On the Viewing of Innovative Concept to Develop Global Travel of Heilongjiang Forest Region and its Countermeasures and application of computer networks on global travel

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Abstract

Innovation concept in the development of five big ideas has the first place and it is the key point for guiding global travel of Heilongjiang forest region. An evolution game for government and industry participants was established. The game equilibrium is that the government chooses incentive industry participants, industry participants choose to innovate. The industry participants can take "travel + forestry" strategy to develop all kinds of breeding and planting could form a green ecological forestry industrial economy. Taking “Travel + culture” and "travel + culture + computer internet communication" strategies could construct regional characteristic tourism belt. Taking "travel + sports” and "travel + health real estate" could build a new industrial economy, forming new economic growth point. During the global tourism development, government must pay attention to ecological protection and further refine and improve the relevant laws and regulations. At the same time, government should give financial supply, policy support and accelerate the construction of forest base. The government needs to promote urbanization construction of tourist town, computer networks industry and realize the tourist town and scenic areas to form an integral brand together.

Keywords: Innovation, forest region, global tourism, industry, computer networks industry.

1. INTRODUCTION

With the rapid development of forest tourism, more and more people pay close attention to it and it has become one of the most important parts of the world tourism industry. In 2016, an officer from Forestry Bureau said the population of forestry tourism occupied more than 1/4 of domestic tourism population at the Forestry Tourism Festival and the opening ceremony of Changbai Mountain International Ecological Forum. During the period of 12th Five-Year plan, the population of forestry tourism reached to 4 billion with an annual growth rate of more than 15%. In 2015, the national forest tourists reached to 1.05 billion, accounting for 26% of domestic tourism population.

As far as the whole country is concerned, Heilongjiang province is a large province with rich forest resources (Ma et al., 2012). It has great potential for forest tourism. The forest industry region in Heilongjiang province is one of China's major state-owned forest with a total area of 10.098 million hectares and the forest area is 8.498 million hectares. The total stumpage reaches to 770 million cubic meters with a coverage rate of 84.2% (Wei, 2011). The vast forest distributed in Xiao Hinggan Mountains and Wandashan mountains is one of the main terrestrial natural ecosystems in Northeast Asian and it is also the natural ecological barrier of northeast granary and the main birthplace of Heilongjiang, Songhua River and other six major river systems (Chen, 2015). However, the economy in northeast forest region of China, with any pillar industry, is not developed enough for the forbidden of forest logging. To speed up the slow development of the northeast forest region is the first mission that should be practiced. However, with the emergence of forest tourism, Heilongjiang forest area faces both opportunities and challenges (Hu, 2011; Ke et al., 2010; Song, 2013; Yang and Zhang, 2014).

The main problems of the development of China’s tourism industry are the structural imbalance of tourism products and effective supply shortage (Zuo et al., 2011). With the diversification of people’s consumption concept, the tourism supply side needs to be reformed properly. In the current modes of “Travel +” and “Internet+ ”, the innovation on institution and technics should be developed so as to realize the measurement of
supply reform. The whole process should be guided by government and industry participants’ aim to achieve innovation and development. In the fifth Plenary Session of the 18th CPC Central Committee proposed five development points: innovation, coordination, and green, open and share which has a close relationship with the development of global tourism this year. The five ideas are the leading guide for global tourism, and the whole domain tourism is the comprehensive carrier of five ideas. Innovation-driven development is the chief points of five ideas and it is a key to guide the whole domain tourism by Innovation-driven development.

