Revitalization of Chinese Tourism in Baotu Spring Park of Jinan through Service Design Thinking

SiSi Feng
Dept. of Plastic Arts & Design,
Graduate School of KunSan National University, 558 Haehakro, Gunsan, Jeollabuk-do 54150 Republic of Korea
Sandong Management University, Changqing University Town, Jinan, Shandong Province, 250357 China

Jae Sun Yi
School of Contents Convergence Design,
Handong Global University 558 Handong-ro Buk-gu, Pohang Gyeongbuk 37554 Republic of Korea

Ji-Hyun Lee
Dept. of Industrial Design,
KunSan National University 558 Haehakro, Gunsan, Jeollabuk-do 54150 Republic of Korea

ABSTRACT

Baotu Spring Park, a must-visit place in Jinan, China, has been rated as the country’s highest-level scenic spot by the Chinese government. However, social media that highly reflects public opinions tends to express a lower evaluation of Baotu Spring Park. Thus, this paper employs service design thinking methods to identify the problems of Baotu Spring Park and provide solutions from the perspective of visitors. Based on desk research, tourist behavior tracking, contextual interviews, and a customer journey map, it was found that the service gap of Baotu Spring Park lacks a unified and effective instruction system. Also, the activities, parking, and high-quality tourist souvenirs are deficient, and there is no online information delivery platform. Finally, five suggestions are made: redesign the sign system, enhance the participation of tourists, redesign the tourist souvenirs and display space, offer parking areas and shuttle buses, as well as set up a dedicated application.

Key words: Baotu Spring Park, Tourist Experience, Chinese Tourism, Service Design.

1. INTRODUCTION

As Premier Li Keqiang [1] stated in 2016, China had entered the era of mass tourism. The majority of large and even small provinces and cities regard tourism as an important industry for development and marketing of local economy. Jinan, the capital of Shandong province, began to implement the tourism development policy in 1998. It won the title of top 16 excellent tourism cities of China in 1998 [2] by virtue of its distinctive natural resources, especially springs. Jinan is known as the City of Springs, and there are more than 72 springs with names, along with a myriad of nameless ones. The picturesque scenery of the springs has attracted a large number of tourists.

* Corresponding author, Email: illust@kunsan.ac.kr
Manuscript received Jul. 05, 2019; revised Nov. 26, 2019; accepted Nov. 29, 2019

Baotu Spring Park, opened in 1956, consists of many springs and cultural-historical heritage, and it has become a major attraction in Jinan. However, it distresses over the negative evaluation by the influential government media. To make matter worse, the ranking of Jinan saw a dramatic drop to 73rd out of the top 100 tourist cities of China in 2017 [2].

Now, the municipal government and people of Jinan are keen to attract more visitors and regain the former glory. In order to promote the revitalization of tourism in Jinan by strengthening the brand image as the City of Springs, this paper analyzed Baotu Spring Park, as a pilot case, by employing service design thinking methods such as shadow tracking, contextual interview and customer journey map. The results are conducive to exploring the fundamental problems from the perspective of tourists and help to provide tourists with positive experiences in the whole cycle of before, during, and after traveling. Consequently, the tourism revival of the destination will also be achieved.
2. CURRENT STATE INFORMATION OF BAOTU SPRING PARK

Baotu Spring Park (See Fig. 1) is still the most popular attraction in Jinan. As the only first-level park in Jinan certified by the Chinese government in 2013, it covers an area of 158 acres with more than 30 springs, such as Baotu Spring, Jinxian Spring, Shuyu Spring, and historical sites, including the Memorial Hall of the Song Dynasty poet Li Qingzhao, etc. The most attractive part of the park is Baotu Spring, which is famous for its title of the number one spring in China declared by Emperor Qianlong in the Qing Dynasty. Additionally, it can spurt up to 26 meters into the air when the water is abundant, just as its name ‘Baotu’ in Chinese means jumping and leaping. Moreover, the sweet taste of the spring attracts a large number of visitors. The park holds Baotu Spring Lantern Festival on the first day of New Year, Spring Water Festival in January, Chrysanthemum Show in October through November and Spring Water Festival in September with traditional opera performances, folk custom activities, calligraphy and painting exhibition and other various cultural arts activities. According to Li Jing [3], the Spring Water Festival exerts a significant role in improving the image of Jinan, enhancing the responsibility, participation, and identities of local citizens, and publicizing the beautiful scenery of Baotu Spring Park.

