Study of the “Toilet Revolution” Management Model in Tourist Scenic Spots

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Abstract. The “Thirteenth Five-Year Plan” National Tourism Public Service Plan promoted the revolution of public toilets in tourist attractions across the country. Although the size of the toilet is small, it affects each tourist’s impression of a scenic spot and the review of service quality. This article selects three 5A-level scenic spots with large passenger traffic in Guangdong Province including Luo-Fu Mountain Scenic Spot in Huizhou, Dan-Xia Mountain Scenic Spot in Shaoguan, and Overseas Chinese Town East Resort in Shenzhen as cases. According to the questionnaires from tourists in the scenic area, we have found some problems in the current public toilets, such as imbalanced bathroom numbers of men and women, unclear toilet signs, difficulty in finding toilets, unsatisfactory toilet hygiene, etc. We proposed a series of constructive solutions for the toilet revolution of Guangdong and even the whole country as references.

1. Introduction

The toilet revolution is a civilized project of the country, and it is a major issue related to the national economy and people’s livelihood as well as the image of the country. In the “Thirteenth Five-Year Plan” National Tourism Public Service Plan, it is clearly stated that in order to promote the toilet revolutionary construction action, we must strengthen policy guidance, standards and specifications, technological innovation, and typical demonstrations to continue to promote the toilet revolution. But now that some problems like difficulty in finding toilets and using toilets as well as poor sanitary conditions are still obvious. Among the various complaint indicators issued by the China Tourism Research Institute of domestic tourist attractions, the proportion of tourist complaint about sanitary conditions is as high as 23.3%. The main problems affecting the experience including: insufficient number, lack of technical facilities; inadequate management and maintenance, poor sanitation, irrational function layout and defective design, unreasonable landing points, incomplete identification, remote locations, weak awareness of civilized toileting as well as lacking of Regional cultural atmosphere.

Guangdong has always been a province with a large population, having the first-tier cities of Guangzhou and Shenzhen which have dense population and numerous tourist attractions. There are more than twelve 5A scenic spots and 182 4A grades. The tourists almost reach on 400 million per year. Toilets, as a big problem, have not been well solved because the financial funds at all levels have been insufficient for a long time put into toilets programme. Social capitals have rarely chosen toilets as an investment target. In this article, we will analyze the questionnaires conducted in three major 5A-level scenic spots, study how to combine with construction and management, put forward innovative toilet management methods, which has far-reaching significance to improve the quantity and quality of toilets, promote the toilet revolution smoothly change from phased and massed construction to persistent and regular construction.
2. Research Method

2.1 Data Sources

This study distributed 553 questionnaires in Dan-Xia Mountain Scenic Area, Shao-Guan City, Guang-Dong Province, Luo-Fu Mountain Scenic Area in Hui-Zhou City, and Happy Valley Scenic Area in Shen-Zhen City. There are 553 questionnaires were retrieved and 528 questionnaires are valid, with an efficiency of 95.5%. According to the validity and reliability tests, F value Sig is 0.000, less than 0.05, and Cronbach’s Alpha is 0.776, which indicating that the questionnaire is available.

2.2 Sample Statistics

Among the 528 valid questionnaires, the number of women was slightly more than men. men accounted for 43.4%, women accounted for 56.6%, teens aged 12-18 accounted for 7.6%, and 19-30 years old people who are the largest tourist spending source, accounting for 58.5%, Middle-aged people aged 50 years accounted for 30.3%, and 51-60 year-old accounted for 3.2%, while the old people aged 61 and above accounted for 0.4%.

3 Analysis and Discussion

3.1 Unreasonable Male-Female Bathroom Ratio, Lack of Humanized Design of Hardware Facilities

The inconsistent male-female bathroom ratio in public toilets in Guangdong is still a major problem. For example, in the downtown business district and scenic spots where there are a large number of people, queuing in public toilets is a common condition. Men do not need to wait in line for toilets, while women often need to wait in line and even waiting for a long time. Nearly half of the interviewees believed that the number of men and women squatting pan were unreasonable. At the same time, the hardware facilities of public toilets, such as those dedicated to children, the elderly, the handicapped and other special groups, are lacking humanistic care. The survey found that 54.6% of the respondents thought that the bathroom ratio of male to female in the toilets in this area was inappropriate. Among the biggest problems that currently exist in public toilets, 66.7% is poor sanitation, 59.6% is the small number of toilets, 41.1% is incomplete facilities and irrational design, etc. More than 80% people think that fresh air is an important factor to impact the quality of the toilet environment and more than 50% people have requirements for environmental decoration and the use experience of toilets (Fig.1).