2. THE RELATIONSHIP BETWEEN INNOVATION-DRIVEN DEVELOPMENT AND WHOLE DOMAIN TOURISM

2.1 The whole domain tourism promotes industrial convergence

The global tourism is the embodiment of innovation and development. Global tourism is the tourism industry to upgrade industries, through the systematic optimization of social resources in the economic region and related industries, thus forming the tourism industry development, promote the coordinated development of the whole industry. Global tourism can effectively promote the whole industry innovation and it is an important area of supply side reform. The development of the global tourism should share resources and create brand and common industry and share interests in tourism marketing, product development and utilization, improve the overall public service, work together to promote the comprehensive tourism industry linkage, through the powerful combination of “Travel +” mode, the development of tourism economic integration pattern. The relationship between the traditional tourism can get through the business culture, sports, real estate, service industry, communication, industry, agriculture and other industries between the formation of the scenery is everywhere the global tourism pattern. It can form two types of products, one is ornamental, experience, leisure, health, etc. second kinds of play; forestry, agricultural products, cultural and artistic products. The products are good and it is easy to sell on the internet. In short, the global tourism can promote the integration and development between industries, forming a virtuous circle.

2.2 The construction of innovative game model between industry participants and government’s development in whole domain tourism

In the process of innovation, government and industry participants of the main game, continue to study each other in the dynamic strategy and then make the best response decision, therefore, can be seen the game between the government and industry participants as a learning process. If the government has a complete set of incentive arrangements, including the market mechanism and government incentives, the industry participants will find that innovation will be the best strategic choice. In the absence of the government's innovation incentive system, due to the high risk of innovation and innovation costs and benefits of asymmetry, the industry participants will not be easy to innovate, which is bound to dampen the innovation motivation of the industry participants.

As mentioned above, government and industry participants are the two main types of innovation. G said government; F said industry participants. The two group game strategy space: Sg={s1, s2}, Sf={s3, s4}, S1 in said government guidance/innovation incentive strategy; S2 says the government does not lead to innovation/incentive strategy; S3 industry participants take innovation strategy; S4 industry participants innovation strategy.

If the information is completely open, the two sides are known to discuss the dynamic game under complete information.

<table>
<thead>
<tr>
<th>Government</th>
<th>Industry participants</th>
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<tr>
<td></td>
<td>Innovation</td>
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<tr>
<td>Guide</td>
<td>F1-C, B1</td>
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<tr>
<td>Not guide</td>
<td>F0, B0</td>
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Table 1 Payment Matrix of Different Pure Strategy Combinations for Dynamic Game under Complete Information

Government guidance cost D in participants in the industry innovation, to obtain additional income F1, if the government does not guide, in the industry participants’ innovation, government gains for F0; industry participants under the guidance of government innovation profit B1, in the absence of government under the
guidance of innovation profit B0. If the government guidance, industry participants do not innovate, the government will lose D, industry participants an additional profit of 0, if the government does not guide the industry participants do not innovate, both sides can only get additional revenue of $0. The game matrix is constructed, as shown in table 1.

First of all, in the initial time of the game, the probability that the government chooses S1 is y, and the probability of choosing S2 is 1-y. Many industry participants choose S3 ratio of X, X4 ratio of 1-x; then, select Mfs3 S3 industry participants expected revenue, expected return Mfs4 S4 selection and a number of industry participants of the average return of Mfa, respectively:

\[
\text{Mfs3} = B1y + B0(1-y) = B0 + (B1-B0)y \\
\text{Mfs4} = 0y + 0(1-y) = 0 \\
\text{Mfa} = Mfs3x + Mfs4(1-x) = B0x + (B1-B0)xy
\]

Similarly, the government chose S1's expected return of Mgs1, select S2's expected revenue Mgs2 and the government's average revenue of Mga, respectively:

\[
\text{Mgs1} = (F1-D)x + (-D)(1-x) = F1x - Dx \\
\text{Mgs2} = F0x + 0(1-x) = F0x \\
\text{Mga} = Mgs1y + Mgs2(1-y) = (F1-D)y + F0x(1-y) = (F1-D)y + F0x
\]

Replicator dynamics equation of industry participants and government:

\[
\frac{dx}{dt} = x(Mfs3 - Mfa) = x(B0 + (B1-B0)y - (B0x + (B1-B0)xy)) = x(1-x)[B0 + (B1-B0)y] \\
\frac{dy}{dt} = y(Mgs1 - Mga) = y(F1x - (F1-F0)xy + F0x-Dy) = y(1-y)(F1-F0)x-D
\]

The evolutionarily stable strategy requires a stable state to have the ability to resist disturbance. Mathematically, \( F'(x^*) \) must be less than 0. Then the \( F(x) \) derivative:

\[
F'(x) = (1-2x)(B0 + (B1-B0)y)
\]

By the formula (9), when \( y > -B0 / (B1-B0) \), \( F'(x=0) > 0 \) \( (x^*=0) \), \( F'(x=1) < 0 \), which is evolutionarily stable strategy; when \( y < B0 / (B1-B0) \), the evolutionary stability strategy.

