be made. But further analysis will be made based on the city profiles, and dominant industrial types to examine the consistency of city branding practices.

3.2.2.2 Modification on Pathway 4 and 5

Due to complexity of tertiary sector, which is highly related to pathway 4 and 5, scholars have been trying to simplify the classification method to achieve better analysis on the tertiary sectors. According to the researches done by Singelmann and Browning (1978), a Six-sector Model was presented, through which tertiary sector is categorized from the perspective of the nature and the objects of the service. In this model, the tertiary sector is disaggregated into the following four broad sectors: the distributive services (trade, transport, and communication); personal services (hotels, catering, entertainment and miscellaneous personal services); producer services (banking, insurance, business services); social services (government, health, education, non-profit organizations).

Among all these four sectors, distributive services are related to providing the transportation from the primary from to their distribution to the ultimate consumer. And the transportation only includes the distribution of goods instead of people. The producer services are provided for producers and individuals to control their own property and are with the nature of intermediate. Social service consists largely of the service activities to serve the reproduction

of labor (such as health service, education, social welfare) and activities to make the social relations between classes stable (public management), and the purpose of all these activities is to meet the collective demand of the society. In the contrast, personal services are more complex than the other sector but the service target of the personal services is the individual consumer.

After modification and further elaboration by Singelmann (1978) and scholars, and according to the United States Standard Industrial Classification, the classification of tertiary sector was further modified, and the most adopted classification of tertiary sector includes the producer service, distributive service, consumer service and social service (Yan, 1999).

According to the work done by Fang and Bi (2008), and after being modified, as Table 3.2 shows is the first-class classification and the second-class classification of the tertiary sectors through the method of the combination of the categorization way of the Singelmann and Browning and of the Chinese government.

Table 3.2 Categorization of Tertiary sector and Corresponding Developmental Pathway

	First-class sectors in Tertiary Sector	**Second-class sectors in Tertiary Sector**	**Corresponding developmental pathway**
a	Producer Service	Information Transmission, Computer Services and Software	Pathway 4a: Producer service leading Pathway 5a: Producer service leading
		Financial Intermediation	
		Real Estate	
		Leasing and Business Services	
b	Distributive Service	Wholesale and Retail Trades	Pathway 4b: Distributive service leading Pathway 5b: Distributive service leading
		Traffic, Transport, Storage and Post	
c	Consumer Service	Hotels and Catering Service	Pathway 4c: Consumer service leading Pathway 5c: Consumer service leading
		Service to Households and Other Services	
		Culture, Sports and Entertainment	
d	Social Service	Science Research, Technical Service and Geological Prospecting	Pathway 4d: Social service leading Pathway 5d: Social service leading
		Management of Water Conservancy, Environment	
		Education	
		Health, Social Security and Social Welfare	
		Public Management and Social Organization	
		International Organization	

As can be seen, the Producer Service is composed of 'Information Transmission, Computer Services and Software',' Financial Intermediation', 'Real Estate', and 'Leasing and Business Services'. Distributive Service is composed of 'Wholesale and Retail Trades', 'Traffic, Transport, Storage and Post'. Consumer Service includes 'Hotels and Catering Service', 'Service to Households and Other Services', 'Culture, Sports and Entertainment'. Social Service is composed of 'Science Research, Technical Service and Geological Prospecting', 'Management of Water Conservancy, Environment', 'Education', 'Health, Social Security and

Social Welfare', 'Public Management and Social Organization', 'International Organization'.

Based on the classification method on tertiary sector in Table 3.2, modifications on pathway 4 and pathway 5 are done as following.

The developmental pathway 4 and 5 in the Five Pathway Method are further disaggregated into the pathway 4a and 5a, pathway 4b and 5b, pathway 4c and 5c, and pathway 4d and 5d, corresponding to the producer service, distributive service, consumer service and social service. And these pathways will function as the second-class pathways. Through further disaggregating, the different sub-pathways will then further correspond to the different sectors of the tertiary sector.

Four sub-pathways for pathway 4 and pathway 5 are further developed, which all signify different EM-related city branding strategy:

The pathway 4a/5a: cities herein would focus on the consolidation of the producer service, including finance, business and e-commerce. The corresponding city branding labels are usually the financial center, e-commerce center, service outsourcing base, which are parts of the categorization of the service city.

The pathway 4b/5b: cities herein have dominating service industries as the distributive services, such as wholesale and retail trades, and traffic, transport, storage and post. Cities are supposed strengthening the identities as a transport hub and a trade center. As for the city labels, this can be translated into trade center, logistics center, transport center or hub, international port or shipping center and etc., which all belong to parts of the label- service city.

The pathway 4c/5c: cities with consumer service dominating are under this pathway. Cities here should keep strengthening their identity on providing individual services, including catering service, household services and entertainment and culture service. And these cities are expected to brand through tourism city (including tourism city, history city, culture city and etc.).

The pathway 4d/5d: cities herein are with social service related industries as their dominating industries, including the management of environment, science research, education, the social welfare public management, infrastructure construction and etc. Cities are expected to brand their social service abilities through innovation city, resilient city, eco city, livable city and tourism city. Innovation is signifying the city's institutional advancement for innovative development and also the prosperity in education and science research. Resilient city, livable city and tourism city all signify the well management of the environment and the well construction of the city's infrastructure system. The reason for including tourism city in pathway 4d and pathway 5d will be illustrated in the next sub-sector.

Based on the further classification of the tertiary industry and the pathway description in the Table 2.1, pathway 4 in the original Five Pathway Method, which signifies that the city should further develop 'Knowledge and culture-oriented services', was supposed to be modified into pathway 4cd, and pathway 5 in the original Five Pathway Method, which signifies that city should further develop 'Global advanced producer services', was supposed to be modified into pathway 5a. However, this will go far from the original principle of the original Five Pathway Method. And in the application of the modified Five Pathway Method, the pathways will be no longer limited to the descriptions in the Table 2.1, but more of the features of different sub-

sectors of the tertiary sector. Therefore, the descriptions related to pathway 4 and pathway 5 in the Table 2.1 are removed and replaced by the new description as is shown in the Table 3.4.

3.2.2.3 Modification on the General City Labels

1) Service city

As studied in the previous study of de Jong (2018), the city brand 'service city' includes multiple city labels with different service orientation, as shown in the Appendix 1. The adoption of 'service city' is the main choice for cities on developmental pathway 4 and pathway 5.

However, after the modifications of pathway 4 and pathway 5, the general label 'service city' is no longer able to specify the sub-sectors of the tertiary sector and relates to the sub pathways of pathway 4 and pathway 5. Therefore, the label service city is further divided based on the sub-categorization of the tertiary sector into Service city I and Service city II for the accuracy of the modified method and to eliminate the confusion that might be caused.

As can be seen from the Table3.3 is the further classification of the label 'Service city' into Service City I and Service City II, which respectively relate to the producer sector and the distributive sector of the tertiary sector of economic activities.

Service city I is composed of city labels such 'service center', 'Financial center', 'E-commerce pilot center' and 'Service outsourcing demonstration city', which all signify the domination of the producer service in the tertiary sector in the city and are all producer service oriented.

Service city II is composed of city labels such as 'Transport Hub', 'Logistic Base', and 'Port City', which are general labels stressing on the distributive services provided by the city, signifying that the city is dominated by the distributive service in the tertiary sector.

When applying the Five Pathway Method, the Service city I and Service city II will be respectively collected and analyzed for the definition of the sub pathways.

Table 3.3 Sub classification of city label 'Service City'

Sub classification	**General labels**	**Corresponding service type**	**Corresponding sub-pathway**
Service City I	Service Center	Producer Service	Pathway 4a Pathway 5a
	Financial Center		
	E-commerce Pilot City		
	Service Outsourcing Demonstration City		
Service City II	Trade Center	Distributive service	Pathway 4b Pathway 5b
	Transport Hub		
	Logistics Base		
	Transport Base		
	Port City		
	Shipping Center		

2) Tourism city

Besides service city, when it comes to the identification of adopted pathway of the brand label 'Tourism city', which is also one of the main choices for cities on developmental pathway 4 and pathway 5, modifications also need to be made.

According to the assessment and researches done by Herget and et.al (2015), Hildreth (2012) advanced a methodology called Saffron European City Barometer, which aims to analyze the validity of the current cities' brands and if the city already well exploited the cities assets. And the method has been examined on European cities with population more than 450 thousand. It testified that the most desirable aspects that people hope for when choosing a city for a break are: cultural-sightseeing and historical attractions; cuisine and restaurants; good shopping amenities; low cost; good weather; and ease of getting around on foot or by public transport.

As concluded by scholars (Anttiroiko, 2016; Anholt, 2007; Vanolo, 2008a; Kavaratzis and Kalandides, 2015; Merrilees and Herington, 2012; Henninger et al., 2016), the narrower is gap between the desired features, the bigger success will the existing features lead to in the city branding practices.

Above all, when it comes to the city branding practices as tourism city, only the comprehensive construction of the tourism infrastructure can make it a success to brand a city through tourism city. And as can be concluded from the desired aspects from people on a city, these aspects can be categorized into two service sectors, including the consumer sector and the social sector.

What needs to clarified is the public transport, as clearly stated by Singelmann (1978), the transportation for people is not included in the distributive service, but in the consumer service. And when a city applies tourism city to brand itself, the city is applying the pathway 4c (or 5c) and pathway 4d (or 5d) for EM-related city branding.

3) Smart city

The last modification needed to be made on city labels is the categorization of the city brand- 'smart city'. According to researches done by Mircea and et al. (2017), the concept of Smart City has been evolving since it was initiated. And as can be concluded from the definition of Smart city currently is with will following features. Firstly, standardized Information and Communication Technology (ICT) with well-established infrastructure is the basis to achieve smart city. Secondly, smart city can only achieve with the active involvement of citizens and customers. Thirdly, the establishment of smart city is to improve the economic development, ensure social inclusion and allow environment protection. And above all, the orientation of the establishment of smart city is to better provide public management service to citizens, enterprises and government, which are more service related instead of manufacturing related. So, in this sense, modification should be made to include smart city into the pathway 4 or pathway 5 and for the sub-pathway, service city should be included in the pathway 4d or pathway 5d.

3.2.2.4 Modification on the Application Process

Modifications should also be made on each step when Five Pathway Method is to be applied.

When it comes to the identification of the predicted pathway, working population proportion in

primary/secondary/tertiary sectors still functions as the main standard to identify the first class predicted pathway for each city. Besides that, one more standard- the proportion of producer/distributive/consumer/social service in the tertiary sector- should be added to identify the second-class pathways of pathway 4 and pathway 5. The corresponding EM-related pathway of the top two service industries will be shown in the final predicted pathway. However, if the gap between the first top service sector and the second top service is too large, the second largest service sector will not be related to the corresponding sub-pathway. Also, if the gap between the top 3 sectors is small, the top three service sectors will all be used to identify the predicted pathway of the city.

When it comes to the identification of the features of city identities and the city labels used in the official documents, the pathway 4 and pathway 5 will also be identified more explicit based on the classification of the tertiary sector in Table 3.2. Through looking into the self-descriptions and the frequency of city brand labels, the adopted pathways will be identified.

In particular, the frequency of city labels categorized to service city I and service city II will be calculated respectively.

3.2.3 Sector Summary

In order to make up the insufficiency of Five Pathway Method, modifications including creating sub-pathways and better categorization of general city labels, are done to reveal more specific EM-related developmental pathway.

As is shown in the Table 3.4 is the Urban developmental pathways and expected branding choices table after modification.

Table 3.4 Modified urban developmental pathways and expected branding choices

<table>
<tr><th>Position within the region
Stage of economic development/</th><th>Primary sector dominates</th><th>Secondary sector dominates</th><th colspan="2">Tertiary sector dominates</th></tr>
<tr><td rowspan="2">Regional orientation</td><td rowspan="2">PATHWAY 1 Eco-tourism (accommodating manufacturing)</td><td rowspan="2">PATHWAY 2 Advanced, low carbon manufacturing</td><td rowspan="4">PATHWAY 4</td><td>Pathway 4a: Producer service leading</td></tr>
<tr><td>Pathway 4b: Distributive service leading</td></tr>
<tr><td rowspan="2">National orientation</td><td rowspan="2">n.a.</td><td rowspan="2">PATHWAY 2 Advanced, low carbon manufacturing</td><td>Pathway 4c: Consumer service leading</td></tr>
<tr><td>Pathway 4d: Social service leading</td></tr>
<tr><td rowspan="4">International orientation</td><td rowspan="4">n.a.</td><td rowspan="4">PATHWAY 3 High-tech innovation</td><td rowspan="4">PATHWAY 5</td><td>Pathway 5a: Producer service leading</td></tr>
<tr><td>Pathway 5b: Distributive service leading</td></tr>
<tr><td>Pathway 5c: Consumer service leading</td></tr>
<tr><td>Pathway 5d Social service leading</td></tr>
</table>

These modifications will be applied during the prediction the developmental pathways of cities in Hunan and Hubei province, which will be further compared with the adopted city branding practices and strategies.

3.3 Research Methodology

As is shown in Figure 1.5 is the Methodology framework of this thesis project, which is the summary of the following up chapters and steps of this paper. The following sectors of this paper will focus on the answering the sub-questions.

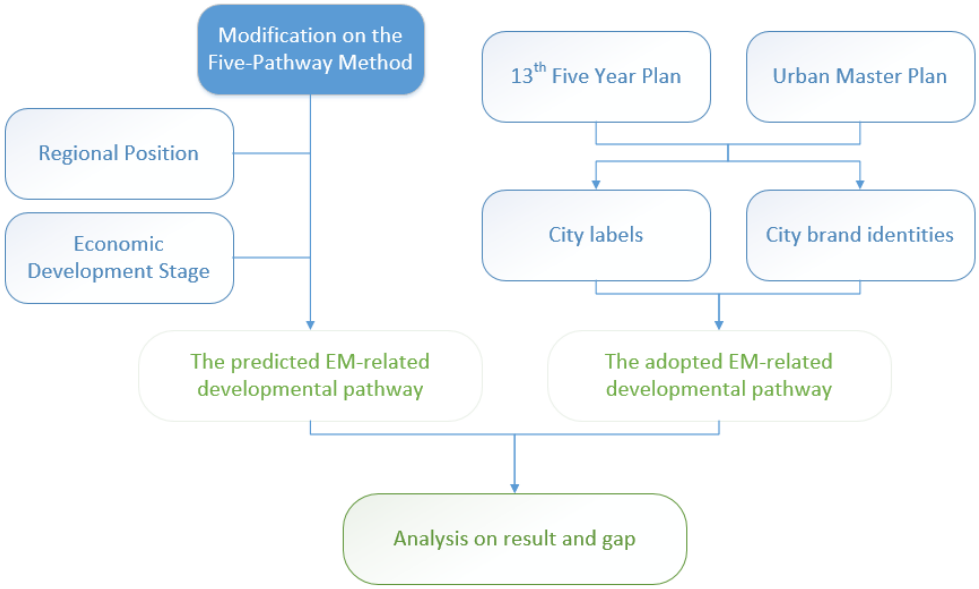

Fig 1.5 Methodology Framework

To answer sub-question 2: What are the features of Hunan and Hubei provinces and the cities of the two provinces?

Step 2: The establishment of EM developmental pathways for all the cities in Hunan and Hubei Province

In this step, the modified Five Pathway Method is applied to the cases of Hunan and Hubei province to identify the EM developmental pathways.

Data related to the economic status and the development stage of the cities in the central region of China are collected and analyzed. Relative data includes the dominant industries, the Gross Domestic Product, the proportion of the working populations in different industry sectors, the GDP proportion of different industry sectors, and the proportion of the sub tertiary sectors. The source of the data will be each city's Statistical Yearbooks, the Provincial Statistical Yearbook and the National Statistical Yearbook. These data will help identifying the current urban stage of the city, which is one independent value in the Five Pathway Method.

The regional position of the city, which is the other independent value in the Five Pathway Method will also be determined. According to the categorization method of the city level, the provincial capitals of Hunan and Hubei province, namely Wuhan and Changsha, will be identified as National Cities (NAT) and all the other cities will be identified as Regional Cities (REG).

Data related the background information of the cities will also be collected through internet and social media, such as the government website and newspapers. These background information

will help clarifying the city's regional position inside the country, the economic and development status of the cities in Hunan and Hubei, and their dominant industries.

Through collecting and analyzing data, the modified Five Pathway Method will be applied to all the cities in Hunan and Hubei Province. Through the identification of the regional position and the urban stage of the city, the predicted pathways for each city will be identified for further analysis.

To answer sub-question 3&4: What are the city identities and city labels of the cities in Hunan and Hubei province?

Step 3: The identification of city branding practices.

Data related to the actual city branding practices of the cities in the central region of China will be collected and analyzed. The data to be collected is from the 13th Social and Economic Development Five Year Plan (13th FYP) and the Urban Master Plans(UMP), which are from the official government websites. This documents are the revelation of the developing plan

As for the city brand labels, the brand labels reflecting the city's desired developing pathways are categorized different pathways, as shown in Appendix 2. The frequency of the city labels used in the two official documents will be counted separately in 13th FYP and UMP through coding. Through categorizing and counting, the preference of the city labels of each city will be able to be identified.

As for the city identity, the self-descriptions cities used to identify themselves in the Urban Master Plan and the 13th Five Year Plan will be collected to determine how cities in Hunan and Hubei prefer to acknowledge itself based on the industrial type it wants to strengthen in the future. The relevant city identity will be identified.