![Fig. 1. Main scenes of Baotu Spring Park](image)

Baotu Spring Park, located in the downtown area and adjacent to other tourist attractions and commercial areas of Jinan, has a superior geographical advantage. It received 20 million visitors in 2018, 60% of whom are from Shandong province, followed by neighboring provinces, such as Hebei and Shanxi. Most visitors are young people aged 25-40, and 60% are male [4].

The park still receives the highest national tourist attraction level, 5-A, by the government and has more than 80% tourist satisfaction rate on the online media, MAIFENGWO as of April, 2018. However, the tourist satisfaction rate of Baotu Spring Park is not high enough compared with representative places in other central cities like Badaguian Park and Xi Lake Park (See Table 1). The number of visitors’ comments about Baotu Spring is 1.6 to 3.6 times less than that of other parks or gardens. Therefore, we have reason to believe that the satisfaction rate is likely to further decline under the same number of comments. Moreover, the value and meaning of Baotu Spring, which is a representative landmark of Jinan have been frequently questioned by authoritative media [5].

<table>
<thead>
<tr>
<th>NAME of SPOT</th>
<th>COMMENTS (N)</th>
<th>POSITIVE COMMENTS RATE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baotu Spring Park, Jinan</td>
<td>3,031</td>
<td>81</td>
</tr>
<tr>
<td>Badaguian Park, Qingdao</td>
<td>4,888</td>
<td>90</td>
</tr>
<tr>
<td>Zhuzheng Garden, Suzhou</td>
<td>5,292</td>
<td>91</td>
</tr>
<tr>
<td>Xi Lake Park, Hangzhou</td>
<td>10,776</td>
<td>93</td>
</tr>
</tbody>
</table>

3. RESEARCH METHODS

Service design refers to an interdisciplinary way of thinking and a comprehensive research method that integrates multiple disciplines. The major advantage of the service design methodology is to put the targets at the center and discover invisible problems based on field observation, instead of finding the apparent surface problems. Nowadays, service design thinking has been extensively used to enhance user experience in various fields, especially for tourism industry, placing tourists in the center, co-creating with stakeholders, and considering the sequencing service in different periods, namely before, during, and after traveling [6]. However, the development of service design thinking still at the primary stage in China. As mentioned by Professor Fu Zhi Yong [7] of Tsinghua University, service design in the public area of China, including tourism, is still led by the government. Although tourism is a service-driven industry and its success depends on the ultimate experience of tourists [8]. Therefore, it is necessary to use the service design thinking and methods from the perspective of the Chinese people to develop the tourism of Baotu Spring Park. Desk research was carried out to define general issues of the place and shadow tracking to explore the practical problems. Situational interviews were conducted to further verify these issues and better understand the demands of tourists.

3.1 Desk Research

According to IResearch [9] in April, 2018, Chinese tourists select attractions from the following top three sources: travel community websites (54.5%), relatives and friends (44.2%), and online booking websites (42.9%). The user comments about Baotu Spring Park from MAIFENGWO, the most popular travel community website, and CTRIP, the most popular online booking website are composed of over 80% positive comments, 11~17% moderate comments, and approximately 3% negative comments (See Table 2).
Table 2. Comments on Baotu Spring Park from MAFENGWO & CTIRP

<table>
<thead>
<tr>
<th>COMMENTS</th>
<th>MAFENGWO</th>
<th>CTIRP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Positive</td>
<td>2,453</td>
<td>81</td>
</tr>
<tr>
<td>Moderate</td>
<td>503</td>
<td>17</td>
</tr>
<tr>
<td>Negative</td>
<td>75</td>
<td>2</td>
</tr>
</tbody>
</table>

The comment summary feature that tourists are satisfied with the natural environment and landscapes of Baotu Spring Park, especially when Baotu Spring is spurting or festivals approach. However, they are not satisfied with the numbers of the attractions. The comments indicate that there is no other attractions or interesting activities in dry or off-season. The employees, also, are not responsible enough, and the quality of souvenirs is poor (See Table 3).

Table 3. Reasons for satisfaction/dissatisfaction about Baotu Spring Park

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>SATISFIED</th>
<th>DISSATISFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attractions</td>
<td>Spectacular Baotu Spring scene</td>
<td>Only seeing three springs</td>
</tr>
<tr>
<td></td>
<td>Historical and cultural landscape</td>
<td>Dry Baotu Spring</td>
</tr>
<tr>
<td></td>
<td>Activities during spring festivals</td>
<td>No spurting spring</td>
</tr>
<tr>
<td>Participation</td>
<td></td>
<td>Lack of activities in dry season</td>
</tr>
<tr>
<td>Management</td>
<td>N/A</td>
<td>Park staff who is not responsible enough</td>
</tr>
<tr>
<td>Shopping</td>
<td>N/A</td>
<td>No high-quality souvenirs</td>
</tr>
</tbody>
</table>

As mentioned above, the satisfaction rate of 80% is not that low and may not be perceived as a big problem. However, there are still 14~19% of visitors giving moderate or negative evaluations. Service design values the experience and feelings of each user, and the negative evaluations should also be taken seriously.