Similarly, the \( F(y) \) derivative, too:

\[
F'(y) = (1-2y)(F1-F0)x-D
\]

Thus, when \( x > D / (F1-F0) \), \( F'(y=0) > 0 \), \( F'(y=1) < 0 \), \( Y^*=1 \) is evolutionarily stable strategy; when \( x < D / (F1-F0) \), \( F'(y=0) < 0 \), \( F'(y=1) > 0 \), is evolutionarily stable strategy.

According to the above study, we can see that the probability of the industry participants to choose innovation is \( D / (F1-F0) \), which depends on the government's Guide to D, and the government's income level in the innovation of industrial participants. The higher the cost of government guidance D, the higher the probability of the industry participants to choose innovation.

The probability of government choice is \( -B0 / (B1-B0) \), which mainly depend on the income level of the innovation of the industrial participants. Due to the risk of innovation, especially in the absence of protection and institutional incentives, industrial innovation is often not get benefits, or even losses, it is said that the value of B0 is negative. This is one of the factors that are not willing to innovate in the absence of security and institutional incentives. When the risk of innovation in the industry participants, once a large loss of innovation,
the value of \(-B_0/(B_1-B_0)\) increased, then the government is willing to guide and encourage innovation. Industry participants will be willing to innovation to get greater benefits, like "there must be rewarded under the brave".

2.3 The analysis of the results

(1) The government to improve the global tourism economy (Policy) cost, then the industry participants to choose the probability of innovation will also be increased. That is to say, the choice of innovation strategy will be the best strategy for the industrial participants, and the economic policy should be the best strategy for the government. Therefore, the balance of this situation is: the government chooses to encourage the industry participants, the industry participants choose innovation.

(2) The government economy on the global tourism (Policy) is low cost, and then the industry participants to choose innovation probability will be relatively low. That is, the optimal strategy is not to choose the innovation of the industry participants, and the government's optimal strategy is not to invest in the economy or policy to encourage innovation.

(3) When the innovation failure and the loss increase, the incentive effect of the government on the industrial participants is particularly important. That is, the government's effective incentives will encourage the industry participants to choose innovation. In this case, the government has become the dominant innovation.

(4) When the probability of choosing, the innovative industrial participants are relatively large, the probability is greater than \(D / (F_1-F_0)\) and the government is less than \(-B_0/(B_1-B_0)\) to stimulate innovation. That is to say, the enthusiasm of the participants will promote the government to establish and improve the incentive mechanism. In this case, the industrial participants become the undertaker of innovation, and become the driving force of institutional innovation.

3. INNOVATION-DRIVEN DEVELOPMENT MODEL OF FOREST “TOURISM +”

Global tourism clearly pointed out that, to play a "Global Travel +" function, tourism and other related industries, the depth of integration, blending with Sheng, the formation of new productivity and competitiveness, give full play to the tourism industry of the pulling power. How in the process of development of global tourism, fully mobilize the enthusiasm and initiative into other industries, and tourism fit, small travel patterns change to tourism pattern, is an important problem in the development of the global tourism have to face. Therefore, the industry participants can try to construct the “tourism + “function from the following aspects.

3.1 “Tourism Forestry” promotes the development of forestry economy

"Travel + forestry", to make full use of the abundant forest resources for planting and breeding industry, should be based on the actual situation of forest, fruit, flowers, fungi, medicine etc. development mode of forest understory, make full use of space development of three-dimensional culture, vigorously develop the forest birds, livestock, forest bees model.