The application procedure of modified Five Pathway Method is similar to that of the original Five Pathway Method. The main difference lies when it comes to pathway 4 and pathway 5. The proportion of the sub sectors in the tertiary sector is the main factor to identify the predicted sub pathways of pathway 4 and 5. And when it comes to the identification of the adopted sub-pathways, the further categorization of the city labels and the development goal of the sub sectors will be the main factors.

After the identification of the adopted pathway and the desired pathway of the cities in Hunan and Hubei province, the consistency between these two will be analyzed. If a city is predicted to brand itself with the combined feature of pathway 4a and 4b, and the corresponding adopted pathway is pathway 4a and 4b as well, the adopted city branding practices are in line with the predicted city branding practices. Even though most of the cities are adopting the city branding pathways related to the predicted pathways, the If not, the reasons for the disparity will be further navigated as well.

To answer sub-question 5: How should the cities set appropriate city branding goals?

Step 4: After defining the cities' actual preference on the city brand labels and city identity, the adopted pathway will be determined. As for the gaps between the adopted pathway and the desired pathway, further analysis will be done to define the reasons why the gaps showed up in specific regions and cities. The actions the cities could take to fix the gap between the desired

pathway and the adopted pathway will also be proposed to these cities. In this step, the Westminster model is adopted to better understand the gaps from the perspective of the political instructions from the central government, together with the hypothesis of the Five Pathway Method.

4. City Profiles and the Predicted Pathways

In order to determine the EM developmental pathway of cities in Hunan and Hubei provinces, data including the Gross Regional Product, the GDP per capita, the proportion of different sectors in GDP, the working population in different sectors, and the dominant industries are collected from National Statistical Yearbook and Provincial Statistical Yearbook. Besides these, relative information, including the main industries, the policy support from the central government, and the relative economic status are also collected for better analyzing the EM developmental pathway for all the cities. All the data on the proportion of specific industry and the proportion of working population are shown in Appendix 4 and Appendix 5. All the data are extracted from the National Yearbook in 2017, which concluded the economic data of 2016 of all the provinces in China.

In the tables of economic data and predicted pathways, the sub pathways a/b/c/d respectively represent producer/ distributive/ consumer/ social service in the Tertiary sector, and the pathway 1/2/3 represent Primary/ Secondary/ Tertiary sector respectively.

4.1 Hubei Province

4.1.1 City Profiles

(1) Wuhan

Wuhan is the capital of Hubei Province and a sub-provincial city. It is one of the national central cities in China. Due to the fact that the population in Wuhan is 19 million, exceeding 10 million, so it is also one of the 15 super large cities in China. (State Council, 2014)

Since the establishment of China, Wuhan has been the industrial base, science and education base and comprehensive transportation hub for China. Its unique location at the intersection of the Yangtze River and Han River makes it rich in water resources and waterways. Due to its high volume of passenger, Wuhan is an important railway, highway and airline transportation hub not only for Hubei Province, but also for the domestic transportation.

Now, it is also a national famous historical and cultural city and the development base for research and education. As in 2015, more than 1 million college students, which ranked world top one, are studying in 82 colleges in Wuhan, where the amount of colleges is only less than Beijing, the capital of China.

Wuhan is an important industrial base in China since the establishment of China. And as the old industrial base in China, Wuhan is also doing well in the industrial transformation. New industries, such as photoelectron and biomedicine, are introduced and the national chances are well seized by the local government, including the policy support of ‘promoting the rise of the central region of china’, and the construction of several test zones, including the Two-oriented social comprehensive supporting reform pilot zone, the independent innovation demonstration zone, Yangtze River Economic Belt, and the comprehensive innovation reform pilot zone (Guan and Zhou, 2016).

As one of the first batch cities adopting opening up policies alongside the Yangtze River, Wuhan has been the priority choice to invest in from the foreign companies. Wuhan also starts to transform the government functions to attract more investment.

The Gross Regional Product of Wuhan in 2016 is 1191.3 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Wuhan are 3.28%, 43.88% and 52.44%.

(2) Huangshi

Huangshi is the second largest city in Hubei Province and the deputy central city of Wuhan City Circle. Being an important raw material industrial base in central China, Huangshi is one of the birthplaces of Chinese bronze culture and also the cradle of modern Chinese national industry. Huangshi is rich in mineral resources. The reserve volume of wollastonite in Huangshi ranks the second in the world. Huangshi is a regional center city for the urban agglomerations in the middle reaches of the Yangtze River and advanced manufacturing base dominated by the State Council. Huangshi Port is one of the top 10 major ports in the Yangtze River owning a national first-class port and the first prefecture-level bonded logistics center in Hubei Province. Relying on the Yangtze River, railways, and highways, Huangshi is striving to create a regional comprehensive transportation hub and a multimodal transport center in the middle reaches of the Yangtze River.

The Gross Regional Product of Huangshi in 2016 is 130.6 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Huangshi are 8.74%, 55.26% and 36%.

(3) Shiyan

Shiyan is located in the northwest of Hubei Province and the border to Hubei, Henan, Shanxi and Hebei provinces. It is the core city of the eco-cultural tourism circle in western Hubei. Shiyan is at the seat of Wudang Mountain, which is a famous Taoist shrine and the world's cultural heritage. Shiyan is an emerging modern city, with the four pillar industries for the economic development, including the automobile industry, hydro-power industry, tourism industry and ecological industry. Besides that, Shiyan is the first commercial vehicle production base in China. Shiyan is rich in natural resources. The mineral, energy, animal and plant resources are abundant, among which the reserves of rare earth are ranked the third in the country. The abundant water resources make Shiyan a water source for the national South-to-North Water Transfer Project.

The Gross Regional Product of Shiyan in 2016 is 142.9 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Shiyan are 12.13%, 47.69% and 40.17%.

(4) Yichang

Yichang is located in the southwest part of Hubei Province, at the junction of the upper and middle reaches of the Yangtze River and the junction of the three provinces and cities of Hunan, Hubei and Chongqing. It is known as the gateway to the Three Gorges. Yichang is home of important strategic facilities such as the Three Gorges Dam and Gezhou Dam, which make it known as the "hydropower capital of the world" and hydropower has always been its economic pillar. Yichang was approved by the State Council to be one of the river-line open cities along the Yangtze River and was enlisted into the Yangtze River Three Gorges Economic Open Zone.

Yichang combined the developed economic technology in the east with rich resources in the west. It is the starting point for the implementation of the strategy for the development of the western region.

The Gross Regional Product of Yichang in 2016 is 370.9 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Yichang are 10.75%, 57.23% and 32.02%.

(5) Xiangyang

Xiangyang, a prefecture-level city in Hubei Province, locates in the northwest of Hubei Province. Xiangyang is a national historical and cultural city, the main birthplace of Chu culture and Han culture with a large number of historical sites and monument. Legends of the Gossip have always had the nickname of "Cultural Old City". Xiangyang is a historical military and commercial center. High-tech industries such as automobile manufacturing and aerospace equipment is developing well in Xiangyang while city is developing in parallel. Xiangyang is one of the 36 star industrial cities in the country and a centralized city of military enterprises of the central government and the provincial governments. The total industrial output value is second only to Wuhan in Hubei province.

The Gross Regional Product of Xiangyang in 2016 is 369.5 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Xiangyang are 11.66%, 55.4% and 32.94%.

(6) Ezhou

Ezhou is the smallest regional city in China, which is only 1596 kilometer square, and a member of the Wuhan City Circle. Ezhou city is a provincial historical and cultural city of Hubei Province, known as the hometown of Chinese ancient bronze mirrors, the origin of the famous "Wuchang Fish" and "the land of fish and rice" which also contribute to the nomination as National Tourism City. Ezhou is named after the lake, and is rich in water resources. Ezhou is also an important industrial base in the east of Hubei. Mining and Manufacturing are the pillar industry in Ezhou for the development of the economy.

The Gross Regional Product of Ezhou in 2016 is 79.8 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Ezhou are 12.18%, 54.47% and 33.34%.

(7) Jingmen

Jingmen is located in the central region of Hubei Province, and the city was established in 1983. Jingmen is surrounded by mountains and the covered by plain in the central region. Jingmen has superior agricultural and ecological environment. As a demonstration area for modern agriculture in China, Jingmen is important high-quality grain, cotton, and oil production base in the country. After the reform and open period, both heavy industry and light industry are developing well in Jingmen. The production of chemicals, foods, building materials, electron-mechanical and textile make up the structure of Jingmen's secondary industry. Jingmen is Hubei's provincial Historical and Cultural City and a National Tourism City. In 2017, Jingmen was also nominated to be National Sanitary City.

The Gross Regional Product of Jingmen in 2016 is 152.1billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Jingmen are 14.01%, 51.91% and 34.08%.

(8) Xiaogan

Xiaogan is China's only prefecture-level city named after filial piety and the hometown of Filial Piety Culture in China. It is the nearest city to Wuhan and an important city in the Wuhan City Circle. It is also an important part of the experimental area of economic and social development and National Modern Urbanization Pilot. Xiaogan is an important production base for grain, cotton and oil due to its vast plain landscape. Mineral resources in Xiaogan are also abundant. Due to its unique location near to Wuhan, the resources of Xiaogan is commonly shared with Wuhan. The five pillar industries in Xiaogan are automotive electron-mechanical, salt and phosphorus chemicals, textile and garment, food and medicine, and metal products.

The Gross Regional Product of Xiaogan in 2016 is 157.7 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Xiaogan are 17.86%, 47.97% and 34.17%.

(9) Jingzhou

Jingzhou is a prefecture-level city in Hubei Province. Jingzhou is an important port city in the middle reaches of the Yangtze River, an important industrial base in the south-central region of China, known as the “Yangtze River Economic Belt”. Jingzhou is also an integrated production base for agricultural products of national importance. The annual output of grain accounts for about 1% of the country's total output. Freshwater products and rapeseed production rank at the top in the national and state-level cities for many years, and it is known as the "China's first freshwater fishery city." The agricultural product processing industry is the largest industry in Jingzhou, which used to be the first industry reaching the output of one hundred billion yuan.

Jingzhou also owns a complete transportation network, where railways and highways are densely constructed. Yanka Port, a first-class national port, is the third biggest port in the upper and middle reaches of the Yangtze River. With the construction of the Menghua Railway and the comprehensive regulation of the Jingjiang River section, Jingzhou is accelerating the formation of a comprehensive transportation hub and will become an important logistics channel for the Yangtze River Economic Belt and the “One Belt and One Road” Initiative.

Jingzhou is also one of the first 24 cities nominated to be National Historical and Cultural City, where used to be the ancient capital of 6 dynasties. Jingzhou owns good environment conditions for economic development. it was also nominated to be National Tourism City and National Garden city

The Gross Regional Product of Jingzhou in 2016 is 172.7 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Jingzhou are 22.16%, 42.65% and 35.19%.

(10) Huanggang

Huanggang has advantages in its location at the junction of the four provinces, including Hubei,

Henan, Anhui, and Jiangxi and is connected to the provincial capital, Wuhan. It is an important member of the Wuhan City Circle. The city Huanggang was established in 1995 and since then, fast social and economic development was achieved. Currently, the five pillar industries in Huanggang are food and beverages, pharmaceutical chemicals, textiles and garments, construction materials, and machinery and electronics. Huanggang is also an important agriculture base in Hubei province. Huanggang ranked 5th in the top 10 Livable Cities nominated in 2007. And in 2017, Huanggang is nominated to be National Sanitary City.

The Gross Regional Product of Huanggang in 2016 is 172.6 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Huanggang are 22.9%, 37.89% and 39.21%.

(11) Xianning

Xianning is a prefecture-level city in Hubei Province. It is located in the southeastern part of Hubei Province, on the south bank of the middle reaches of the Yangtze River, and the border to Hunan and Jiangxi, known as the 'South Gate of Hubei'. It is one of the member cities of the Wuhan City Circle. Xianning is rich in natural resources. It also owns a Chinese medicine research and development base. Xianning is an eco-casual tourism city with rich products and suitable for people to live in.

The Gross Regional Product of Xianning in 2016 is 110.8 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Xianning are 16.64%, 47.64% and 35.72%.

(12) Suizhou

Suizhou is located in the northern part of Hubei Province, known as the "Northern Gate" of Hubei Province. Suizhou is rich in natural resources, and is a national base for high-quality rice, high-quality wheat, high-quality cotton, and commodity cattle. There are more than 40 proven mineral resources. The pillar industry in Suizhou is the production of special purpose motor vehicle and was nominated to be the 'Chinese Capital of Special Purpose Motor Vehicles by the Hubei government.

The Gross Regional Product of Suizhou in 2016 is 142.9 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Suizhou are 16.49%, 46.76% and 36.75%.

4.1.2 Economic Data and Predicted Pathway for Each City

As is shown in the Table 4.1 is the economic data and predicted pathways for cities in Hubei province. The table includes the dominant industries, the land area, the permanent population, the Gross Domestic Product, the GDP proportion of different sectors, the working population in each sectors, and the city's the regional position. Through applying the Five Pathway Method, the pathway following the geographic position and the urban stage is stated at the end of each row.

Table 4.1 Economic data and predicted pathways for cities in Hubei province

City in Hubei Province	Land Area (km^2)	Perm. Pop. (10,000 Persons)	Three Dominant Industries	GDP/Cap Permanent Pop. (RMB)	1/2/3 as GDP (in %)	1/2/3 as Working Pop. (in %)	a/b/c/d in Tertiary Sector as Working Pop.(in %)	Dominant sector in tertiary sector	Regional Position	Urban Stage	Pathway Following Geographic Position
Wuhan	8569	832	**Manufacturing (24.9%) Construction (23.6%) Wholesale and Retail Trades(8.5%)**	111469	3.28 /43.88 /52.84	0.16 /49.38 /50.46	**20.55/26.69 /7.79/44.98**	d/b	**NAT**	3/2	4dba/2
Huangshi	4583	269	**Manufacturing (33.5%) Construction (20.4%) Education(9.2%)**	53033	8.74 /55.26 /36	0.35 /59.51 /40.31	**12.25/16.59 /4.86/44.98**	d/b	**REG**	2	2
Shiyan	23680	340	**Manufacturing (35.5%) Wholesale and Retail Trades (17.1%) Construction(9.4%)**	42083	12.13 /47.69 /40.17	1.09 /47.83 /51.08	**16.29/37.60 /7.41/38.71**	d/b	**REG**	3/2	4db/2
Yichang	21230	396	**Manufacturing (37.4%) Construction (13.4%) Wholesale and Retail Trades(10.6%)**	89978	10.75 /57.23 /32.02	0.41 /55.31 /44.28	**16.81/36.38 /10.27/36.53**	d/b	**REG**	2	2
Xiangyang	19728	593	**Manufacturing (34.5%) Construction (15.6%) Wholesale and Retail Trades(11.9)**	65663	11.66 /55.4 /32.94	1.73 /51.69 /46.58	**11.87/31.91 /6.00/50.21**	d/b	**REG**	2	2
Ezhou	1594	106	**Manufacturing (37.3%) Construction (24.7%) Wholesale and Retail Trades(6%)**	74983	12.18 /54.47 /33.34	0.1 /66.52/33 .37	**18.15/21.72 /10.20/49.93**	d/b	**REG**	2	2
Jingmen	12404	299	**Manufacturing (36.8%) Construction (12.6%) Wholesale and Retail Trades(8.9%)**	52470	14.01 /51.91 /34.08	1.75/53.58/44.67	**11.85/29.33 /5.85/52.97**	d/b	**REG**	2	2
Xiaogan	8910	525	**Manufacturing (33.2%) Construction (21%) Wholesale and Retail Trades(8.6%)**	32236	17.86 /47.97 /34.17	1.01/55.79/43.2	**16.54/24.55 /13.83/45.08**	d/b	**REG**	2	2
Jingzhou	14243	645	**Manufacturing (28.2%) Public Management and Social Organization (13.8%) Construction(13.1%)**	30305	22.16 /42.65 /35.19	3.34/42.74/53.93	**12.61/14.70 /3.63/69.05**	d/b	**REG**	3/2	4d/2
Huanggang	17457	746	**Manufacturing (33%) Construction (22.2%) Education10.8%)**	27373	22.9 /37.89 /39.21	3.35/58.42/38.23	**11.80/13.37 /3.05/71.77**	d/b	**REG**	2	2
Xianning	9861	302	**Manufacturing (23%) Public Management and Social Organization (16.7%) Education(15.8%)**	44027	16.64 /47.64 /35.72	0.21/38.98/60.81	**11.15/11.89 /2.96/74.00**	d/b	**REG**	3/2	4d/2
Suizhou	9636	252	**Manufacturing (28.2%) Construction (17.9%) Education(13.1%)**	38801	16.49 /46.76 /36.75	0.41/47.75/51.84	**9.93/15.55/ 3.86/70.66**	d/b	**REG**	3/2	4d/2

According to the data from the table, it can be concluded that the top three cities in Hubei owning the most GDP per capita are Wuhan, Yichang, and Ezhou. Wuhan owns both the largest population and the largest GDP per capita among all the cities. Huanggang, Jingzhou and Xiaogan rank the last three in terms of the GDP per capita.

Most strikingly, manufacturing is the dominant industry among all 12 cities in Hubei Province.