3.2 Shadow Tracking

Although some reasons have been drawn from the comments of the tourists, the accuracy or timeliness of these reasons has not been confirmed. Therefore, shadow tracking and situational interviews were conducted on site to examine the accuracy and timeliness of the above questions, and to determine whether there were other reasons besides the dissatisfaction factors. Through the random access to Baotu Spring Park for more than 10 consecutive times from April 2 to 16, 2018, it was found that the number of tourists was fixed at more than 3,000 people per day. There were the following scenes:

**Scene 1. Parking Areas:** There are three gates of Eastern gateway, Southern gateway and Northern gateway in Baotu Spring Park. The Eastern gateway is the main entrance with a small parking lot which can accommodate approximately 30 vehicles. The parking area of the Northern gateway has a capacity of 10 vehicles, while the Southern gateway has no parking area. Some tourists to the park cannot find any parking space around the three gateways and finally leave (See Table 4).

Table 4. Shadow tracking of parking areas

<table>
<thead>
<tr>
<th>DATE</th>
<th>Target</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 2, 2018</td>
<td>Driving tourists</td>
<td>Parking areas of the Eastern gateway, Southern gateway and Northern gateway</td>
</tr>
</tbody>
</table>

Scene 2. Main Gate: Eastern gateway is also the main entrance for visitors. There is an exit sign and an information booth at the most obvious place of the entrance, which cover the main tour map of the park. The researcher found that some tourists attempted to look at the tourist map but failed to see it clearly. The entrance to the Eastern gateway forks two roads, but there is no directional sign except the exit sign. Therefore, the tourists can only follow the way that most people move (See Table 5).

Table 5. Shadow tracking of entrance area

<table>
<thead>
<tr>
<th>DATE</th>
<th>Target</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 16, 2018</td>
<td>Tourist searching signs</td>
<td>Entrance area</td>
</tr>
</tbody>
</table>

Scene 3. Near Intersections: The inconsistent use of symbols near the intersections makes tourists confused and difficult to find the right road. Only four on-site coordination managers among 26 staffs offer help. Therefore, visitors will constantly disturb the staffs when they cannot find the way. More than ten tourists ask for directions per hour on average (See Table 6).

Table 6. Shadow tracking of near intersections

<table>
<thead>
<tr>
<th>DATE</th>
<th>Target</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 16, 2018</td>
<td>Tourists asking for directions</td>
<td>Near the intersections</td>
</tr>
</tbody>
</table>
Tourist Behavior | Tourists are become upset and constantly disturbing the staffs when they can’t find the right way.
---|---

**Scene 4_Baotu Spring Main Scenic Area:** Tourists stop at the major spots where Baotu Spring is located. However, there is less rainfall in Jinan during April, and the spring ground water line is only 2.761 meters [10]. Since there is no relevant information provided in advance, tourists who are unaware of this situation feel disappointed and upset (See Table 7).

| DATE | April 16, 2018 |
|Target | Tourists who want to enjoy sprinting spring |
| Area | Baotu Spring main scenic area |
| Method | Shooting, recording |
| Tourist Behavior | Tourists feel disappointed when Baotu Spring is not spurring. |

**Scene 5_Spring Drinking Area:** During the observation of 15 days, there were less than 10 visitors going to the spring water drinking area. A small number of tourists participated in the activities of drinking spring water because few of them noticed the activity. (See Table 8).

| DATE | April 2~16, 2018 |
|Target | Tourists who are thirsty or want to taste the spring water |
| Area | Spring drinking area |
| Method | Shooting, recording |
| Tourist Behavior | Only few tourists visit the area and drink it. |

**Scene 6_Opera Troupe and Folk Arts Exhibition Hall:** There was no tourist at the Baotu Spring Opera Troupe and the Folk Arts Exhibition. No proper instructional sign was set in the surrounding area except a fuzzy handwritten whiteboard for the place (See Table 9).

| DATE | April 2~16, 2018 |
|Target | Tourists who are interested in historical heritage |
| Area | Opera troupe, folk art exhibition |
| Method | Shooting, recording |
| Tourist Behavior | N/A |

Most dissatisfaction factors from the MAFENGO and CTRIP have been proved to be true in the shadow tracking. However, due to the inappropriate release of information, the comments on the lack of park attractions is not a fact but a personal opinion. The comments on employees’ lack of enthusiasm is mostly subjective because there are so many tourists asking the staffs for directions. As a result, the staffs cannot do their own work, rather than having problems with their work. Other problems such as limited parking lots, lack of instructive and directional signs, and dislocation of the instructions have also been discovered in the shadow tracking process.