![Figure 1. Factor of Influence Tourists’ Evaluation of Toilet Using Experience.](image-url)
3.2 Insufficient Cultural Awareness

Most people still have a backward understanding of toilets and lack cultural awareness. From of old, people thought the toilet was a “dirty, messy, poor” place. According to the survey, the toilet conditions (hygiene, hardware facilities) in the scenic area will affect 84% of the tourists to make their impression of the whole city. In them, more than 50% of them are the main consumers aged 19-30. Young people’s willingness to travel is far higher than middle-aged people who have stable work and limited free time, furthermore they almost with children. 19-30 years old people have become the main source in the Chinese tourism market in the past 10 years. Besides, other people's comments on the toilet will affect the willingness of nearly 70% of people to go to the same scenic spot. Compared with other scenic spots or scenery in the city, toilets are places where almost every tourist will stay. With this small part, it can let tourists learn about the city's tourism image and cultural symbols. If the toilet without any decoration, or even cannot meet the sanitary conditions, it is very difficult for tourists to feel good about this scenic area and even the city.

3.3 Low Level of Information Management

Public toilets have problems such as “difficulty in finding and using toilets. Public toilets lack guidance signs, and the guidance signs are not clear, will makes it difficult for the public to find toilets. 56.6% of the interviewed people think that the indication signs are not obvious and too far from the location of public toilets (Fig.2). There are 77.8% tourists think it’s difficult to find toilets, which indicates that the current situation of toilets in the scenic spots and the layout of signs and toilets is still not user-friendly and insufficient, and the visual investigation and preferences of tourists are not researched enough. Obviously, it is even more impossible for tourists to know the real time flow of people in the nearby toilets thus unable to judge the toilet queuing situation, resulting in long queues of nearby toilets, and there are cases where toilets at a certain distance are vacant. At present, the "Internet+" model has not been widely used in the field of public toilets. According to survey data, up to 73.8% of the respondents indicated that they would like to use an APP that can cover public toilets, but there are also respondents who are reluctant to use it due to cumbersome and unpractical using procedures as well as weakness and unknown risks related APPs (Fig.3).

![Figure 2. The Convenience of Finding the Toilet Indicated Sign in the Scenic Area.](image-url)
3.4 High Operating Costs and Pressure on Government Public Expenditure

The building decoration cost of a new type of toilet is about 3,000 RMB /M², the investment in environmental protection equipment is 200,000 RMB, and other circuit facilities are about 100,000 RMB. In other words, the construction cost of a 150 M² toilet is about 750,000 RMB. Subsequent operating costs including labor, utilities, equipment depreciation, etc. will still require about 160,000 RMB/Year. In order to encourage the toilet revolution in various places, local governments will subsidize one to tens of thousands RMB per toilets per year, which greatly increases the financial burden of government.

4 Conclusion and Recommendation

4.1 People-Oriented and Provide Humanized Supporting Facilities

For the phenomenon that women wait in line more than men, we can consider appropriately increasing the number of women's toilets. In the layout design of the toilet, the structural layout of the toilet should be guided by the needs. In order to deal with the inconvenience for some special people to go to the toilet, a "third toilet" can be equipped with humanized facility. For example, the Luo-Fu Mountain Scenic Area in Hui-Zhou city attaches great importance to the management of tourist toilets and carries out the "toilet revolution" to the end. Taking into account the needs of tourists and increasing the number of third toilets. The "third toilet" has several closest tools with different size, safety grab bars and baby care chairs, providing tourists with more comfortable services and more humane services.