Eleven of the twelve cities are with construction as the dominant industry and six out of twelve have dominant industry of Wholesale and Retail Trades. Education industry also plays an important part in most of the cities in Hubei Province. Xianning and Jingzhou also put a lot of attention on Public Management and Social Organization. Secondary Industry are

Based on the Five Pathway Method, seven out of the twelve cities in Hubei province are in the

urban stage 2 and are only with predicted to adopt pathway 2. Wuhan, Suizhou, Xianning, Jingzhou and Shiyan are with combined features of pathway 2 and 4. All the cities in Hubei are predicted to have features of pathway 2.

And as for the tertiary sector, all the cities in Hubei Province are dominated by the Social Service and Distributive Service. However, due to the large gap between the Social Service and Distributive Service in Suizhou, Xianning and Jingzhou, the sub pathway 4b is not presented as the predicted pathway for these three cities. As for Wuhan, the sub pathway 4a is presented due to the small gap between the distributive service, producer service and social service. And the prosperity of the distributive service can be attributed to the plain landscape and the well construction of the transportation network (Hu, 2016).

4.2 Hunan province

4.2.1 City profiles

(1) Changsha

Changsha is the provincial capital of Hunan Province and is located in the northeast part of Hunan. Changsha is an important high speed railway and aviation hub in the Central Region of China. Changsha is an industrial and commercial city in CRC. Changsha owns a National Economic and Technical Development Zone (NETZ) and a National New & Hi-Tech Industrial Development Zone. The top 3 dominant industries of Changsha are Manufacturing, Construction, and Wholesale and Retail Trades. Changsha is also seeking for the transformation in the industry structure through promoting the innovation and transformation in the traditional industries, promoting the development of the new industries and encouraging the development of the new and high value-added industries such as ICT, Automotive Manufacturing and Pharmaceutical Manufacturing.

In 2016, GDP of Changsha reached 932.37 billion yuan, with an increase of 9.4% over that of 2015. The total economic output exceeded Wuxi for the first time and ranks 13th in China and second in the CRC. In 2016, the GDP proportion of primary sector, secondary sector, and tertiary sector in Changsha are 3.96%, 48.23%, 47.8%.

(2) Zhuzhou

Zhuzhou is an old industrial base in Hunan, and is one of the first batch of the first eight industrial cities to be constructed since the establishment of People's Republic of China. Together with Changsha and Xiangtan, the three cities formed a Changsha-Zhuzhou-Xiangtan City Agglomeration, where the construction of a resource-conserving and environment-friendly society is approved by the State Council. The pilot zone aims to focus on exploring new industrialization and new urbanization development paths to promote coordinated regional development and urban-rural integration, and Zhuzhou is one of the centers in the three cities. Zhuzhou is of regional importance in Hunan as a business and logistics center in Hunan and an old industrial base in Hunan. Zhuzhou also owns a National New and Hi-tech Industrial Development Zone which was founded in 1992.

In 2016, GDP of Zhuzhou reached 248.85 billion yuan, with an increase of 7.85% over that of

2015. The GDP proportion of primary sector, secondary sector, and tertiary sector in Zhuzhou are 7.92%, 52.98%, 39.1%. The top 3 dominant industries of Zhuzhou are Manufacturing, Construction, and Real Estate.

(3) Xiangtan

Xiangtan is the hometown of the Zedong Mao, who is the first president of People's Republic of China. Xiangtan is also the member of the Changsha-Zhuzhou-Xiangtan City Group, where the Two-Oriented City is to be established. It has good transportation network and is one of the prefecture-level cities which own the densest high-speed roads.

Xiangtan is an important industrial base in China, which is one of the first 23 industrial cities that were established since the establishment of the country. Xiangtan owns many state-owned enterprises and also private enterprises, including Xiangtan Iron and Steel Co. and BBK Commercial Chain. Xiangtan is an agriculture base in Hunan and also rich in mineral resources. Xiangtan is also an important tourism city in Hunan province

In 2016, the Gross Regional Product of Xiangtan is 186.7 billion yuan, with an increase of 8.4% over that of 2015. The GDP proportion of primary sector, secondary sector, and tertiary sector in Xiangtan are 8.08%, 52.29% and 38.63%. The top three industries in Xiangtan are Construction, Manufacturing and Traffic, Transport, Storage and Post.

(4) Hengyang

Hengyang is a sub provincial center city in Hunan Province which contributes a lot to the regional economy and the center of South Hunan. It has the second largest population among the cities in Hunan.

Hengyang is an important industrial city in the Central and Southern China Region and one of the "China Made 2025" Pilot Demonstration Cluster Cities. It is one of the pilot cities of national service industry comprehensive reform and also National Ecological Civilization Pilot. Hengyang is rich in Mineral resources and Water resources, and has a complete transportation network.

In 2016, GDP of Hengyang is 285.3 billion yuan, with an increase of 7.9% over that of 2015. The GDP proportion of primary sector, secondary sector, and tertiary sector in Hengyang are 15.09%, 41.53% and 43.38%. The top three industries in Hengyang are Construction, Manufacturing and Financial Intermediation.

(5) Shaoyang

Shaoyang is a city famous for its tourism, due to the unique location and forest resources. Shaoyang has rich water resources and mineral resources. As pointed out by the Municipal Bureau of Statistics in Shaoyang (2012), even though the large population in Shaoyang, which ranks number 1 in Hunan province, is providing powerful human resources for the social and economic development, the low educational level of the workforce is largely slowing the speed of the industrial transformation in Shaoyang. Also, the resources per capita in Shaoyang is also pretty limited. The development of the secondary industry and tertiary industry and the urbanization speed in Shaoyang are all making tardy progress.

The Gross Regional Product of Shaoyang in 2016 is 153 billion, with the growth rate of 8% over that of last year. The GDP proportion of primary sector, secondary sector, and tertiary sector in Shaoyang are 21.36%, 35.53% and 43.11%.

(6) Yueyang

Yueyang is a sub provincial center city and the second largest economy city in Hunan province with the Gross Regional Product of 310 billion yuan. Located next to Yangtze River, Yueyang owns a comprehensive transportation network including highways, railways and waterways. As the only international trading port city, Yueyang is also a famous port city in China. The total import-export volume in Yueyang in 2016 reached 1.49 billion, with an increase rate of 31.1% over that of 2015. Yueyang is also an industrial city famous for its Petrochemical Production, Paper Production and Electric Energy Production. Yueyang is nominated by Forbes to be one of the 20 most suitable cities to set up factories in Mainland China. With the Forest Coverage rate 36.4% and owning three National Forest Park, Yueyang is also a modern ecological livable city due to its unique location and water and forest resources. Yueyang is famous for its tourism due to its history of over 2500 years

In 2016, The Gross Regional Product of Yueyang is 310 billion yuan, with an increase rate of 7.8%. The GDP proportion of primary sector, secondary sector, and tertiary sector in Yueyang are 11.15%, 47.38% and 41.47%.

(7) Changde

Changde is a sub provincial center city in Hunan and formed the Dongting Lake Eco-Economic Circle together with Yueyang and Yiyang. Changde was nominated to be National Civilized City, Chinese Excellent Tourism City, National Landscape Garden City and etc.

Changde is also an industrial city where the light industry takes the lead in the industrial development. The developed agriculture and abundant mineral resources in Changde provides a lot of raw materials for the development of the industry of Changde and helped forming the processing industry pattern. Changde also owns one of the ten largest wholesale markets in China.

The Gross Regional Product of Changde in 2016 is 295.4 billion, ranking the third in Hunan Province. The GDP proportion of primary sector, secondary sector, and tertiary sector in Changde are 12.97%, 42.56% and 44.46%

(8) Zhangjiajie

Zhangjiajie is one of the most famous tourist cities in China and the establishment of the city is due to its flourishing tourism. Zhangjiajie was the first nominated National Forest Park since the establishment of China. It has rich water resources and forest resources. As for the population, the Tujia and Bai minority people occupy the two-third of the population.

The Gross Regional Product of Zhangjiajie in 2016 is 49.3 billion, ranking the last in Hunan Province. The GDP proportion of primary sector, secondary sector, and tertiary sector in Zhangjiajie are 11.43%, 21.24& and 67.33%.

(9) Yiyang

Yiyang locates south to the Dongting Lake and is one of members of Dongting Lake Eco-Economic Circle. Yiyang is trying to improve the investment environment by establishing institutions including customs, commodity inspection, foreign transportation, international insurance, finance and legal institutions. Yiyang owns Taohua River Nuclear Power Station. The leading industries in Yiyang are equipment manufacturing, food processing, electronic information, which together occupies more than 50% of the total output.

The Gross Regional Product of Yiyang in 2016 is 149.3 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Zhangjiajie are 18.24%, 39.76%, and 42%.

(10) Loudi

Loudi locates in the center of Hunan Province and is an important industrial city in Hunan. Due to the outstanding geographical location, Loudi has convenient transportation network. Loudi is an important industry base for the new energy raw materials because of its mineral resources. The volume of coal storage in Loudi ranks the first in Hunan Province. Loudi government has been issuing regulations and policies to encourage the investment on entrepreneurship to build a better platform for the development of the economy. In 2016, the state-owned industrial enterprises suffered from losses but the other type of enterprises are all making profits. The pillar industries in Loudi are Steel, Energy, Mining and Chemical Industry.

The Gross Regional Product of Loudi is 140 billion yuan in 2016. The GDP proportion of primary sector, secondary sector, and tertiary sector in Loudi are 14.72%, 48.31%, and 35.98%.

(11) Chenzhou

Chenzhou locates in the South of Hunan Province, connecting Hunan Province with Jiangxi Province and Guangdong Province. It is rich in forest resources and the coverage rate of Forests in Chenzhou is over 60%, which also makes Chenzhou a tourism city. Chenzhou is one of the third batch of National Comprehensive New Urbanization Pilot Cities. Chenzhou owns an Export Processing Zone which was established in 2005 under the approval of the State Council and the only export processing zone in Hunan province. This also make Chenzhou able to introduce the second most foreign investment in Hunan province, only next to Changsha.

The Gross Regional Product of Chenzhou in 2016 is 220.4 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Chenzhou are 9.81%, 52.06% and 38.13%.

(12) Yongzhou

Yongzhou lies in the south of Hunan Province, connecting Hunan province with Guangxi province, Hainan province, and the west-south part of China. Thus, the transportation network in Yongzhou is also well established. It is known for its rich forest resources and culture and history. It is nominated to be the National Historical and Cultural City and the National Forest City, which is similar to Chenzhou. The supporting industries in Yongzhou are the food processing industry, the construction material industry, the mechanical industry and the

metallurgical industry.

The Gross Regional Product of Yongzhou in 2016 is 156.6 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Yongzhou are 20.87%, 34.83% and 44.3%.

(13) Huaihua

Huaihua has largest land area among all the cities in Hunan Province and is a hub city and central city in the Wuling Mountain Economic Cooperation Zone. Huaihua is famous for its production of Chinese Medicine raw material. The coverage rate of forest is higher than 70% in Huaihua, ranking the first in Hunan Province, which help it nominated by the State Council to be the only National Ecological Demonstration Area in Hunan province. Together with Chenzhou and Yueyang, Huaihua is a polar for supporting the high-speed train development in Hunan province. And Huaihua has a well-established transportation network and is a comprehensive transportation hub of national importance. The population of the 50 Minorities in Huaihua occupies around 40% of the total population, which also endows Huaihua a multi-cultural background. As stated in the 13th Five-Year Plan, Huaihua is the conjunction of the One-Belt One-Road Belt and Yangtze River Economic Belt.

The Gross Regional Product of Huaihua in 2016 is 140 billion yuan. The GDP proportion of primary sector, secondary sector, and tertiary sector in Huaihua are 14.32%, 38.23% and 47.46%.

4.2.2 Economic Data and Predicted Pathway for Each City

As is shown in the Table 4.2 are data related to the development status of cities in Hunan Province. The table includes the dominant industries, the land area, the permanent population, the Gross Domestic Product, the GDP proportion of different sectors, the working population in each sectors, and the city's the regional position. Through applying the Five Pathway Method, the pathway following the geographic position and the urban stage is stated at the end of each row.

The working population in each sectors are the main factor that affects the city's urban stage.

As can be seen from the table, Changsha, Zhuzhou, Xiangtan, which are the members of the Chang-Zhu-Tan City Agglomeration, are the top three cities in Hunan with the highest GDP per capita, while Shaoyang, Huaihua, and Yongzhou rank the last three. Shaoyang owns the largest population in Hunan Province, but the least GDP per capita.

Construction and Manufacturing are the dominant industries for most of the cities in Hunan Province. Besides these two, most cities in Hunan province also benefit a lot from the Public Management and Social Organization industry. Five cities in Hunan have education industry in the top three industries and Xiangtan is the only city with Traffic, Transport, Storage and Post industry in the three dominant industry.

Table 4.2 Economic data and predicted pathways for cities in Hunan province

City in Hunan Province	Land Area (km^2)	Perm. Pop. (10,000 Persons)	Three Dominant Industries	GDP/Cap Permanent Pop. (RMB)	1/2/3 as GDP (in %)	1/2/3 as Working Pop. (in %)	a/b/c/d in Tertiary sector as Working Pop. (in %)	Dominant two sectors in tertiary sector	Regional Position	Urban Stage	Pathway Following Geographic Position
Changsha	11816	688	**Manufacturing (25.1%) Construction (18.4%) Education(8.8%)**	124122	**3.96/48.23/47.8**	**0.08/44.3/55.62**	**24/18.23/8.18/49.59**	d/a	**NAT**	**3/2**	**4da/2**
Zhuzhou	11307	404	**Manufacturing (33.3%) Construction (19.6%) Public Management and Social Organization(10.9%)**	62081	**7.92/52.98/39.1**	**0.09/56.1/43.81**	**24.7/11.49/5.18/58.64**	d/a	**REG**	**2**	**2**
Xiangtan	5008	290	**Construction (25.5%) Manufacturing (15.9%) Traffic, Transport, Storage and Post(13.8%)**	65946	**8.08/52.29/38.63**	**0.68/42.39/56.93**	**14.40/40.58/9.67/35.34**	b/d	**REG**	**3/2**	**4bd/2**
Hengyang	15303	803	**Construction (21.5%) Manufacturing (18.5%) Management and Social Organization(15%)**	39020	**15.09/41.53/43.38**	**0.14/44.79/55.07**	**15.21/10.02/4.25/70.52**	d/a	**REG**	**3**	**4d**
Shaoyang	20830	826	**Construction (21.3) Public Management and Social Organization (19%) Education(15.4%)**	20987	**21.36/35.53/43.11**	**0.81/37.96/61.23**	**14.62/9.83/1.83/73.73**	d/a	**REG**	**3**	**4d**
Yueyang	14858	566	**Manufacturing (22.7%) Construction (18%) Public Management and Social Organization(15.8%)**	54832	**11.15/47.38/41.47**	**1.34/42.56/56.11**	**15.19/11.23/4.70/68.88**	d/a	**REG**	**3/2**	**4d/2**
Changde	18190	610	**Construction (24%) Manufacturing (19.6%) Public Management and Social Organization(15.7%)**	50543	**12.97/42.56/44.46**	**0.12/41.85/58.03**	**15.13/11.66/4.45/68.76**	d/a	**REG**	**3**	**4d**
Zhangjiajie	9534	170	**Public Management and Social Organization (28.1%) Education(13.8%)Construction(13.7%)**	32300	**11.43/21.24/67.33**	**0.57/22.02/77.41**	**13.92/7.30/9.57/69.20**	d/a	**REG**	**3**	**4d**
Yiyang	12320	483	**Construction (20.2%) Manufacturing (19.6%) Public Management and Social Organization(15.9%)**	33772	**18.24/39.76/42**	**0.26/41.42/58.32**	**17.67/7.03/2.32/72.98**	d/a	**REG**	**3**	**4d**
Chenzhou	19654	472	**Public Management and Social Organization (17.1%) Manufacturing (14%) Construction(13.6%)**	46691	**9.81/52.06/38.13**	**0.47/37.92/61.61**	**18.11/10.43/3.78/67.97**	d/a	**REG**	**3/2**	**4d/2**
Yongzhou	22260	640	**Public Management and Social Organization (23.1%) Education (17%) Manufacturing (15.7%)**	28744	**20.87/34.83/44.3**	**0.87/33.37/65.76**	**11.62/8.32/2.12/77.94**	d/a	**REG**	**3**	**4d**
Huaihua	27758	521	**Public Management and Social Organization (25.6%) Education (19.1%) Health, Social Security and Social Welfare(11.1)**	28515	**14.32/38.23/47.46**	**0.52/23.36/76.13**	**10.48/8.92/2.39/78.21**	d/a	**REG**	**3**	**4d**
Loudi	**8117.6**	450	**Construction (24.9%) Manufacturing (19.1%) Public Management and Social Organization(15.9%**	36058	**14.72/48.31/35.98**	**0.5/49.95/49.55**	**12.90/9.37/3.49/74.24**	d/a	**REG**	**2/3**	**2/4d**

Among all the 13 cities in Hunan Province, 7 of them are dominated by the tertiary industry and are in urban stage 3, with only features of pathway 4. Changsha, Xiangtan, Yueyang and Chenzhou are all dominated by both secondary industry and the tertiary industry and with the combined features of developmental pathway 4 and 2. As for Loudi, even though the proportion of working population in tertiary sector is larger than that in the secondary sector and the GDP proportion in the tertiary sector is also bigger than that in the secondary sector, the gap between the two sectors are too small, which is the reason why Loudi is identified to be on the urban

stage 2/3 and the predicted pathway is the combination of pathway 2 and pathway 4. Only Zhuzhou is defined to be totally dominated by the secondary industry and only with the features of pathway 2. None of the cities in Hunan shows any feature of the pathway 1.