### 3.3 Contextual Interviews

In order to further verify these issues and in-depth understanding of the problems, we selected ten tourists for contextual interviews. The results are summarized as follows:

1) Tourists were disappointed when the Baotu Spring did not spurt, but eight tourists expressed their understanding of the lack of water caused by the weather. They were more...
disappointed by the failure to gather information in advance, such as the number of tourists in the park and the ground water line.

2) The instruction of the park was unclear, and the optimum route has not been developed yet. Six tourists could not easily find their destination, which delayed their travel process. As a result, they had to constantly ask employees how to find the right way. The impatient responses from the employees also intensify the irritability of visitors. Except for Baotu Spring and Li Qingzhao Memorial Hall, five tourists did not know the information about other attractions in the park. As a result, they missed other attractions and thought that the ticket for Baotu Spring Park was not worth it.

3) During the entire tour, there were few activities which tourists can participate in. Five visitors thought that Baotu Spring Park was not worth visiting, and they did not get the desired travel experience.

4) Four tourists sought to buy tourism souvenirs in Baotu Spring Park, but ultimately did not purchase anything because of the poor quality of the souvenirs. The shop is too dark and messy, which is not conducive to the display of tourist souvenirs.

5) Four self-driving tourists all encountered the problem of parking difficulties. One among them spent nearly an hour and a half looking for the parking space at the entrance of the park. The others spent at least an hour looking for parking spaces around the park and they had no desire to revisit it.

3.4 Creating Persona and Customer Journey Map

According to Shostack G. Lynn [11], the first step of designing a rational service is to visualize the phenomenon. In this study, a persona was designed. The name of the persona is Li Ming. He is 32 years old, married, and has one child. He is a hard-working employee and usually stays late at work. Therefore, he has limited time to enjoy his leisure at weekends, and often visits family-friendly places in town to make precious memory with his family. Li Ming likes to plan his spare time and follow his plan. He uses planner and diary in his mobile application and spends much time researching information for travel and others from websites (See Fig. 2).

The persona has an unhappy experience in the entire journey (See Fig. 3). In the stage before the tourism, there is no special tourism platform for the Baotu Spring Park. Therefore, Li Ming and his family checked information through the tourism community platform and bought the tickets through the tourism booking platform. Additionally, there was no special platform for searching the information about weather, tourist volume, ground water line, etc. They did not know any travel information for the park at the travelling day, and felt very inconvenient. During the tourism, when Li Ming and his family arrived at the park, they found the park is located in the downtown area with convenient transportation but limited parking places. They had to spend an hour finding the parking lot, and felt tired. The park has quick entry system, which allows them to quickly enter the park, which is very convenient. At the entrance of the park, the main tour map was covered, and they did not know the scenic information and which way to go. After finding their way, Li Ming and his family arrived at Baotu Spring, finding that the spring did not spurt. Meanwhile, they did not know the information about other attractions. Their travel experience at Baotu Spring Park is not satisfactory. They were disappointed that they could not find high quality souvenirs to remember the trip. After the travel, there is no recommended related attraction or special tourism platform for the park. Li Ming can only share his experiences on tourism community platforms or social network platforms.
3.5 Findings
Based on the desk research, shadow tracking, and contextual interviews, the gaps of facility and service in the understanding of what happened at Baotu Spring Park are summarized as follows:
1) Lack of sign system
2) Lack of activities that tourists can participate in and interact with
3) Lack of high-quality tourist souvenirs that can represent the characteristics of Baotu Spring Park for sale
4) Lack of parking place
5) Lack of information about the site, including online information (considering that tourists always use the Internet to search for information during the tour)

4. SUGGESTIONS TO IMPROVE CUSTOMER TOURISM EXPERIENCE VALUE OF BAOTU SPRING PARK

4.1 Redesigning Sign System
There is a main logo issued by the government, but other logos are interspersed with the main logo, which may cause visual confusion among tourists. In addition, road indications are not placed in the most appropriate location. Due to the improper presentation of the sign system, the tourists feel uncomfortable and inconvenient while visiting the park. Therefore, a unified planning and well-designed tourism sign system is needed.