The forest under the flowers, now the standard of living increased the pursuit of quality of life, the environment of increasingly high demand. Including at home, urban roads, such as flowers, gardening, nursery stock, such as growing demand. In the forest under the shade of flowers and ornamental plants, the development prospects are very broad, on the one hand, the use of vegetation cover the bare soil, creating a landscape, while providing a high level of forestry tourism. On the other hand also let farmers get affordable.

The forest can be farmed deer antler products, at the same time, access can be fully integrated into the formation of ornamental forest park. As the development pattern of Heilongjiang province forestry bureau of forestry of Pingshan Royal Luyuan tourism area. Here 1000 bull breeding habitat for deer, red deer. More than and 800 years ago, is the Jin emperor Ping Shan Royal Luyuan royal hunting ground, a hunting season, where bustling. The Royal Geographical Environment Luyuan tourism area Pingshan forest species is very abundant, richly endowed by nature, beautiful scenery, there is a long folk legend, is the golden tourism belt in Heilongjiang province an important tourist area.

The forest can be planted pasture, one can improve the ornamental effect, two can be the development of cattle and sheep farming, cattle and sheep to solve the problem of sports venues, and excellent biological environment,
to ensure the cattle and sheep meat and milk quality has a significant role in promoting. Planting grass or keep the natural growth of weeds under forest, breeding Chaiji, geese and other poultry, is very conducive to the growth of poultry. Poultry eating grass, eating manure, manure and forest land, and the formation of good biological cycle chain. The market of poultry products produced by the forest land is good and the price is high.

The development of forest can be breeding, production of linden honey, Northeast China is unique kinds of honey has Yangwei tonic, heat detoxification, Runzao effect of Buzhong, sedative effect, is a rare honey.

A large area of forest land idle or scattered planting edible fungus crop. Usually, the mushroom like a cool place, and the natural conditions of the forest for edible fungi to improve the very suitable growth environment. The utility model has the advantages of low production cost and high yield, and the waste material after the edible mushroom picking can also be a strong waste material for the growth of the forest tree, which can be realized in one stroke. In addition, forest vegetables and herbs planting and higher economic benefit model, forest planting spinach, pepper, cabbage, onion, garlic and other vegetables, glade for interpolating oil peony, Radix Peonies Alba, Radix et rhizome.

3.2 “Tourism Culture” shows the regional characteristics

The development of folk culture and forestry culture. Heilongjiang has a unique folk custom, which are rich in local flavor, unique charm, wide distribution, less investment, easy to develop, and the impact on the ecological environment is relatively small. Such as Oroqen, Ewenki, Hezhen, Manchu and other ethnic folk cultural landscape, national history tour, national holiday tour, folk art and folk culture tourism projects, the original flavor is rich and unique.

In addition, the forest can also develop northeast red tourism culture. The vast primeval forest, was once an important “base” dongbeikanglian, concealment, protection, has nurtured many anti soldiers. For example, shanhetun, Hebei, Yabuli, Dongfanghong, Chai River, and Hailin and so on, in Heilongjiang forest, has retained many of its sites, there were a lot of its story, a lot of resistance fighter’s later life. The red cultural elements which can fully tap the resistance and anti-story prototype sites, the spirit of the Sino Japanese War, the development of red tourism routes. For example, Yichun Jinshantun district tourism, history and culture in Jinshan Industrial Park, visitors can visit the site of the old white anti-gun repair, clothing factory, wooden barracks and other scenes, feelings of anti-culture.

Songfeng Mountain is located near the city of Heilongjiang province which is the earliest Taoist resort, originated in the Jin Dynasty with hundred years of history. Here is a good ecological environment, beautiful natural scenery, the mountains of the famous scenic spots are void hole, and chessboard stone records a long history of Taoist mountain pine. We can develop the Taoist culture of the forest area, combine the moving legend and the beautiful natural scenery, and build the tourism industry with the characteristics of tourism and culture.