And as for the tertiary sector, except Xiangtan, all cities' tertiary sectors are dominated by the Social Service and Producer Service. Different from all the other cities, Xiangtan is dominated by the Distributive Sector and Social Service, which signifies the stronger distributive capacity of Xiangtan than the other cities. Only Changsha and Xiangtan are predicted to choose two sub-pathways of pathway 4 due to the large gap between the sub service sectors in the other cities.

And according to Hunan provincial statistical bureau (2017), by the end of 2016, the GDP proportion of primary sector, secondary sector, and tertiary sector in Hunan province had reached 11.5: 42.2: 46.3.

4.3 Summary

As can be concluded from the tables, cities in Hunan and Hubei province are of different industrial structure features. All the cities in Hubei province are dominated by secondary sector and are in urban stage 2 or in the combined urban stage 2 and 3, while all the cities in Hunan except Zhuzhou are dominated by tertiary sector and are in the urban stage 3 or in the combined urban stage 3 and 2.

In addition, social service accounts for a large proportion in the tertiary sector in both Hunan province and Hubei province. Cities in Hunan with predicted pathway 4 are mostly with the features of the combination of sub-pathway 4d and sub-pathway 4a, while those in Hubei are usually with the combined feature of predicted developmental sub-pathway 4d and sub-pathway 4b. In all the cities in Hunan and Hubei Province, the proportion of the customer service ranks the last in the tertiary sector.

5. City Brand Identities in Hunan and Hubei Province

Facing the fierce competition from the peer cities and the development requirements from the National Government, cities in Hunan and Hubei Provinces are facing great challenges and trying to distinguish themselves from the peer cities through city branding.

In this chapter, how the cities in Hunan province and Hubei province identify themselves in the official documents, including the Five Year Plan and the Urban Master Plan, is examined. The city brand identities are the clear symbols of how the cities are desired to be regarded and perceived by the branding targets and the outside world. The modified Five Pathway Method is also applied on each city to identify their specific city branding pathway for further analysis, specifically on the tertiary sector. As for the secondary sector, the analysis focuses on the relationship between industrial type and the branding practices of the city.

As shown in Table 5.1 and Table 5.2 are the city brand identities collected from the Urban Master Plan and the 13th Social and Economic Five Year Plan. The adopted pathways are defined through looking into the self-descriptions of the cities, including their developmental goal and their designated city functions.

5.1 City brand identities in Hubei Province

The city brand identities for cities in Hubei province and their adopted pathway determined through the modified Five Pathway Method are as shown in the Table 5.1.

Table 5.1: Pathways and city brand identities for Hubei Province

City	Predicted pathway	Brand identity: Quotations from Five Year Plans and Urban Master Plans	Adopted pathway
Wuhan	4(dba)/2	Wuhan is…… a national historical and cultural city …… and an important industrial base, science and education base, and comprehensive transportation hub in the country (FYP). And the development goal for Wuhan is to be a modern city with perfect infrastructure and good ecological environment and an important strategic fulcrum city for promoting the rise of the central region so that the foundation can be laid in Wuhan for the future goal to be an international city. (UMP). Also, Wuhan will be an internationally influential national innovation city……an advanced manufacturing center and a national logistic center.(FYP)	4(bcd)/2
Huangshi	2	Due to the superior geographical location of Huangshi, strong economic foundation, favourable development conditions and huge development potential, the planning urban goals of Huangshi are: regional central city in the middle reaches of the Yangtze River; advanced manufacturing base in Hubei Province; ecological mining and metallurgical culture city and at the time, a national ecological garden city (UMP) Huangshi will be built into the medical service center, education center, incubation center, consumption center, financial center, logistics center,…… a forest city, a national sanitary city and eco-city	4(abcd)/2
Shiyan	4(db)/2	Shiyan is an important water source and biodiversity protection area and a regional ecological barrier in China, which makes it an internationally famous eco-cultural tourism city and an important strategic support point for the development of eco-cultural tourism industry. Shiyan is also an important gateway and hub connecting the northwest and southwest regions of Central China. At the same time, Shiyan is a national important automobile industry base. (UMP)	4(bcd)/2

Table 5.1: Pathways and city brand identities for Hubei Province (Continued)

City	Predicted pathway	Brand identity: Quotations from Five Year Plans and Urban Master Plans	Adopted pathway
Yichang	2	Relying on the Yangtze River Three Gorges and giving full play to its resource advantages, Yichang City will become a world-famous hydropower energy base and a livable city……strengthen regional cooperation, improve the construction of tourism service facilities, and build Yichang into a world famous hydropower tourism city and a regional transportation and circulation center……Yichang will be built as an important manufacturing base in the middle and upper reaches of the Yangtze River and an important financial, cultural, educational, scientific, health, and information service base in the Hubei Province.(UMP)	4(abcd)/2
Xiangyang	2	Xiangyang is a national historical and cultural city, the sub-center city in Hubei Province and a modern industrial base. It will be built into an important transportation hub and regional logistics center. And by the end of planning period, Xiangyang is trying to make itself an ecological livable city, an energetic industrial modern city and an innovative culture city. (UMP)	4(bcd)/2
Ezhou	2	Ezhou is a provincial-level historical and cultural city, and an important part of the Wuhan City Circle. Located in the middle reaches of the Yangtze River, Ezhou is also an ecological tourism city with landscape garden features. And the planning goal for Ezhou is to be built into a landscape garden and eco-tourism city with economic prosperity, scientific and technological progress, social civilization and beautiful environment. Besides all mentioned above, Ezhou is also a regional logistics centre and transportation hub.(UMP)	4(bcd)
Jingmen	2	Jingmen is developing as a regional business and logistics center in the central Hubei Province, an emerging industrial city featuring petrochemicals and electrical power. …… Jingmen is a provincial historical culture city and a liveable city with its ecological environment in good condition. ……Jingmen is vigorously developing circular economy, and gradually becomes a manufacturing base in Hubei Province by taking a new road to industrialization. …… Jingmen is trying to make the best use of its natural landscape and keep enhancing the living quality from all perspectives.……Jingmen is trying to focus on the development of the modern service industry(UMP)	4(abcd)/2
Xiaogan	2	The overall goal of urban development in Xiaogan is to promote the industrial transformation and build itself into an economically strong city. .....promote cultural leaps and build Chinese filial cultural cities; ..... build innovative cities ..... build a happy city for the people. Build Xiaogan into a sub-center city of Wuhan City Circle, and build “Charming Xiaogan”. ..... Xiaogan should act as an hub city, a service center and a liveable leisure city with water garden features.in Hubei Province(UMP)	4(bcd)
Jingzhou	4(d)/2	The goal of the Planning is to build Jingzhou into a well-known tourist destination and a national historical culture city, one of the important transportation hubs in the middle reaches of the Yangtze River, a regional service city, and ecologically liveable city in Central and South China.(UMP) ……will focus on building a comprehensive transportation hub, an ecologically livable city, the advanced manufacturing intensive zone, the Jing-Chu cultural heritage innovation display zone, the modern agriculture and agricultural product deep processing base……(FYP)	4(bcd)/2

Table 5.1: Pathways and city brand identities for Hubei Province (Continued)

City	Predicted pathway	Brand identity: Quotations from Five Year Plans and Urban Master Plans	Adopted pathway
Huanggang	2	Huanggang is regional centre cities, historical and cultural cities at the provincial level, a new industrial base in the core area of the Wuhan City Circle, and an ecological garden city by the riverside. And its developing goal is to implement the "One Region, Two Belts" strategy, expand space, gather industry. At the same time, it is striving to build itself into an important modern manufacturing base in Wuhan City Circle, a provincial green agricultural production and processing base, an ecologically livable city in the central region, and the cultural and educational city (UMP)…… and a tourism city with 'Red Tourism' features (FYP).	4(cd)/2/1
Xianning	4(d)/2	Xianning will be built into a striking node city in connecting Wuhan City Circle and Chang-Zhu-Tan City Agglomeration, a veritable gateway city in Hubei Province, and a unique ecological and livable city in the Wuhan City Circle. It is also a Chinese famous tourism city with hot springs as features. (UMP)	4(bcd)
Suizhou	4(d)/2	National historical and cultural city, central and central city of central and northern Hubei, tourism city of Hubei Province… the province's important agricultural production and processing, export, new energy, and logistics bases. Strongly promote the construction of innovative cities (FYP) By the end of the planning, the development goal for Suizhou is to be: 1)a regional central city in the central of Hubei; 2)a national historical and cultural city with a certain historical heritage and features; 3)an emerging tourism city in Hubei Province which integrates natural landscape and historical landscape; 4)a landscape city near to mountains and rivers with good living environment (UMP)	4(cd)/1

As can be concluded from the Table 5.1, all the cities in Hubei Provinces identify themselves with the feature of pathway 4, but not only limited to pathway 4.

Among 12 cities in Hubei Province, 7 cities are identifying themselves through pathway 4 with the feature of pathway 2. And in these 7 cities, Wuhan, Jingzhou and Shiyan have already stepped into the combined urban stage 3 and stage 2, whose predicted developmental pathways are completely in line with the adopted pathway, while Jingmen, Xiangyang, Yichang and Huangshi are all in the urban stage 2 and only with features of developmental pathway 2.

Among all the cities, Ezhou, Xiaogan, and Xianning are all identifying themselves only through pathway 4. However, only Xianning is with features of pathway 4 in their predicted pathway.

Huanggang and Suizhou are both adopting incorrect pathways to identify themselves. Huanggang is in urban stage 2 and with features of the predicted pathway 2. Suizhou is in the combined urban stage 3 and 2 and the predicted pathways for Suizhou is the combination of the pathway 2 and 4. However, as shown in the official documents, both cities still identify themselves with the features of pathway 1, as an agriculture production base.

Huangshi, Yichang, Xiangyang and Jingmen are all in the urban stage 2. As shown in the official documents, all these 4 cities identity themselves through pathway 4 with the features of 2, which shows a clear desire to achieve industrial transformation in the future.

Interestingly, as for Xiaogan and Ezhou, whose predicted developmental pathways both are pathway 2, both of them only adopted pathway 4 to identify themselves, which can be seen as a misunderstanding of their current development stage and the regional location. It is acknowledged that cities should seek for the industrial transformation and the better industrial structure. However, cities should still set up city branding strategies based on the current development stage instead of making strategies out of the void.

All the cities in Hubei Province show a clear desire for the industrial transformation and identifies their development goals as ecological livable cities and the service center. However, among all the 5 cities who choose the wrong pathway to orient themselves, four of them are based in the Wuhan City Circle which only consists of 6 cities.

As for the tertiary sector, as can be concluded from the previous part, all the cities in Hubei Province are dominated by the Social Service. And for the cities with the feature of urban stage 3, they are expected to use pathway 4d to identify themselves. Interestingly, the second dominant industry in the tertiary sector for all the cities in Hubei province is Distributive Service (namely the feature of pathway 4b). However, when it comes to the adopted city brand identities, all the cities in Hubei Province describe themselves with the feature of pathway 4c and pathway 4d. And interestingly, Huanggang, Xianning, and Suizhou did not describe them with the feature of pathway 4b at all. This is not seen as a clear gap between the adopted pathway and predicted pathway because of the clear mass gap between social service and distributive service. But adopting pathway 4b would still be a wiser choice for all the cities in Hubei province.

Specifically, clear gap is found in the city Wuhan. Wuhan develops well in producer service, and is predicted to adopt sub-pathway 4a, 4b and 4d. However, the city brand identity of Wuhan is without any feature of sub-pathway 4a, neglecting the feature of producer service and chose to brand its consumer service, which can be seen as a clear gap.

5.2 City brand identities in Hunan Province

The city brand identities for cities in Hunan province and their adopted pathway determined through modified Five Pathway Method are shown in the Table 5.2.

As can be concluded from the UMP and 13th FYP, all the cities in the Hunan Province are showing strong desires for the industrial structure transformation and the desire for better development in the service industry. Most cities show desire to be ecological livable city, including Zhuzhou, Xiangtan, Changde, Chenzhou, Yongzhou and Loudi. Also, many cities are trying to better develop the local tourism, including Zhangjiajie, Yueyang and etc. Most of the cities are adopting multiple pathways to brand themselves except Yongzhou, Shaoyang and Huaihua.

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Huaihua.

Table 5.2 Pathways and city brand identities for Hunan Province

City	Predicted pathway	Brand identity: Quotations from Five Year Plans and Urban Master Plans	Adopted pathway
Changsha	4da/2	As an important industrial and business city and an important transportation hub, Changsha is also the National experiment zone for the two-oriented society and the capital of happiness. Besides these, Changsha is known as the national historical cultural city.(UMP) Changsha will make itself an innovation city, where high-tech industries will be better develop.(FYP)	4(abcd)/2
Zhuzhou	2	Zhuzhou is an important industrial city in Hunan Province and an important transportation hub in the Chang-Zhu-Tan City Agglomeration. Zhuzhou is also an important trade center and modern logistics center in the South-Central region, known as a historical and cultural commemorative sites for Chinese and overseas Chinese and an eco-garden city. By the end of the planning period, Zhuzhou is going to build itself as well and ecological garden city with good living condition and prosperous economy. (UMP)	2/4(bcd)
Xiangtan	4bd/2	Xiangtan is one of the first batch economic cities emerging in the CRC and an important industrial city. And by the end of the planning period, Xiangtan is going to achieve industrial transformation so that a modern industrial city will be built. Located in the West of Changsha-Zhuzhou-Xiangtan urban Agglomeration, Xiangtan is the service center connecting the West part of the Hunan province. Xiangtan is trying to build itself into a cultural tourism city of international quality and modern eco-livable city. (UMP) the Two-oriented Society will be completely established until 2020.(FYP)	4(bcd)/2
Hengyang	4d	Hengyang is already the transportation hub and the central city in the south of Hunan. The development goal for Hengyang is to be an important industrial city, a famous cultural city, a tourism city and also a livable city.(UMP)	4(bcd)/2
Shaoyang	4d	As the sub-provincial city in Hunan, Shaoyang is the economic and cultural center and the regional transportation hub. During the planning period, Shaoyang will be built into a dynamic city of entrepreneurship where the condition is better for starting a business, a service city that promotes regional development, a hub city with convenient transportation, an ecological city with beautiful environment and a historical culture city. (UMP)	4(abcd)
Yueyang	4d/2	Based on its geographical advantages, Yueyang is the sub-center of the regional economy between Wuhan and Changsha. Also, Yueyang is an historical cultural city and a superior tourism city. Yueyang is also a petrochemical energy base in the CRC, a modern logistics center in Hunan Province and a livable city in the middle reaches of the Yangtze River. The planning goal is to …… integrate urban and rural environment, good ecology, and prosperous life, realize the unified and coordinated development between urban and rural areas, and build Yueyang into a modern and civilized city with developed economy and urban and rural prosperity. (UMP)	4(bcd)/2
Changde	4d	Build Changde as an economic city with unique competitiveness, which refers to a new type of industrialization and the formation of high-end industrial clusters with independent innovation capabilities, and an ecologically livable humanities city, which refers to urban civilization, advanced culture, a large number of high-quality laborers, and a high degree of urban visibility. (UMP)	4(cd)/2
Huaihua	4d	Huaihua is an important railway network hub in China. Located next to Hunan Province, Hubei Province, Guizhou Province, Guangxi Province and Chongqing City, Huaihua is also an important business city and logistics center. (UMP)	4(ab)

Table 5.2 Pathways and city brand identities for Hunan Province (Continued)

City	Predicted pathway	Brand identity: Quotations from Five Year Plans and Urban Master Plans	Adopted pathway
Zhangjiajie	4d	Based on its abundant tourism resource, Zhangjiajie is going to be built into a well-established international tourism city with good eco-system, harmonious society and beautiful environment by the end of the planning area. The condition of environment and the eco-system is going to be further enhanced and the tourism industry will be better organized. (UMP)	4(cd)
Yiyang	4d	Guided by the scientific outlook on development and with new industrialization as the driving force, the urbanization in the planning period will be accelerated. The government will strive to build Yiyang into a livable eco-city with economic prosperity, social harmony, beautiful ecology and people's happiness and build Yiyang into a model of two-oriented demonstration area. ..... a new industrialization base and an ecological leisure base in Hunan Province.	4(cd)/2
Chenzhou	4d/2	The overall development goal for Chenzhou is to be a modern city with emerging industries dominating, where business, logistics and tourism are also well developed and the environment is well preserved. In the future, Chenzhou would be a new industrial city, an eco-tourism city, a liveable city and a charming cultural city.(UMP)	4(abcd)/2
Yongzhou	4d	Based on infrastructure construction, taking economic construction as the starting point, taking ecological environmental protection as the foundation, and taking economic structure transformation as the main line, the government will keep promoting the agricultural modernization, industrialization and urbanization. At the same time, ... strengthening the functions as a central city and actively expanding Yongzhou's potential for the development of transportation and tourism. ..... enhance city's comprehensive competitiveness, and build Yongzhou into not only a modern city with comprehensive and strong regional service functions, economic prosperity, and good environment, but also an ecological garden city with excellent riverside characteristics. (UMP)	4(bcd)
Loudi	4d/2	Loudi is a central city in the Changsha-Zhuzhou-Xiangtan City Agglomeration, which makes Loudi an important growth pole to lead regional development. By the end of the planning period, the government will build Loudi into a new industrialization base, an integrated transportation hub city in Hunan Province, a prominent cultural and eco-tourism leisure base, a regional trade and logistics center and a modern livable city (UMP).	4(abcd)/2

As can be concluded from the UMP and 13th FYP, all the cities in the Hunan Province are showing strong desires for the industrial structure transformation and the desire for better development in the service industry. Most cities show desire to be ecological livable city, including Zhuzhou, Xiangtan, Changde, Chenzhou, Yongzhou and Loudi. Also, many cities are trying to better develop the local tourism, including Zhangjiajie, Yueyang and etc. Most of the cities are adopting multiple pathways to brand themselves except Yongzhou, Shaoyang and Huaihua.