4.2 Multi-party Efforts to Strengthen Publicity and Education on Toilet Culture

Increasing funding is an important prerequisite for promoting toilet reform. With the guarantee of funds, we can drive the enthusiasm of newly-built and reconstructed toilets at the grassroots level, and then we can strengthen the maintenance and management of public toilets and increase the public's satisfaction with toilets. At the same time, it is also necessary to establish an effective supervision mechanism, and formulate toilet management rules and regulations in accordance with the actual situation in the local area. Besides, it should establishment related departments in order to check the implementation of public toilet planning, construction and management from time to time. Moreover, the departments can collect people’s feedbacks for carrying out targeted management and improvement on toilets. Of course, the toilet revolution is not enough with the participation of managers and builders. However, every toilet user should also participate. To carry out the toilet revolution, publicity and
education of toilet culture are essential. For example, community activities with the theme of "toilet culture" can be launched to let the public understand the importance of toilet culture and the toilet revolution, and encourage them to participate deeply. In public places with large people flow, public welfare advertisements related to toilets can be put in place to promote a healthy and civilized toilet culture and raise the public's awareness of toilet culture.

4.3 Fully Introduce Commercial Capital from Economic Market

Strengthen government-enterprise cooperation and encourage enterprises to provide public toilets to the public. Some tax relief can be provided for companies that provide public toilets, so that the government can reduce the operating and management costs of public toilets, and there is no need to hire a dedicated cleaning team. Otherwise, it also a good way to use the "toilet+" model to encourage restaurants, scenic areas, office buildings, shops, parking lots, and ticketing outlets to open toilets to public, integrate resources, and form a "ten-minute toilet circle."

4.4 Strengthening Information Management and Incorporating Public Toilets into the Mobile Internet

Using advanced Internet and big data capture to develop related mobile apps. Develop functions such as positioning, navigation, real-time people flow monitoring, commenting, and sharing to fundamentally solve the problems of "difficult to find toilets, hard to use toilets" and so on. The Guangzhou Urban Management Committee released the “Guangzhou Public Toilet” APP in August 2018. This software has functions such as positioning, navigation, and shared toilets. But so far, there are only 1000 installations, reflecting the low popularity of the software and weak user stickiness.

It can enhance user stickiness by strengthening publicity, improving functions, and enhancing practicability, so as to truly benefit the public with information technology.

4.5 Developing Relevant Mobile APPs and Realizing “Business Toilets”

Through the relevant functions of the APP, we can position toilet in the scenic spots. It can install tissue printing machine with non-toxic and pollution-free pigment in toilet. People can get free tissue with commercial ad. printed on it through connecting mobile phone and machine. Users can choose toilet tissue types, exchange more tissue with individual points from browsing other comments, travel and social information sharing through the APP. It can not only effectively monitor the quality of public toilets, but also allow tourists to have a more novel and interesting experience.

The focus of the project is to introduce social and commercial capital. The toilet tissue printing machine with non-toxic and non-polluting pigments will be widely installed in toilets in various scenic spots. The APP and toilet tissue supplied way will be optimized through combining with the feedbacks and opinions of the public after attracting certain target and potential users first. Then it is covered to other public infrastructures with high traffic flow, attracting more business investment, allowing the commercial potential of toilets to fully grow. In this way, the cost of government’s supervision can be saved and then finally achieve “business toilets”.

5. Conclusion

Public toilets problem as a livelihood issues have not been solved very well. Instead of the cognition problem, it is more limited by the level of economic and social development. The long-term insufficient investment of financial and social funds is impossible to choose toilets as an investment area due to lacking of benefits. Through the research of this project, in addition to strengthening the government's leadership, close collaboration between various departments, and increasing the protection of toilet construction in terms of land and capital supply. An important successful experience is the effort to create conditions to strengthen the participation of the whole society, especially to explore the
management and innovative operation of toilet management methods which have gradually formed a strong internal driving force for the development of the toilet revolution. This has improved the number and quality of toilets, and promoted the smooth transition of the toilet revolution from a staged focus to a permanent, conventional construction and operation track. It has far-reaching significance.

The construction of a smart city provides directions and ways for the reform of public toilets in tourist attractions. The functions of toilet positioning, navigation, real-time traffic monitoring, new type of toilet paper machine, and social information sharing are integrated into mobile phone applications to realize the in-depth integration of the "Internet+" model and toilet reform. In addition to providing people with richer entertainment content, scientific and technological means are more important to provide convenience for people's life and travel. It has become a micro-performance of new city construction and smart city construction, and contributes to the spiritual civilization of society as well.

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