3.3 “Tourism+Culture+Communication” tourism belt

Traditional tourist attractions often have a typical natural and social culture. As he maolangou national Forest Park, located in the northeast of Heilongjiang Province, Xingan Ling mountain, Jiayin Xiangyang township. Maolangou is the most strange stone forest group spectacular natural landscape for the city of Yichun, known as Heilongjiang’s "Jiuzhaigou". Heilongjiang, Jiayin, China dinosaur museum is a few kilometers from the national Forest Park, it is a large comprehensive museum, showing the close combination of natural science and human landscape. The museum displays the hadrosaurs, Tyrannosaurus and other bones assembled many dinosaur skeletons. Between maolangou National Forest Park and the Museum of China dinosaur two beautiful scenery, picturesque scenery, the scenery along the way is. Can make full use of natural scenery and dinosaur culture to create a tourist belt. Through the network communication involves travel with various elements together, into the Jiayin County Tourism Zone, terminal tourists through the mobile phone to download the electronic guide system, a mobile phone can pass, to tour, visitors can instantly aware of characteristics, history, culture, tourism, catering accommodation information.

3.4 “Tourism Sports” new growth point
As a branch of tourism industry, sports tourism is in the stage of rapid development. The World Tourism Organization said the day before; the sports tourism industry output value has exceeded 450 billion euros per year. Not only that, when the overall growth of the tourism industry in the floating around 2%-3%, sports tourism is the world's fastest growing tourism market, the growth rate reached 14% per year. In summer, the forest can hold regular sports tourism festival, combining with the development of rafting contest, mountain bike cross-country, mountaineering competitions, through the primeval forest and field survival training and sports activities and ecological tourism. Winter, due to the very large amount of snow in the northeast, winter skiing project is the focus of tourism projects in Heilongjiang. At the same time, continue to strive for domestic and foreign skiing events, fully display the characteristics of the northeast forest region, improve the visibility of the northeast forest area, and constantly create new economic growth points.

3.5 “Tourism+ Health Real Estate” new growth point

The development trend of the high proportion of sub-health population and the aging society, the China society in the city to promote residential demand in the process of diversification, real estate and health has been listed in the housing industry scarce products. 2012, the proportion of the population aged 60 and above accounted for the total population of 14.3%. China in line with the WHO on the definition of health of the population accounted for only 15% of the total population, at the same time, there are about 15% people in the state of the disease, and the remaining 70% of people in sub-health state. It can improve the microcirculation of the human body through the ecological habitat, so as to solve the problems of the elderly health and sub-health.

In Heilongjiang, there are a number of countries Forest Park, tourism and leisure summer resort, is the natural forest oxygen bar. Heilongjiang forest scenic area development can rely on two types of real estate: natural scenery around the resort development in health and pension real estate, the other is a scenic area development and fusion of health pension real estate projects. At this stage, China's health care is still in its infancy in terms of quantity and quality. By the end of 2010, Vanke announced a high-profile pension real estate has become a new branch of its business territory, its healthy pension real estate development plan also fully launched. In addition to Vanke, poly and other real estate is also studying the future prospects of pension real estate, tourism and real estate, and launched a pension apartment, vacation tourism and other products pilot. Thus, tourism + health real estate may be the construction of new economic growth point, and change the forest industry structure.

4. GOVERNMENT’S GUIDE IN THE MODE OF “TRAVEL +”

4.1 Pay attention to ecological protection

In 2001, the State Council issued the "notice on further speeding up the development of tourism industry", to strengthen the ecological protection of tourism resources development as an important guiding ideology to promote the sustainable development of tourism industry. Relevant departments and local governments at all levels to strengthen the protection of the ecological environment of tourism resources development. In 2005, the National Tourism Administration and the State Environmental Protection Administration jointly issued the circular on Further Strengthening the protection of tourism ecological environment. Five development adhere to green development, we must adhere to the basic state policy of conserving resources and protect the environment, adhere to sustainable development, firmly take the development of production, affluent life and a good ecological environment, accelerate the construction of resource-saving and environment-friendly society, the formation of a new pattern of human and nature harmonious development of modernization. The development of "Travel +" must focus on ecological protection, otherwise it is difficult to realize the global tourism, has become a global failure.