According to urban master plan and 13th FYP and the predicted pathway, it is found that there are some cities in Hunan province adopting incorrect pathways for the city branding practices.

As the only city in Hunan province in the urban stage 2, Zhuzhou's predicted developmental pathway is pathway 2. And as can be concluded from the UMP and 13th FYP, Zhuzhou shows strong desire to shift from manufacturing to service industry through strengthening logistics and transportation service and enhancing the local ecology and environment quality.

According to the regional position and the development stage, Hengyang, Changde, Yiyang are

predicted to focus on the pathway 4 for the city branding practices. However, as shown in the Urban Master Plan and the 13th FYP, Hengyang, Changde, and Yiyang still brand themselves through pathway 2. As for Yueyang whose predicted pathway is the combination of pathway 4 and pathway 2, the city is even adopting pathway 1 to brand itself.

Changsha, Xiangtan, Chenzhou, Yongzhou, Huaihua, Loudi and Shaoyang's city brand identity are all in accordance with their desired general developing pathway (namely pathway 2 and pathway 4).

When it comes to the sub-pathways of pathway 4, more details are found.

All the cities in Hunan province except Huaihua are adopting pathway 4d to brand themselves, which is in correspondence to the Social Service in the tertiary sector. Except Xiangtan, all the cities in Hunan province are dominated by the Social Service and Producer Service in the tertiary sector, but only five out of the twelve cities are adopting pathway 4a to set their developmental goal.

However, even though the wide application of sub-pathway 4a, all the cities except Huaihua are adopting pathway 4c as their developmental pathway. Also, some cities' branding pathways are with the features of pathway 4b and 4d, including Changde, Zhangjiajie, and Yiyang, even though the top two dominant sectors are producer service and social service (the feature of pathway 4a and pathway 4d).

Xiangtan is the only city in Hunan dominated by its distributive service and social service in the tertiary sector. However, it identifies itself not only limited to the feature of pathway 4b and pathway 4d, but also the feature of pathway 4c. And as can be seen from Xiangtan's self-description, Xiangtan emphasized more on the establishment of the two-oriented society and related descriptions such as good environment and eco-livable city.

Huaihua is expected to stress on developing their social service with the feature of sub-pathway 4d, while the exact adopted sub-pathways are 4a and 4b. it only emphasized it geographical advantages and functions as a transport hub and business center, while the local social services are more developed.

5.3 Summary

City brand identity is how the cities want to be perceived by the outside world and how cities perceive themselves. Through adopting the modified Five Pathway Method, clear gaps can be identified between the predicted developmental pathway and the adopted city branding practices related to city brand identity in both Hubei and Hunan province.

As can be concluded for the general pathways, all the cities in Hunan and Hubei describe themselves with features of pathway 4. However, only 8 out of the 25 cities in the two provinces are predicted only with the feature of pathway 2.

None of the cities in Hunan and Hubei province is in urban stage 1 and with the feature of pathway 1. However, two cities in Hubei province (Suizhou, Huanggang) are still using the feature of pathway 1 for self-descriptions.

Few gaps showed up in Hunan province during examination. Three cities in Hunan province

(Hengyang Changde and Yiyang) still adopted features of pathway 2 to identify themselves even if they are supposed to only adopt pathway 4 for self-description.

All the cities in Hubei province are predicted to adopt pathway 2 features to identify themselves, however, the adoption of pathway 4 is the main trend in cities in Hubei province. Four cities (Ezhou, Xianning, Suizhou and Xiaogan) out of 25 cities in Hunan and Hubei province neglected their manufacturing features for city identity and adopted pathway 4 feature instead. And all of them are from Hubei province.

After the modifications are done to the original Five Pathway Method, more detailed insights can also be concluded in the cases of Hunan province and Hubei province.

As for the adoption of sub-pathways, the features of sub-pathway 4c and sub-pathway 4d are preferred by all of the cities in Hunan and Hubei province except Huaihua. However, the top two dominant tertiary sectors in Hubei province are distributive service and social service (relative to pathway 4b and pathway 4d). This is not seen as a clear gap between the adopted pathway and predicted pathway due to the significant development gap between social service and distributive service. But adopting pathway 4b is still recommended to be a wiser choice for all the cities in Hubei province.

Few cities limit themselves to the predicted sub pathways in pathway 4. Most cities usually combine the features of different sub pathways when identifying themselves.

Gaps are also found among the cities in Hunan province and Hubei province. When selecting sub-pathways, one city in Hubei province (Wuhan) and one city in Hunan province (Huaihua) neglected their advantageous service sectors. Wuhan failed to identify itself with the feature of pathway 4a corresponding to its prosperous producer service, and Huaihua failed to describe itself with the feature of pathway 4d corresponding to its prosperous social service in the tertiary sector. These both can be seen due to the lack of awareness of their advantageous industries, on which advice for the local governments should be given for more effective city brand identity.

6. City Labels in Hunan and Hubei Province

The number of the identifiable general city labels used in the 13th Five Year Plan and the Urban Master Plans is collected and categorized to calculate the frequency. The list of labels, which are collected are listed in the Appendix 3. The top 4 most frequently used labels in each document are selected. However, if the frequency gap between the two adjacent city labels is too large, the label with less frequency is neglected. And the results of collection and categorization are shown in the Table 6.1 and Table 6.2.

6.1 City labels in Hubei Province

Due to the lack of the 13th Five-Year Plan for the city Xianning and Xiangyang, the Urban Master Plans are regarded as the only data resource for identifying the adopted city labels pathway of the two cities.

Table 6.1 Ecological modernization pathways and city labels for Hubei Province

City	Predicted pathway	Most frequent city labels in 13th FYP	Most frequent city labels in UMP	Overall dominant city label(s)	Adopted pathway
Wuhan	4dba/2	Innovation city 80 Service city II 31 Service city I 31	Innovation city 98 Service city II 24 Tourism city 18 Service city I 13	innovation city service city I&II Tourism city	4abcd
Huangshi	2	Innovation city 85 Service city I 37 Service city II 31 Eco city 22	Innovation city 31 Tourism city 29 Eco city 18 Service city II 12	Innovation city Service city I&II Eco city Tourism city	4abcd
Shiyan	4db/2	Service city I 33 Eco city31 Service city II 26 Tourism city 24 Innovation city 21	Service city II 26 Service city I 22 Innovation city 13	Service city I&II Innovation city Tourism city Eco city	4abcd
Yichang	2	Innovation city 42 Service city II 32 Eco city30 Service city I 26	Service city I 14 Service city II 11	Service city I&II Innovation city Eco city	4abcd
Xiangyang	2	UNAVAILABLE	Tourism city 54 Service city II 32 Service city I 20	Tourism city Service city I&II	4abcd
Ezhou	2	Service city II 54 Innovation city 50 Service city I 39 Eco city 37 Tourism city 25	Tourism city15	Service city I&II Tourism city Innovation city	4abcd

Table 6.1 Ecological modernization pathways and city labels for Hubei Province (Continued)

City	Predicted pathway	Most frequent city labels in 13th FYP	Most frequent city labels in UMP	Overall dominant city label(s)	Adopted pathway
Jingmen	2	Innovation city41 Service city I 22 Service city II 13 Eco city13	Tourism city 28 Service city II 18	Innovation city Tourism city Service city I&II	4abcd
Xiaogan	2	Innovation city39 Tourism city25 Service city I 25 Eco city24 Service city II 23	Service city II 57 Service city I 32 Innovation city 31 Tourism city 20	Service city I&II Innovation city Tourism city	4abcd
Jingzhou	4d/2	Eco city30 Innovation city 29 Service city I 25 Service city II 20	Tourism city 45 Service city II 23 Service city I 18	Service city I&II Tourism city Eco city Innovation city	4abcd
Huanggang	2	Service city II 21 Eco city17 Service city I 15	Innovation city 4 Tourism city 4	Service city I&II Eco city	4abd
Xianning	4d/2	UNAVAILABLE	Innovation city 111 Service city II 21 Service city I 17	Innovation city Service city I&II	4abd
Suizhou	4d/2	Eco city 20 Innovation city 17 Service city I 15	Service city I 22 Tourism city 21	Service city I Eco city Innovation city	4ad

As shown in the Table 6.1, all the cities in the Hubei Province are adopting ‘Service City’ to brand themselves and most cities are also using the label ‘Innovation City’ in the official documents to brand themselves. Cities are also choosing different labels on the basis of the city’s location, situation and resources, such as tourism city and eco city. All the other cities choose to brand themselves through pathway 4, which shows the clear development preference for industrial transformation from manufacturing to the third industry, which is the feature of pathway 4.

In the meantime, there are also gaps between the predicted pathway and the adopted pathway. None of the cities in Hubei province frequently use city label with feature of pathway 2.

Huangshi, Yichang, Xiangyang, Ezhou, Jingmen, Huanggang and Xiaogan are all in the urban stage 2 and the desired pathway for them is pathway 2. And all of them have clear manufacturing features. However, the most frequent city labels used in their 13th Five-Year Plans and in the Urban Master Plans are clearly showing their preference of city labels with only features of pathway 4 instead of pathway 2, which deviates a lot from the desired pathway.

Wuhan, Shiyan, Jingzhou, Xianning, and Suizhou's desired pathways are the combination of pathway 2 and 4. When choosing city labels, they frequently use labels related to pathway 4 instead of the city labels showing their manufacturing features.

What can also be concluded in the label using frequency in Hubei Province is that, none of the cities adopts the same pathway as the predicted pathway. All the cities in Hubei province show clear preference for the pathway 4, whether rich or not and whether in urban stage 3 or not.

As for the sub pathways of the pathway 4, all the cities except Huanggang, Xianning and Suizhou are with the features of pathway 4a, 4b, 4c, and 4d, without emphasis on the particular service sector. All the cities in Hubei province are branding themselves with the features of pathway 4a and 4d, while the top two dominant service sectors in all the cities in Hubei are the distributive sector and the social service, in respondent to which the sub-pathways are pathway 4b and pathway 4d. Interestingly, except Suizhou, all the cities in Hubei province select city brand labels with features of three or more pathways.

6.2 City labels in Hunan Province

Table 6.2 Ecological modernization pathways and city labels for Hunan Province

City	Predicted pathway	Most frequent city labels in 13th FYP	Most frequent city labels in UMP	Overall dominant city label(s)	Adopted pathway
Changsha	4da/2	Innovation city 77 Service city II 27 Tourism city 26 Service city I 19	Tourism city 14	Innovation city Service city I&II Tourism city	4abcd
Zhuzhou	2	Innovation city 54 Service city I 17 Service city II 17 Resilient city17	Service city II 8	Innovation city Service city I&II Resilient city	4abd
Xiangtan	4bd/2	Innovation city 57 Service city I 14 Tourism city12	Innovation city43 Tourism city 31 Service city I 23	Innovation city Service city I Tourism city	4acd
Hengyang	4d	Innovation city 29 Service city I 28 Tourism city 25	Service city II 8 Low carbon city 7	Service city I&II Innovation city Tourism city	4abcd
Yueyang	4d/2	Innovation city 34 Tourism city21 Service city II 18	Tourism city21 Service city II 15	Innovation city Tourism city Service city II	4bcd
Shaoyang	4d	Service city II 53 Innovation city 51 Eco city 23 Tourism city 19	Innovation city14 Eco city12 Advanced manufacturing city 11 Service city II 11	Service city II Innovation city Eco city Advanced manufacturing city	4bd/2

Table 6.2 Ecological modernization pathways and city labels for Hunan Province (Continued)

City	Predic ted pathway	Most frequent city labels in 13th FYP	Most frequent city labels in UMP	Overall dominant city label(s)	Adopted pathway
Changde	4d	Innovation city 40 Service city II 34 Eco city 17 Service city I 17	Service city II 37 Tourism city 30	Service city II Innovation city Tourism city	4bcd
Zhangjiajie	4d	Tourism city35 Service city I 16 Eco city15 Innovation city 14	Service city I 33 Tourism city 25	Service city I Tourism city	4acd
Yiyang	4d	Tourism city15 Eco city14 Service city II 13	Service city II 11 Innovation city 7	Service city II Tourism city	4bcd
Chenzhou	4d/2	Innovation city26 Service city I 24 Service city II 17 Eco city 13	Innovation city10 Tourism city9	Innovation city Service city I&II	4abd
Yongzhou	4d	Eco city29 Innovation city28 Service city I 17 Service city II 17	Tourism city44 Innovation city24	Tourism city Eco city Innovation city	4cd
Huaihua	4d	Service city II 46 Eco city26 Smart city 22 Innovation city21	Service city II 8 Innovation city 6 Eco city 4	Service city II Innovation city Eco city Smart city	4bd
Loudi	4d/2	Innovation city42 Eco city19 Resilient city 13	Service city II 27 Innovation city 20 Eco city 12	Innovation city Service city II Eco city	4bd

As can be concluded from the Table 6.2, the most adopted city brand labels in Hunan province are innovation city, service city and tourism city. All the cities prefer to brand themselves through pathway 4, and some of the branding pathways are also with the features of pathway 2. And as shown in the table, there are also gaps between the predicted pathway and the adopted pathway for some of the cities.

Zhuzhou is the only city in Hunan Province in urban stage 2 with predicted pathway 2. However, it chooses pathway 4 to brand itself instead of stressing on the manufacturing-related labels. Changsha, Loudi, Yueyang, Xiangtan and Chenzhou, whose predicted pathways are the combination of the pathway 2 and pathway 4, all neglect their own manufacturing features and only use pathway 4 to brand themselves, which can also be seen as a clear sign showing the cities' willingness for industrial transformation.

Shaoyang is already in the urban stage 3 and only with features of the pathway 4. However, when choosing city labels in the official documents, it still chooses pathway 4 with features of 2, and it is the only city in Hunan province adopting features of pathway 2 for the selection of city brands.

As for the details of the pathway 4, all the cities are with the features of pathway 4d, which is in line with the predicted pathway. However, when it comes to Xiangtan, the adopted labels are with features of pathway 4a, 4c and 4d, which deviate from the desired features of pathway 4b and 4d.

All the other cities in Hunan province do not limit themselves with the predicted features of pathway 4 and choose to identify themselves with the other features, including pathway 4a, 4b and 4c.

6.3 Summary

As can be concluded from the frequency of the city labels used in official documents, all the 25 cities in Hunan and Hubei are stressing on the developmental pathway 4, and only one city (Shaoyang) out of the 25 cities adopted the pathway 4 with the features of pathway 2. Above all, Hunan and Hubei show strong desires to set goals with features of pathway 4.

The features of pathway 1 are not stressed by any of the cities for city labels in Hunan and Hubei provinces.

Among all the 25 cities in Hunan and Hubei Provinces, 10 cities are in the combined urban stage of 2 and 3. However, none of 10 cities stressed on the labels related to the secondary industries, namely pathway 2. Instead, they all focus on the city labels related to pathway 4.

However, due to the differences of urban stage of cities in Hunan and Hubei province, the gap also showed up between the desired pathway and the predicted pathway.

Deviations show in the cities branding practices adopted by cities in Hubei Province when compared with the desired branding pathways. All 12 cities adopt pathway 4 as their branding pathway. However, only 5 out of 12 cities in Hubei province are predicted to adopt pathway 4 for the selection of city labels and none of the other 7 cities has the features of pathway 4. Combined with the application of the adopted EM developmental pathways, the chosen labels for cities in Hubei province are mostly not in line with the desired ones, which need further analysis on the reasons for the circumstances.

Different from Hubei Province, most cities in Hunan Province use the labels closely connected to their current development status and their own features. And the adopted pathways are mostly in line with the predicted pathways. Only Shaoyang is adopting the pathway 2 to brand itself.

As for sub sectors in the tertiary sector, cities with predicted features of pathway 4 all choose multiple sub-pathways to brand themselves instead of limiting themselves to the current features.

The only sub gap showed up in Xiangtan in Hunan province. The predicted branding pathway for Xiangtan is with the combined features of pathway 2, 4b and 4d. However, Xiangtan neglected not only its pathway 2 features but also the feature of pathway 4b. It instead adopted

pathway 4a 4c and 4d for city labels, while the producer service and consumer service do not dominate in its tertiary sector.

7. Further Analysis on the results

In this chapter, a thorough analysis on the predicted pathways and the adopted pathways is done, including the trend of pathways and the gaps between the adopted pathways and the predicted pathways. As for the trends and gaps to be summarized, the reasons for them will also be analyzed in this chapter.

7.1 Analysis on pathways

7.1.1 Analysis on the general pathways

As can be concluded from the previous chapters, in the case of Hunan and Hubei provinces, no city is on pathway 1, and all of the cities in Hunan and Hubei province are adopting pathway 4 for city labels and city identity.

The pathways cities adopted to brand themselves are mostly in accordance with the predicted city branding pathways, either in single pathway or mix in features of different pathways. However, there are also clear gaps and trends that can be found in the cases of Hunan and Hubei provinces.

Importantly, eight cities (one city in Hunan and seven cities in Hubei) out of the 25 cities in both provinces are on pathway 2. Interestingly, all of these cities only opt for pathway 4 for city labeling. Specifically, for city identity, Xiaogan and Ezhou neglected their pathway 2 features by only stressing on the feature of pathway 4 when identifying themselves.

Equally interestingly, all the cities in Hubei Province are predicted to brand themselves with the feature of pathway 2. However, when choosing city labels, all cities there are reluctant to select city labels related to pathway 2. Apparently, manufacturing and the other industries in the secondary sectors are not preferred to be stressed in the official documents for these cities.

As mentioned, all the 7 cities on pathway 2 in Hubei province reject to choose city labels with the feature of pathway 2, and are also collectively reluctant to identify themselves with only the feature of pathway 2. And when further navigating the sub-sectors of secondary industry in Hubei province, as can be seen from the Appendix 5 which include the relevant information about the proportion of the sub sectors of different industrial sectors, industries in cities in Hubei Province is dominated by the sub sector- manufacturing. Scholars found that Hubei province has been fast developing heavy manufacturing since the establishment of the country and the industrial structure of Hubei Province has long been dominated by heavy manufacturing, even though the proportion of heavy manufacturing continued to decline after 2005(Liu and et, al. 2017). In 2014, heavy manufacturing still accounted for 64.56% of the total manufacturing output value. As pointed out in the provincial report (Hubei Provincial Government, 2018), even though Hubei province is trying to advancing the development of the light industry, the increased development rate of light industry is still far behind that of heavy industry.

All of the above reflect that cities in Hubei province, where heavy manufacturing dominates in the secondary sector are reluctant to brand themselves with features of pathway 2. This trend is also in line with the findings of the previous studies in MCR and Northeast Region of China.

The reason for this will be analyzed in the next sub chapter.

As for the adopted pathways, the combination of pathway 4 and pathway 2 is a popular choice for most of the cities to identify themselves, which is similar to the findings of that in MCR and northeast region of China. City labels with features of pathway 4 are also the first choice for all the cites in Hunan and Hubei province. All these are showing the clear preference of cities to pathway 4 when branding themselves. These trend is also similar to that of MCRs in China.

Ten cities out of the 25 cities are predicted on the combined pathway of 4 and 2. When it comes to the adopted city identity, Xianning in Hubei province neglected its pathway 2 feature and only stress on the feature of pathway 4, while Suizhou (also in Hubei province) replaced their pathway 2 feature with the feature of pathway 1.

Seven out of the 25 cities are predicted to be simply on pathway 4, while none of them lies in Hubei Province. As for these seven cities, the adopted pathways match largely with the predicted pathway. Four of them choose pathway 4 for city identity while the other three of them (Changde, Yiyang and Hengyang) also choose pathway 2 when identifying themselves. But this circumstance can also be explained. Even though their economic data signify their urban stage to be stage 3, the secondary sector and the working population in the secondary sector also show that the secondary sectors in these three cities are of importance and of well-established base, which make their branding pathway seems plausible and reasonable.

7.1.2 Analysis on the sub-pathways

Through modification on the Five Pathway Method, more specific insights can also be found when comparing the predicted sub pathways and the adopted sub pathways.

As for pathway 4 and pathway 5, 17 out of the 25 cities in Hunan and Hubei provinces are predicted to adopt pathways with the feature of pathway 4d. However, none of these cities limit themselves only to the feature of pathway 4d either in choosing city labels or identifying themselves. All the cities in Hunan and Hubei province except Huaihua, adopted pathway 4d for both city brands and city identity.

There are also mismatches in three cities in Hunan and Hubei provinces. When it comes to the selection of city brands in Xiangtan, the predicted developmental pathway is with the feature of pathway 4b, 4d and 2. However, when selecting city labels, Xiangtan neglected the feature of pathway 4b. Instead, it chose the city label more related with the feature of pathway 4a and 4c, which is clearly out of reason. Xiangtan clearly neglected or were unaware of their advantageous sub industries in the tertiary sector. Similar gaps also showed up in the cases of Wuhan and Huaihua in choosing city brand identity.

Clearly, through modifications on the original Five Pathway Method, the analysis related to pathway 4 or 5 and tertiary sector is more elaborate, which could also bring more reasonable and detailed advice for different cities not only those in Hunan and Hubei provinces, but also the others in mega city regions and northeast region of China.

7.1.3 Comparison with the previous studies

As learned in the previous studies based on the Five Pathway Method, which was applied in the MCRs of China and the Northeast region of China, the pathways cities adopted to brand themselves are mostly in accordance with the predicted city branding pathways, either in single pathway or mixed with the features of different pathways.

Through comparing the cases of Hunan and Hubei provinces and the cases of MCR and Northeast region of China, similar trends can be found out.

In all of these regions, the combination of pathway 2 and pathway 4 is a popular choice for city branding, through which most of the cities are showing strong desires to achieve industrial transformation in their city development plan. Cities on developmental pathway 4 usually adopt the same city branding pathway.

In the meantime, gaps can also be found when comparing.

In the case of MCRs in China, cities with light manufacturing dominant in the secondary sector are more reluctant to brand themselves through pathway 2 than the cities with heavy manufacturing dominant. In the contrary, cities in Northeast region of China and cities in Hubei Cities are mostly dominated by heavy manufacturing in the secondary sector. When comparing, cities in Northeast region of China usually stick to their pathway 2 features when identifying themselves while cities in Hubei province, where cities are more developed, are usually reluctant to show their pathway 2 features. Instead, pathway 4 features are a lot more popular for cities in Hubei province. The reason for these will be illustrated in chapter 7.2.

7.2 Analysis on the reasons for gaps

Through analyzing the collected data, clear gaps can be seen between the desired pathways and the adopted pathways both in city identities and city labels for some cities in Hunan and Hubei province, and the reason and background of those need to be further elaborated.

The gap can be firstly explained from the surmise of the original Five Pathway Method. As stated in the surmise of the theory, there are mainly two reasons of the mismatch of the predicted pathway and the adopted pathway (De Jong et al., 2018). Firstly, the cities are not really considering about choosing the right city development way from the perspective of Ecological Modernization. Cities themselves were not aware of the its exact EM position and just made random choices when choosing city identities and labels. Secondly, the selection of city brands of the cities is not based on real features of the city and related to the development stage of the city and the EM position, even if the cities' government were aware of their developmental status and regional position (De Jong, et. al., 2018). Due to the fact that there is clear policy support from the national government for both provinces, the first surmised possibility for not being synced can be eliminated.

As for the second possibility in the surmise, it can be explained from the perspective of Westminster Model. Westminster Model origins from the United Kingdom and the theory holds that parliament is supreme and all power flows through it to the government. One of the features of the Westminster Model is there is one party in government as the executive with a majority

of members in Parliament. The central idea of the model is that few things can stop the government doing what it wishes. Even the House of Lords, the judges and any other body cannot stop the government from imposing what policies on the whole of the UK. Different from Multi Level Governance(MLG), which describes the dispersion of power from national government to other levels of government and non-governmental actors, the power is centralized in the central government in the Westminster Model, which is a feature also shared by the Chinese Political System. And when it comes to the policy making process in China, including the selection the Ecological Modernization pathway by the sub-national government, the national government has the biggest power, and the local governments are supposed to implement the policies issued by the national government. Even though the sub-national governments are also distributed some power, the policy issued from the central government is still the guideline for all decision making processes due to the clear hierarchy. And this is supposed to explain the massive mismatch of the pathway selection showed up in Hubei Province: From the official document- 'Promoting the Rise of the Central Region of China'- can we see, the central government wants to achieve the industrial transformation in the Central Region of China for cleaner and more high-tech industries. And the establishment of the Two-Oriented Society is also guiding the two provinces to achieve Ecological Modernization. Clearly, when selecting their own city labels and brands, cities in Hubei province are strongly mislead by the two important policies from the national government. And the result of the city brand selection for many cities Hubei Province shows strong features of pathway 4, which is distinctly inconsistent with the desired pathway 2.

Except the two reasons in the surmise, the gap between the desired pathway and the predicted pathway can also be explained from the perspective of the desire of the local governments to change the current development mode of the city. According to the researches done by Ma (2007), Avraham and Ketter (2008), Baker (2012) and Paddison (1992), the city branding process signifies what cities wants to achieve in the future development. Even though the government need to carry out the policies set by the national government, the local governments are stilled assigned power to make their own choices to focus on the developmental pathways which they think is of the most effect. The selection of city brands and developmental pathways by governments is a process of choosing the desired and preferred developing goals for city.

In addition, according to the research done by Hong and Zhang (2017), some cities are not economically well developed while the industrial structure of which is dominated by the tertiary sector, such as Huaihua. Merely stressing on industrial transformation in cities of this situation will lead to less economic development speed in the future, and the reasonable strategy supposed to be taken by these cities is to develop secondary industry and tertiary sector at the same time. And this could explain why cities, such as Changde, choose to adopt pathway 2 to brand themselves despite that they are only with feature of pathway 4.

Besides the surmise of the Five Pathway Method, there are also other possible reasons for the gap. Hubei province, whose overall GDP ranks the 7th among all the provinces in China is already more developed in economy and industry structure. Its dominating manufacturing sector has been contributing large part of the GDP since the establishment of China. However, as shown in the Fig 7.1, different from the tertiary sector whose growth rate in the previous years stabilized around 10%, the growth rate of the secondary sector in Hubei province has

been declining, and firstly decreased to 8.3%, below 10%, in 2015. Specifically, as concluded in the yearbook of Hubei province (shown in Table 7.1 and Fig 7.2) the overall GDP of the tertiary sector almost reached that of the secondary sector by the end of 2016, and the contribution share (contribution share of the three components to the increase of the GDP refers to the proportion of the increment of each component of GDP) of the tertiary sector has exceeded that of the secondary sector by the end of the 2015. Based on this circumstances in Hubei province, the gap could also be explained from another perspective. With the prosperity of the tertiary sector, governments of the cities in Hubei see the potential of Hubei province in Tertiary sector, and are confident that by the end of the Five Year Plan, the industrial transformation could be achieved.

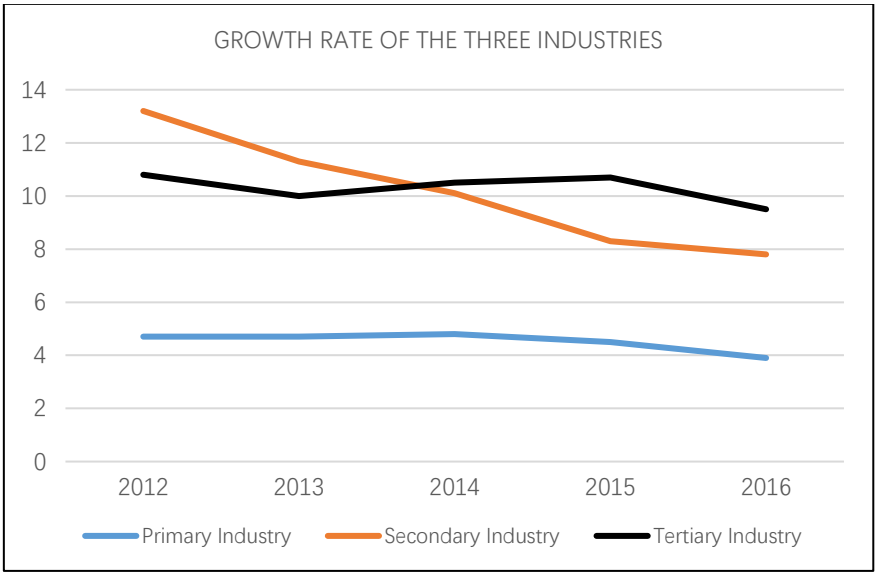

Fig 7.1 Growth Rate of the Three Industries

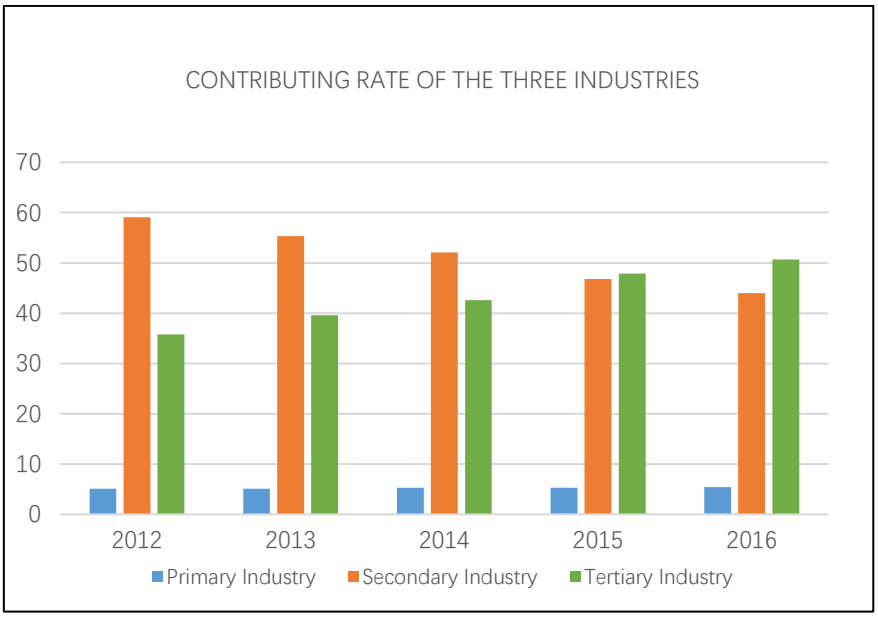

Fig 7.2 Contributing Rate of the three industries

Table 7.1 Growth Rate of the Three Industries (%)

Year	Primary Industry	Secondary Industry	Tertiary Industry
2012	12.8	50.2	36.9
2013	12.6	49.3	38.1
2014	11.6	46.9	41.5
2015	11.2	45.7	43.1
2016	11.3	44.5	44.2

8. Conclusions

In this chapter, the main research question will be answered through answering the sub research questions. The main reflection of the study and the limitation of the study will also be revealed in this chapter. And in the meantime, the limitation of the research is also revealed.

8.1 Conclusion on the research question

In the case of Hunan and Hubei Province, both provinces are suffering from similar developmental problems, including the environment deterioration, less investment from not only central government but also the private enterprises. Due to the adjacent location and the peer city competitions, how cities in Hunan and Hubei adopt city branding strategies and position themselves from the perspective of Ecological Modernization is examined and analyzed in this thesis project through adopting the Five Pathway Method.

In order to answer the main research question, '*How do cities in Hubei and Hunan province position themselves through city branding from the perspective of ecological modernization?'*, sub-questions are answered as follow.

As for sub question 1

'How can the Five Pathway Method be improved?'

Due to the limitation and the insufficiency of the original Five Pathway Method in revealing the exact focus of pathway 4 and pathway 5 on the sub sectors of the tertiary sector, methodological modifications are done before application, based on the detailed categorization of the tertiary sector and through sub dividing the city labels and city developmental pathways. The modified Five Pathway Method is as shown in the Table 3.4. In this way, more insights can be provided for determining the predicted and adopted developmental pathways related to the tertiary sub sector in the industry structure.

As for sub question 2,

'What are the features of Hunan and Hubei provinces and the cities of the two provinces'

Based on the modified Five Pathway Method, the two independent variable in the original Five Pathway Method (regional position and urban stage) and the proportion of different sub-sectors in the tertiary sectors are collected to determine the predicted developmental pathways of cites in Hunan and Hubei.

Through analyzing the result of the Five Pathway Method, the city profiles and the relevant economic data, it is found that most cities in Hubei province are in urban stage 2 or with the feature of urban stage 2, while cites in Hunan province are mostly in urban stage 3 or with the feature of urban stage 3.

Cities in Hunan province are more developed in the tertiary sector with light manufacturing and construction dominating in the secondary sector. Based on the modified Five Pathway Method, all the cities in Hunan province are predicted to develop with the feature of pathway 4d (namely social service in the tertiary sector) except Zhuzhou. The development of the new tertiary sector and light manufacturing in Hunan is also promising.

On the contrary, cities in Hubei province are mostly dominated by the secondary sector in the whole industry. All the cities in Hubei are predicted to develop with the features of pathway 2. And as revealed in the Chapter 1, the heavy manufacturing in Hubei Province is dominant in the secondary industry, which has been postponing the industrial transformation in Hubei province. Even though the tertiary sector is not dominant in Hubei province, the tertiary sector in all the cities in Hubei province are dominated by distributive service and social service.

As for sub-question 3 and 4:

What are the city identities and city labels of the cities in Hunan and Hubei province?

Through collecting data related to the frequency of city labels and the city identities adopted in the 13th Five Year Plan and Urban Master Plan, the modified Five Pathway Method is applied on the cases of cities in Hunan and Hubei province. The most adopted city labels in Hunan and Hubei are 'service city', 'innovation city' and 'tourism city'.

And through defining the adopted pathways both in city labels and city identities, the results of the modified Five Pathway Method are as shown in Table 5.1, 5.2, 6.1 and 6.2. And through comparing the results with the predicted pathways, clears trends and gaps can be found as well.