4.2 Continue to promote financial services

The government should continue to promote financial services, and constantly improve the ability of the financial sector to serve the real economy. It is necessary to establish a diversified financial system which is matched with the development of economy and society by means of mechanism and system innovation. Actively guide the financial sector in the global tourism development, enhance the willingness of bank loans. The legal regulations about cooperative loans, clear and function of bank in support of the development of global tourism function; develop industry participants and trustworthy repayment incentives, improving industry participants will support the implementation of government loan; loan industry participants financial channels,
to ensure financial support; formulate the relevant government departments to support bank recourse losses the system reduces the bank recourse cost, improve bank recourse revenue.

4.3 Strengthen policy support to accelerate the construction of forest infrastructure

Participants in the industry in line with the loan, you can enjoy the relevant national support policies. In accordance with the relevant provisions of the tax imposition of production forest under economy products, shall enjoy the relevant preferential tax policies. Support qualified industry participants to apply for national support funds. On the ecological fragile areas and ethnic minority areas and remote areas to focus on the development of the global tourism, support.

Heilongjiang forest infrastructure has been very weak, for example, narrow roads, and poor road conditions. The government should attach importance to the infrastructure construction, while increasing investment. The state-owned forest farm mostly in ecologically fragile regions, undertakes the arduous task of ecological construction, is an important force to build a national ecological security barrier, construction of roads, power supply, network communication and other facilities in forest ecological security construction plays an important role in the foundation of. Ecological construction has the public attribute, therefore, on the national level, the State-owned Forest Farm Road, power supply security, network communication and other infrastructure construction should be included in the annual capital construction investment plan. In particular, to increase the forest economy related infrastructure investment, will be included in the planning and construction of infrastructure around and priority, combined with the relevant requirements of the new rural construction, to speed up the road, water conservancy, communications, electricity and other infrastructure construction, and effectively solve the problem of economic infrastructure weak farmers developing forest.

4.4 Accelerate the construction of urbanization

There are small cities and towns in the vicinity of the scenic spots. The "Eighteen report urbanization" has been written into the party, and the new industrialization, informatization, agricultural modernization is the future direction of the development of Chinese. The development of distinctive towns is an important part of China's new urbanization; tourism town is an important way of new urbanization. Is the tourist town with tourism as the main industry, and around its related industrial layout, such as a variety of "the travel +" development model, the function of supporting and environment construction, the formation of "town without tourism" development atmosphere of the new tourism destination, tourism development is a new logo, a new name card. Tourism town and scenic areas to be integrated, forming an inseparable common brand. A developed tourist town, which can drive the local economy, and promote economic development in the whole region, and even wider.

4.5 Focus on the internet

Nowadays, people's living standard is improving constantly, and more and more attention is paid to leisure activities. Many people choose to travel. There are many factors that affect people's tourism consumption behavior, such as travel agencies recommend, travel advertising, friends, etc., the influence of the growing period should be more than the spread of the internet. Internet business platform can be used as a computer or mobile terminal as a carrier of information transmission, website, blog, micro-blog, WeChat, etc. as a marketing medium. E-commerce platform needs to reflect the search function, information function, communication function, reservation function, after sale system.

5. CONCLUSION

Without any pillar industries, the economy in Heilongjiang province, the northern east part of China, is not prosperous enough. With the coming of forest tourism, Heilongjiang province faces both opportunities and challenges. The development strategy of whole domain tourism is of great potential for changing the economic condition now and the innovation-driven development is the key to guide the whole domain tourism. If government increases the cost whole domain tourism and the innovation chance to industry participations will become larger and larger. The strategy of innovation is the best choice for industry participations and it is also a optimal choice for the government to help those participations by economy. Considering the situation above, the government supports participations and participations promote the innovation. According to the guideline of innovation -driven development, the traditional tourism area can be developed by connecting the relationship with the industries, like forestry, cultural, sport, housing and so on, which forms a whole domain tourism with
scenery everywhere. In the terms of policies, several laws and regulations should be improved and speed up the building of internet so as to boost the tourism in small towns.

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