Pathway 4 and the sub pathway 4d are commonly adopted by most of the cities in Hunan and Hubei province. As for Hunan province, this is the desired result. However, when it comes to Hubei province, the result is signifying that cities in Hubei are collectively reluctant to adopt pathway 2 as city branding pathway, especially when it comes to the selection of the city labels.

Different from Hubei province where many clear gaps can be found, Hunan province showed less gaps in both city labels and city identities. For example, even though Huaihua is expected to stress on sub-pathway 4d for city identity, the exact adopted sub-pathways are 4a and 4b, which need to be modified.

As for sub-question 5:

How should the cities set appropriate city branding goals?

Studies show that city brands randomly chosen to improve the images of the cities or chosen regardless of the local identities and the features are usually of low authority not only for the inhabitants but also for the target of branding (Anholt, 2007; Vanolo, 2008b). And when it comes to the circumstances in Hubei, the combination of city brands chosen by most of the cities are apparently of low credibility. And the effectiveness of the chosen city brands will also show less strategic potency in the future application.

So in order to modify the current adopted city brands to the predicted pathway to raise the authenticity of the city brands chosen by cities, cities should be able to be aware of the analysis of the Five Pathway Method and start to modify based on analysis.

For cities whose predicted EM developmental pathway is only pathway 2, governments should not forgo the features of the pathway 2. Governments in Hunan and Hubei provinces are showing strong desires to achieve industrial transformation. And as concluded from the analysis in Chapter 7, the policy instructions from the central government is a main factor that influences the city branding practices in Hubei province. However, the gap between the desire developmental pathway and the exact adopted pathway is sure to fail in helping cities in Hubei

province stepping on the right pathway to achieve more efficient city development and attracting more investment, which are the main problems faced by Hubei province. Thus city branding practices through pathway 2 for these cities can be profitable than forgoing the pathway2 features. City brands including low carbon city and advanced manufacturing city should also be stressed more.

As for cites with the feature of pathway 4, either with the combined features of pathway 2 or standalone, the features of pathway 1 should not be no longer stressed when selecting city brands or when identifying the city.

But in the meantime, as for the sub sectors in the tertiary sector, the branding strategy of pathway 4 cities should also be based on the dominant tertiary sector, instead of choosing brand labels out of self-confidence or nowhere. Take Wuhan as an example, producer service is dominant in the tertiary sector. However, when describing itself, it neglected the advantageous feature of producer service, and choose to emphasize on its consumer service, which ranks the last in its tertiary sector.

In the meantime, the selection of city labels related to pathway 4 can also be improved based on the analysis of the tertiary sector. Mixing all kinds of city labels related to the tertiary sectors is not helpful for cities, and may even fail to help the city standing out among its peer cities and fail to increase its city competitiveness.

8.2 Contribution and Limitation of the research

8.2.1 Contributions

The original Five Pathway Method created strong and solid foundation for this thesis project. But still, contributions are made in this thesis project.

Firstly, modifications are done to improvise the original Five Pathway Method to increase the effectiveness of the Five Pathway Method. The modifications are mainly based on the Six-sector Model proposed by Singelmann and Browning (1978), which classified all the sectors in the whole industry into 6 sectors, and also the modification work done by Fang and Bi (2008). The tertiary sector is further classified into the producer service, distributive service, consumer service and social service, which is the most adopted classification method (Yan, 1999). The pathway 4 and 5, which is highly related to the tertiary sector in the industry structure are also further divided into pathway 4a(5a), 4b(5b), 4c(5c), and 4d(5d). And the city labels, including service city, tourism city and smart city, are better categorized and further divided based on the further classification of the tertiary sector and the evolution of the basic concept.

Secondly, researches based on the modified Five Pathway Method are done in the cases of cities in Hunan province and Hubei province. In the previous studies, the original Five Pathway Method was applied in China in the well-developed Mega City Regions and the less-developed Northeast Region of China. Different from these regions, the economic development stages of Hunan and Hubei are in the middle reach among all the provinces in China. And in the meantime, the policy instructions of the establishment of the two-oriented society and achieving industrial transformation is also different from the policy instruction in the other provinces, which make

it essential to carry out the researches in this paper. The trends and gaps of the city branding pathways in Hunan province and Hubei province are also analyzed for the governments.

8.2.2 Limitations

Based on the methodology framework proposed in Chapter 3, the city branding practices in Hunan and Hubei provinces are examined in this paper. But there are still limitations of the study.

For one thing, there are still room for further modification on the Five Pathway Method. As mentioned in the chapter 3, due to the limitation of the data source and further categorization of the city labels, the determination of the exact pathway is not possible with the current categorization way of city labels even though the pathway 2 and 3 can be further divided into pathway 2a/3a, 2b/3b, 2c/3c, 2d/3d. So how can city brands related to pathway 2 be better enriched and modified should be further studied.

For another, due to the limitation of the data source, the FYP and UMP for some cities are not found from the government website, which may lead to the insufficient analysis on the exact city branding practices of the city, such as Xianning and Xiangyang.

Besides these, the determination of the urban stage of the city can also be modified. According to the determination method of the urban stage in the Five Pathway Method, the proportion of the working population in different sectors is the main factor to decide the city's urban stage. However, there are still cities that are not well developed in economy, whose better choice are supposed to be focusing on the development of manufacturing industry in the secondary industry, either light or heavy manufacturing, such as Huaihua, Shaoyang, Yiyang and Yongzhou in Hunan province. As studied by Hong and Zhang (2017), Huaihua in Hunan province should be focusing on the development of the industrial transformation and the development of the secondary sector at the same time. Only limiting these cities to the continuous development on the tertiary sector would also result in wrong pathway for the sustainable development of the cities. In this way, in order to provide more practical strategic advice for cities with clear gaps and increase the accuracy of the Five Pathway Method, different theories related to the determination the urban developmental stage should also be introduced to the Five Pathway Method for the more accurate definition of the developmental pathway.

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Appendix 1 The original categorization of City Labels

Table 01 City label and categorization adopted in the Five Pathway Method

	City labels	EM Keywords in English	EM keywords in Chinese	Keywords in Chinese
smart city	smart city	smart	智慧	智慧城市/智慧+城市名/智慧之城/智慧城镇
	Intelligent city	Intelligent	智能	智能城市
	Information city	Information	信息	信息城市/信息枢纽/信息中心
	Digital city	Digital	数字	数字城市
innovation city	Innovation city	Innovation	创新	创新城市/创新型城市/创新中心/创新文化名城/创新中心城/创新型经济强市/创新基地/创造中山/研发设计与创新服务基地
	knowledge city	knowledge	知识	知识城市/知识产权枢纽城市/知识产权示范市
	city for start-ups	start-ups	创业	创业城市/创业型城市/创新创业中心/国家级创业带动就业孵化基地
	learning city	learning	学习型	学习型城市
	talent/education city	talent/education	人才/教育	人才、教育市
Resilient city	sponge city	sponge	海绵	海绵城市
	safe city	safe	平安	平安城市
	resilient city	resilient	韧性/恢复力	能够应对各种风险、韧性的、有恢复力的城市
eco city	Eco city	Eco	生态	生态城市/生态示范区/生态市/生态文明城市/生态都市/生态水城/生态文明示范区/生态型城市
	Green city	Green	绿色	绿色城市/绿色美丽家园/绿色崛起示范区/绿城/绿色经济发展示范区/低碳绿色发展示范区
	Forest city	Forest	森林/田园	森林城市/田园城市
	Garden city	Garden	园林/花园/公园	园林城市/花园城市/公园城市
	Green Model City	Green Model	绿化模范	绿化模范城市
	Environmental Protection Model City	Environmental Protection	环保模范	环保模范城市
	Water-saving cities	Water-saving	节水型	节水型城市
	water and mountain city	water and mountain	山水	山水城市/岭南山林水都
low carbon city	low carbon city	low carbon	低碳	低碳城市/低碳之城/生态低碳城
	Recycling economy advanced city	Recycling economy	循环经济	循环经济先进市/循环经济科学发展模式的示范区/循环经济示范区
	public transport city	public transport	公交	公交都市/公交枢纽
liveable city	liveable city	liveable	宜居	宜居城市/生态宜居城市/宜居城乡/住有宜居
	city with good urban living environment	urban living environment	人居环境	最佳人居环境城市/建成生态型人居环境
advanced manufacture center/base	advanced manufacture center/base	advanced manufacture	先进制造	先进制造中心/基地；现代制造业中心/基地；高端制造业基地；专业制造中心城市/工业化产业示范基地
	high tech base city	high tech	高新技术	高新技术产业基地/全国重要的信息技术研发和产品制造基地
	Electronic Information Industrial Base	Electronic Information	电子信息	电子信息产业基地/全球电子信息产业基地/电子信息技术和工业产品会展基地
	Equipment manufacturing manufacturing base	Equipment manufacturing	装备制造	装备制造业为主的制造基地
	Emerging industrial base	Emerging industrial	新兴产业	新兴产业基地
	headquarter base	headquarter base	总部基地	总部基地
	clean energy base	clean energy	清洁能源	清洁能源生产基地/电能源产业基地/绿色能源产业基地

Table 01 City label and categorization adopted in the Five Pathway Method (Continued)

	City labels	EM Keywords in English	EM keywords in Chinese	Keywords in Chinese
service city	service center for industry	service	服务	服务中心/产业服务中心/制造业服务化领头城市
	trade center	trade	商贸/贸易	商贸中心/贸易中心/商贸物流节点
	financial center	financial	金融	金融中心/金融创新中心/科技金融试点城市/金融核心区/香港国际金融中心的次中心
	transport hub	transport/port/nod	交通/门户/节点/枢纽港	交通枢纽中心/城市；交通节点；门户城市
	Logistics Base	Logistics	物流	物流枢纽中心/物流服务中心/枢纽城市/节点城市；/“中国快递示范市”/物流示范城市
	transport base	transport	运输	综合运输服务示范市/综合运输服务示范城市/集装箱运输枢纽港/航空货物运输基地/公路运输枢纽
	e-commerce pilot cities	e-commerce	电子商务	电子商务集散中心/跨境电子商务集散中心/全国跨境电子商务进口城市试点/创建国家级电子商务示范企业基地/国家跨境电子商务综合试验区
	Service outsourcing demonstration city	Service outsourcing	服务外包	服务外包示范市/外包服务基地
	Port Transport City	Port	港口	港口城市/综合性枢纽港/综合性港口
	Shipping Centre	Shipping	航运	国际航运服务中心
	Exhibition Center	Exhibition	展览	国际贸易展览中心
Modern agriculture city	agriculture center	agriculture	现代农业	
	Green food base	Green food	绿色食品	现代农业/滨海生态农业/休闲农业/旅游农业/绿色食品生产基地
tourism city	tourism city	tourism	旅游	旅游城市/旅游中心/风景城市/旅游目的地/休闲度假
	history city	history	历史	历史城市/历史名城/历史文化名城/历史基地
	culture city	culture	文化/岭南	文化城市/文化名城/人文都市/岭南文化中心/文化强优城市/文化产业基地/岭南特色的城市/文化名市
	coastal city	coast	滨海/海岸/海滨	滨海城市/海岸休闲

Appendix 2 The modified categorization of City Label

Table 02 The city label and relative sub pathway in the modified Five Pathway Method

EM-related developmental pathway	Categorization of city labels	city labels
pathway 4d(5d)	smart city	smart city
		Intelligent city
		Information city
		Digital city
pathway 4d(5d)	innovation city	Innovation city
		knowledge city
		city for start-ups
		learning city
		talent/education city
pathway 4d(5d)	Resilient city	sponge city
		safe city
		resilient city
Pathway 4b/4c/4d (5b/5c/5d)	tourism city	tourism city
		history city
		culture city
		coastal city
Pathway 4d(5d)	eco city	Eco city
		Green city
		Forest city
		Garden city
		Green Model City
		Environmental Protection Model City
		Water-saving cities
		water and maintain city
Pathway 2(3)	low carbon city	low carbon city
		Recycling economy advanced city
		public transport city
Pathway 4d (5d)	liveable city	liveable city
		city with good urban living environment
Pathway 2 (3)	advanced manufacture center/base	advanced manufacture center/base
		high tech base city
		Electronic Information Industrial Base
		Equipment manufacturing manufacturing base
		Emerging industrial base
		headquarter base
		clean energy base
Pathway 4a (5a)	service city I	service center for industry
		financial center
		e-commerce pilot cities
		Service outsourcing demonstration city

Table 02 The city label and relative sub pathway in the modified Five Pathway Method (Continued)

EM-related developmental pathway	Categorization of city labels	city labels
Pathway 4b (5b)	service city II	trade center
		transport hub
		Logistics Base
		transport base
		Port Transport City
		Shipping Centre
		Exhibition Center
Pathway 1	Modern agriculture city	agriculture center
		Green food base

Appendix 3 Frequency of General City Labels Used in the Official Documents

Appendix 3.1 Frequency of City Brand Labels in the 13th Five Year Plan

Table 03.1 Frequency of City labels in the 13th Five Year Plan in Hunan

City	Smart city	Innovation city	Resilient city	Tourism city	eco city	low carbon city	liveable city	Advanced manufacturing city	Service city		Modern agricultural city
									Producer	Distributive	
Changsha	11	77	10	26	16	2	13	6	19	27	0
Zhuzhou	9	54	17	11	14	6	8	6	17	17	1
Xiangtan	4	57	8	12	8	1	5	5	14	7	3
Hengyang	3	29	7	25	11	1	6	4	28	11	0
Shaoyang	4	51	8	19	23	2	13	10	21	53	2
Yueyang	4	34	6	21	12	1	6	1	5	18	3
Changde	14	40	13	7	17	0	15	4	17	34	10
Zhangjiajie	6	14	8	35	15	0	1	3	16	11	0
Yiyang	3	4	5	15	14	0	5	8	13	7	0
Chenzhou	2	26	9	11	13	5	5	1	24	17	2
Yongzhou	12	28	7	10	29	6	12	3	17	17	1
Huaihua	22	21	19	2	26	0	16	2	13	46	0
Loudi	6	42	13	10	19	2	10	4	11	11	1

Table 03.2 Frequency of City labels in the 13th Five Year Plan in Hunan

City	Smart city	Innovation city	Resilient city	Tourism city	eco city	low carbon city	liveable city	Advanced manufacturing city	Service city		Modern agricultural city
									Producer	Distributive	
Wuhan	4	80	9	10	19	4	12	3	31	31	1
Huangshi	4	85	14	19	22	1	8	9	37	31	0
Shiyan	9	21	8	24	31	2	14	9	33	26	1
Yichang	20	42	10	15	30	0	16	5	26	32	0
Ezhou	7	50	11	25	37	2	13	4	39	54	2
Jingmen	3	41	8	7	13	3	8	2	22	13	4
Xiaogan	4	39	17	25	24	5	14	4	25	23	2
Jingzhou	2	29	11	18	30	0	7	7	25	20	3
Huanggang	7	42	6	7	17	2	9	4	15	21	0
Suizhou	4	17	8	11	20	0	5	1	15	13	2

Appendix 3.2 Frequency of City Brand Labels in the Urban Master Plan

Table 03.3 Frequency of City labels in the Urban Master Plan in Hunan

City	Smart city	Innovation city	Resilient city	Tourism city	eco city	low carbon city	liveable city	Advanced manufacturing city	Service city		Modern agricultural city
									Producer	Distributive	
Changsha	2	2	0	14	0	0	0	4	0	4	0
Zhuzhou	0	3	0	1	3	0	0	3	1	8	0
Xiangtan	1	43	0	31	8	0	5	8	23	16	0
Hengyang	0	4	0	5	0	7	1	0	1	8	0
Shaoyang	1	14	0	12	7	1	0	11	6	11	0
Yueyang	0	5	0	21	4	0	4	6	3	15	0
Changde	1	5	1	30	4	2	4	1	9	37	0
Zhangjiajie	0	3	0	25	3	3	0	1	33	7	0
Yiyang	0	7	0	3	5	2	0	6	0	11	0
Chenzhou	0	10	0	9	4	0	2	3	6	4	0
Yongzhou	0	24	0	44	6	0	0	5	2	12	0
Huaihua	0	6	2	3	4	0	1	0	2	8	0
Loudi	0	20	0	6	12	6	6	1	3	27	0

Table 03.4 Frequency of City labels in the Urban Master Plan in Hubei

City	Smart city	Innovation city	Resilient city	Tourism city	eco city	low carbon city	liveable city	Advanced manufacturing city	Service city		Modern agricultural city
									Producer	Distributive	
Wuhan	3	98	0	18	6	3	3	11	13	24	0
Huangshi	4	31	0	29	18	4	0	3	7	12	0
Shiyan	0	13	0	10	11	0	2	1	22	26	0
Yichang	0	3	0	7	9	0	4	1	14	11	0
Ezhou	4	5	1	15	4	0	0	0	2	2	0
Jingmen	1	9	0	28	1	0	4	5	10	18	0
Xiaogan	0	31	1	20	14	11	13	5	32	57	0
Jingzhou	0	4	0	45	3	1	3	3	18	23	0
Huanggang	0	4	0	4	1	0	2	2	3	1	0
Suizhou	0	7	0	21	4	0	1	1	22	3	0
Xianning	2	111	0	14	14	2	4	3	17	21	0
Xiangyang	2	7	0	54	1	1	1	3	20	32	0

Appendix 4 Working Population and Proportion of Working Population by Sector

Table 04.1 and Table 04.2 are respectively the working population and the proportion of the working population by sector in different sectors of cities in Hubei and Hunan Province in urban units.

Table 04.1a The working population in different sectors of cities in Hubei province

城 市	City	第一产业(农、林、牧、渔业) Primary Industry	Proportion	第二产业(1)采矿业 Secondary Industry: Mining	Proportion	(2)制造业 Manufacturing	Proportion	(3)电力、热力、燃气 及水生产和供应业 Production and Distribution of Electricity, Gas and Water	Proportion	(4)建筑业 Construction	Proportion
武汉市	Wuhan	3466	0.2	951	0.0	531482	24.9	16479	0.8	504169	23.6
黄石市	Huangshi	1091	0.4	13141	4.3	102905	33.5	4179	1.4	62724	20.4
十堰市	Shiyan	7230	1.1	4290	0.6	235214	35.5	15389	2.3	62314	9.4
宜昌市	Yichang	3855	0.4	29135	3.1	352125	37.4	13614	1.4	126439	13.4
襄阳市	Xiangyang	17452	1.7	5790	0.6	348713	34.5	10421	1.0	157102	15.6
鄂州市	Ezhou	225	0.1	6547	3.0	82334	37.3	3462	1.6	54632	24.7
荆门市	Jingmen	6922	1.8	10389	2.6	145181	36.8	6230	1.6	49761	12.6
孝感市	Xiaogan	8372	1.0	5978	0.7	274007	33.2	7237	0.9	173574	21.0
荆州市	Jingzhou	14145	3.3	23	0.0	119387	28.1	6309	1.5	55548	13.1
黄冈市	Huanggang	22617	3.3	14190	2.1	223145	33.0	7562	1.1	149659	22.2
咸宁市	Xianning	481	0.2	662	0.3	52765	23.0	3362	1.5	32764	14.3
随州市	Suizhou	612	0.4	1286	0.9	41849	28.2	1143	0.8	26587	17.9

Table 04.1b The working population in different sectors of cities in Hubei province

城 市	City	第三产业 (1)批发和零售业 Wholesale and Retail Trades	Proportion	(2)交通运输、 仓储和邮政业 Traffic, Transport, Storage and Post	Proportion	(3)住宿和餐饮业 Hotels and Catering Services	Proportion	(4)信息传输、计算机 服务和软件业 Information Transmission, Computer Services and Software	Proportion	(5)金融业 Financial Intermediation	Proportion
武汉市	Wuhan	181699	8.5	105457	4.9	49568	2.3	37364	1.8	76687	3.6
黄石市	Huangshi	10766	3.5	9706	3.2	3009	1.0	2000	0.7	5130	1.7
十堰市	Shiyan	113304	17.1	14050	2.1	10189	1.5	7802	1.2	20018	3.0
宜昌市	Yichang	99432	10.5	52429	5.6	24884	2.6	7677	0.8	12682	1.3
襄阳市	Xiangyang	120406	11.9	29740	2.9	16743	1.7	6743	0.7	14763	1.5
鄂州市	Ezhou	8061	3.6	7954	3.6	4873	2.2	4046	1.8	2808	1.3
荆门市	Jingmen	35031	8.9	16701	4.2	6472	1.6	6009	1.5	8078	2.0
孝感市	Xiaogan	70603	8.5	16986	2.1	31599	3.8	6243	0.8	11157	1.4
荆州市	Jingzhou	16778	4.0	16848	4.0	3947	0.9	5869	1.4	14312	3.4
黄冈市	Huanggang	24257	3.6	10263	1.5	4063	0.6	6015	0.9	15844	2.3
咸宁市	Xianning	7846	3.4	8768	3.8	2384	1.0	3563	1.6	6216	2.7
随州市	Suizhou	7846	5.3	4119	2.8	1991	1.3	1088	0.7	3780	2.5

Table 04.1c The working population in different sectors of cities in Hubei province

城 市	City	(6)房地产业 Real Estate	Proportion	(7)租赁和商业服务业 Leasing and Business Services	Proportion	(8)科学研究、技术服务 和地质勘查业 Scientific Research, Technical Service and Geologic Prospecting	Proportion	(9)水利、环境和公共 设施管理业 Management of Water Conservancy, Environment	Proportion	(10)居民服务、修理和其他服务业 Services to Households and 0ther Services	Proportion
武汉市	Wuhan	65054	3.1	41986	2.0	80720	3.8	32508	1.5	7064	0.3
黄石市	Huangshi	4122	1.3	3856	1.3	4968	1.6	2512	0.8	535	0.2
十堰市	Shiyan	18263	2.8	9090	1.4	4983	0.8	5616	0.8	10700	1.6
宜昌市	Yichang	20932	2.2	28894	3.1	22070	2.3	10090	1.1	7336	0.8
襄阳市	Xiangyang	19656	1.9	14689	1.5	22513	2.2	15902	1.6	5222	0.5
鄂州市	Ezhou	3752	1.7	2776	1.3	1670	0.8	3241	1.5	1359	0.6
荆门市	Jingmen	3725	0.9	3082	0.8	4920	1.2	5077	1.3	757	0.2
孝感市	Xiaogan	19923	2.4	21675	2.6	6777	0.8	7784	0.9	10170	1.2
荆州市	Jingzhou	5196	1.2	3464	0.8	5891	1.4	7713	1.8	807	0.2
黄冈市	Huanggang	6806	1.0	1809	0.3	4247	0.6	7052	1.0	980	0.1
咸宁市	Xianning	3297	1.4	2504	1.1	2323	1.0	3285	1.4	109	0.0
随州市	Suizhou	1497	1.0	1275	0.9	2057	1.4	4285	2.9	44	0.0

Table 04.1d The working population in different sectors of cities in Hubei province

城 市	City	(11)教育 Education	Proportion	(12)卫生、社会保障 和社会福利业 Health, Social Security and Social Welfare	Proportion	(13)文化、体育、 娱乐用房屋 Culture, Sports and Entertainment	Proportion	(14)公共管理和 社会组织 Public Management and Social 0rganization	Proportion
武汉市	Wuhan	180946	8.5	91206	4.3	27212	1.3	98573	4.6
黄石市	Huangshi	28279	9.2	18831	6.1	2447	0.8	27211	8.9
十堰市	Shiyan	43511	6.6	32729	4.9	4200	0.6	44271	6.7
宜昌市	Yichang	48775	5.2	28077	3.0	10660	1.1	43473	4.6
襄阳市	Xiangyang	82514	8.2	44787	4.4	6276	0.6	70514	7.0
鄂州市	Ezhou	13138	5.9	7839	3.5	1291	0.6	10930	4.9
荆门市	Jingmen	31420	8.0	19857	5.0	3088	0.8	32143	8.1
孝感市	Xiaogan	61540	7.5	31630	3.8	7570	0.9	53119	6.4
荆州市	Jingzhou	51267	12.1	34550	8.1	3555	0.8	58513	13.8
黄冈市	Huanggang	72644	10.8	37851	5.6	2837	0.4	63491	9.4
咸宁市	Xianning	36211	15.8	23128	10.1	1636	0.7	38433	16.7
随州市	Suizhou	19500	13.1	11525	7.8	931	0.6	16987	11.4

Table 04.2a The working population in different sectors of cities in Hunan province

城 市	City	第一产业(农、林、牧、渔业) Primary Industry	Proportion	第二产业(1)采矿业 Secondary Industry: Mining	Proportion	(2)制造业 Manufacturing	Proportion	(3)电力、热力、燃气及水生产和供应业 Production and Distribution of Electricity, Gas and Water	Proportion	(4)建筑业 Construction	Proportion
长沙市	Changsha	983	0.1	1387	0.1	303628	25.1	8093	0.7	222647	18.4
株洲市	Zhuzhou	410	0.1	8637	1.9	151888	33.3	5869	1.3	89652	19.6
湘潭市	Xiangtan	3195	0.7	660	0.1	75143	15.9	3949	0.8	120520	25.5
衡阳市	Hengyang	754	0.1	16280	3.0	98714	18.4	9497	1.8	115189	21.5
邵阳市	Shaoyang	3048	0.8	6368	1.7	48872	13.1	7169	1.9	79709	21.3
岳阳市	Yueyang	6263	1.3	2289	0.5	106318	22.7	6502	1.4	84505	18.0
常德市	Changde	501	0.1	2360	0.6	66192	15.9	5759	1.4	100339	24.0
张家界市	Zhangjiajie	492	0.6	33	0.0	5527	6.4	1588	1.8	11871	13.7
益阳市	Yiyang	711	0.3	676	0.3	52899	19.6	3468	1.3	54504	20.2
郴州市	Chenzhou	1697	0.5	24333	6.8	50208	14.0	12887	3.6	48775	13.6
永州市	Yongzhou	2839	0.9	2029	0.6	51200	15.7	7484	2.3	48124	14.8
怀化市	Huaihua	1360	0.5	2182	0.8	22743	8.6	11425	4.3	25105	9.5
娄底市	Loudi	1489	0.5	13830	4.7	56896	19.1	3661	1.2	74132	24.9

Table 04.2b The working population in different sectors of cities in Hunan province

城 市	City	第三产业(1)批发和零售业 Wholesale and Retail Trades	Proportion	(2)交通运输、 仓储和邮政业 Traffic, Transport, Storage and Post	Proportion	(3)住宿和餐饮业 Hotels and Catering Services	Proportion	(4)信息传输、计算机 服务和软件业 Information Transmission, Computer Services and Software	Proportion	(5)金融业 Financial Intermediation	Proportion
长沙市	Changsha	73582	6.1	49059	4.1	28097	2.3	24898	2.1	66015	5.5
株洲市	Zhuzhou	13637	3.0	9330	2.0	5090	1.1	3897	0.9	16900	3.7
湘潭市	Xiangtan	43775	9.3	65381	13.8	10700	2.3	6326	1.3	14601	3.1
衡阳市	Hengyang	15014	2.8	14503	2.7	6754	1.3	4986	0.9	21389	4.0
邵阳市	Shaoyang	11000	2.9	11522	3.1	1591	0.4	4307	1.2	22344	6.0
岳阳市	Yueyang	19279	4.1	10283	2.2	6403	1.4	6707	1.4	20255	4.3
常德市	Changde	17185	4.1	11047	2.6	5547	1.3	5404	1.3	12223	2.9
张家界市	Zhangjiajie	2059	2.4	2824	3.3	4369	5.1	1750	2.0	4346	5.0
益阳市	Yiyang	5804	2.2	5240	1.9	1572	0.6	2963	1.1	20708	7.7
郴州市	Chenzhou	14032	3.9	9053	2.5	5016	1.4	3940	1.1	19627	5.5
永州市	Yongzhou	7478	2.3	10366	3.2	1328	0.4	4372	1.3	11240	3.4
怀化市	Huaihua	4995	1.9	12869	4.9	1673	0.6	3806	1.4	9189	3.5
娄底市	Loudi	6065	2.0	7744	2.6	1960	0.7	2494	0.8	7657	2.6

Table 04.2c The working population in different sectors of cities in Hunan province

城 市	City	(6)房地产业 Real Estate	Proportion	(7)租赁和商业服务业 Leasing and Business Services	Proportion	(8)科学研究、技术服务 和地质勘查业 Scientific Research, Technical Service and Geologic Prospecting	Proportion	(9)水利、环境和公共 设施管理业 Management of Water Conservancy, Environment	Proportion	(10)居民服务、修理和其他服务业 Services to Households and 0ther Services	Proportion
长沙市	Changsha	43528	3.6	26967	2.2	47636	3.9	11271	0.9	5059	0.4
株洲市	Zhuzhou	17640	3.9	10952	2.4	6062	1.3	4862	1.1	1842	0.4
湘潭市	Xiangtan	8362	1.8	9445	2.0	6242	1.3	5820	1.2	7441	1.6
衡阳市	Hengyang	10659	2.0	7805	1.5	6859	1.3	8724	1.6	1415	0.3
邵阳市	Shaoyang	4441	1.2	2410	0.6	2660	0.7	4009	1.1	1078	0.3
岳阳市	Yueyang	6829	1.5	6181	1.3	16009	3.4	10064	2.1	2095	0.4
常德市	Changde	7185	1.7	11832	2.8	11601	2.8	5401	1.3	1580	0.4
张家界市	Zhangjiajie	1015	1.2	2197	2.5	523	0.6	2517	2.9	22	0.0
益阳市	Yiyang	2426	0.9	1653	0.6	1766	0.7	4485	1.7	120	0.0
郴州市	Chenzhou	10004	2.8	6499	1.8	8309	2.3	6474	1.8	774	0.2
永州市	Yongzhou	3465	1.1	5853	1.8	4264	1.3	5216	1.6	685	0.2
怀化市	Huaihua	5661	2.2	2328	0.9	3255	1.2	6594	2.5	157	0.1
娄底市	Loudi	2615	0.9	6236	2.1	2064	0.7	5199	1.7	1645	0.6

Table 04.2d The working population in different sectors of cities in Hunan province

城 市	City	(11)教育 Education	Proportion	(12)卫生、社会保障 和社会福利业 Health, Social Security and Social Welfare	Proportion	(13)文化、体育、 娱乐用房屋 Culture, Sports and Entertainment	Proportion	(14)公共管理和 社会组织 Public Management and Social 0rganization	Proportion
长沙市	Changsha	105871	8.8	72374	6.0	21859	1.8	96364	8.0
株洲市	Zhuzhou	33359	7.3	22967	5.0	3416	0.7	49999	11.0
湘潭市	Xiangtan	31723	6.7	20866	4.4	7880	1.7	30419	6.4
衡阳市	Hengyang	72340	13.5	39490	7.4	4355	0.8	80413	15.0
邵阳市	Shaoyang	57701	15.4	33353	8.9	1535	0.4	71279	19.0
岳阳市	Yueyang	52730	11.2	28328	6.0	3873	0.8	74127	15.8
常德市	Changde	53164	12.7	30736	7.4	3658	0.9	65637	15.7
张家界市	Zhangjiajie	11929	13.8	7000	8.1	2009	2.3	24296	28.1
益阳市	Yiyang	42580	15.8	23060	8.6	1956	0.7	42739	15.9
郴州市	Chenzhou	46561	13.0	27102	7.5	2583	0.7	61301	17.1
永州市	Yongzhou	55477	17.0	27005	8.3	2529	0.8	75176	23.1
怀化市	Huaihua	50304	19.1	29125	11.1	2961	1.1	67379	25.6
娄底市	Loudi	34843	11.7	20024	6.7	1536	0.5	47240	15.9

Appendix 5 Working Population Proportion in Different Tertiary Sector

Table 05.1 The proportion of sub service sectors in Hubei Province

	Producer Service		Distributive Service		Consumer Service		Social Service		Total -
	Total	Proportion	Total	Proportion	Total	Proportion	Total	Proportion	
Wuhan	221091	20.55	287156	26.69	83844	7.79	483953	44.98	1076044
Huangshi	15108	12.25	20472	16.59	5991	4.86	81801	66.30	123372
Shiyan	55173	16.29	127354	37.60	25089	7.41	131110	38.71	338726
Yichang	70185	16.81	151861	36.38	42880	10.27	152485	36.53	417411
Xiangyang	55851	11.87	150146	31.91	28241	6.00	236230	50.21	470468
Ezhou	13382	18.15	16015	21.72	7523	10.20	36818	49.93	73738
Jingmen	20894	11.85	51732	29.33	10317	5.85	93417	52.97	176360
Xiaogan	58998	16.54	87589	24.55	49339	13.83	160850	45.08	356776
Jingzhou	28841	12.61	33626	14.70	8309	3.63	157934	69.05	228710
Huanggang	30474	11.80	34520	13.37	7880	3.05	185285	71.77	258159
Xianning	15580	11.15	16614	11.89	4129	2.96	103380	74.00	139703
Suizhou	7640	9.93	11965	15.55	2966	3.86	54354	70.66	76925

Table 05.2 The proportion of sub service sectors in Hunan Province

	Producer Service		Distributive Service		Consumer Service total		Social Service		Total
	Total	Proportion	Total	Proportion	Total	Proportion	Total	Proportion	
Hunan	161408	24.00	122641	18.23	55015	8.18	333516	49.59	672580
Changsha	49389	24.70	22967	11.49	10348	5.18	117249	58.64	199953
Zhuzhou	38734	14.40	109156	40.58	26021	9.67	95070	35.34	268981
Xiangtan	44839	15.21	29517	10.02	12524	4.25	207826	70.52	294706
Hengyang	33502	14.62	22522	9.83	4204	1.83	169002	73.73	229230
Shaoyang	39972	15.19	29562	11.23	12371	4.70	181258	68.88	263163
Yueyang	36644	15.13	28232	11.66	10785	4.45	166539	68.76	242200
Changde	9308	13.92	4883	7.30	6400	9.57	46265	69.20	66856
Zhangjiajie	27750	17.67	11044	7.03	3648	2.32	114630	72.98	157072
Yiyang	40070	18.11	23085	10.43	8373	3.78	149747	67.67	221275
Chenzhou	24930	11.62	17844	8.32	4542	2.12	167138	77.94	214454
Yongzhou	20984	10.48	17864	8.92	4791	2.39	156657	78.21	200296
Huaihua	19002	12.90	13809	9.37	5141	3.49	109370	74.24	147322