Firstly, except for the main logo of Baotu Spring, other logos that may mislead tourists should be removed. There are three different indications suggested in the park: information map, road sign and fingerpost sign (See Fig. 4). Baotu Spring Park has seven major attractions: Baotu Spring, Shuyu Spring, Jinxian Spring, Folk Art Exhibition Hall, Spring Drinking Area, Opera Troupe, and Li Qingzhao Memorial Hall, which can hardly be recognized by tourists. The design considering the majority of tourists can be used on the sign system of Baotu Spring Park. The information map and road sign design are designed with a height of two meters. The former has a width of 1.2 meters, and the latter has a width of 0.6 meters for legibility.

The main color is green, which matches with the background of the Baotu Spring Park covered with willows and spring water. While Founder Bold Black (方正粗黑体) with 72 point for title and Founder Regular Black (方正标准黑体) with 42 point for body text are used. At the same time, the information, such as road width and barrier-free passages, has been marked for the disabled people. The fingerpost is narrow and 2.5 meters high, which not only saves floor space and but also makes it easier for visitors to see the direction in a distance. The road information is marked for the disabled in the position of about 0.8 meters of the finger post’s column in order to facilitate their reading.

4.2 Enhancing Participation Tourists
In addition to the best time to visit the spectacular Baotu Spring from September to November, the spewing of Baotu Spring is not powerful at other times, and sometimes there is even a crisis of stopping spewing. Therefore, it is necessary to improve the service of the participatory activities to enhance the tourism experience for the tourists. An outdoor teahouse can be set in the drinking area, where the tourists can taste tea brewed with the spring water for free of charge or an indoor teahouse at Opera Troupe and Folk Art Exhibition Hall. Therefore, the tourists can experience the tea before or after

Fig. 4. Information map, road sign & fingerpost (from left)

The location of the signs should be planned combined with the actual environment of the park (See Fig. 5). Full-size information maps which provide panoramic image of the park and the detailed information about the specific scenic areas can be installed at the three entrances. Meanwhile, road signs are designed for important intersections leading to major attractions and important places, such as souvenir shops. The information of service facilities with estimated time and distance to destination is suggested to install at nine spots. In addition, finger posts can guide visitors to the general direction of key attractions. A total of 34 finger posts are placed at each of the other less-critical intersections that do not lead to important attractions, which can not only provide tourists with a better experience, but also effectively mobilize the enthusiasm and participation of the staffs by applying the new sign system.

Fig. 5. Installation sites of sign system, attractions & shops

4.2 Enhancing Participation Tourists
In addition to the best time to visit the spectacular Baotu Spring from September to November, the spewing of Baotu Spring is not powerful at other times, and sometimes there is even a crisis of stopping spewing. Therefore, it is necessary to improve the service of the participatory activities to enhance the tourism experience for the tourists. An outdoor teahouse can be set in the drinking area, where the tourists can taste tea brewed with the spring water for free of charge or an indoor teahouse at Opera Troupe and Folk Art Exhibition Hall. Therefore, the tourists can experience the tea before or after
enjoying music and art. Besides, as it is told that festivals and activities can create and foster a positive image of Baotu Spring Park, more festivals and activities should be developed to encourage the enthusiasm of visitors all year round, especially during the low spring water season. There are also Li Qingzhao, Li Kuchan and other famous poets and painters’ memorial halls in the park. The park with abundant culture can hold festivals or competitions of poetry and painting by virtue of the effect of artists and culture. Through these events, the park can attract the participation of citizens and tourists, thus enriching the tourism experience in the period when the spring water is not sufficient.

4.3 Redesigning Souvenirs and Display Space

Li Mimi and Cai Liping A. [12] pointed out that souvenir shopping is particularly important for Chinese travelers, most of whom assess the value of the cultural symbolic souvenirs. However, visitors of the park rarely purchase souvenirs which are either not representative of the area, or have low qualities. In fact, the variety of souvenirs in Baotu Spring Park generally includes commemorative bags with ethnic characteristics like Yunnan Miao nationality, children’s toys with Disney cartoons’ style, and wooden commemorative bracelets that are common throughout the country. Therefore, souvenirs with unique characteristics of the park should be developed. In the process of souvenir design, it is necessary to develop the products based on the unique story and distinctive natural landscape features of the park.

Meanwhile, the display of souvenir shops should be improved. At present, the souvenir shops are designed in the ‘Shangzhi Hall’ at the exit of the south gate of Baotu Spring Park. This location is ideal for visitors to purchase souvenirs after visiting the Baotu Spring Park. However, the display of souvenirs is like a stall in the wholesale market, and all souvenirs are laid flat on the platform. The space of the souvenir shops can be divided into decorative space and commodity space with tourists as the center.

The color, lighting and decoration of the decorative space design in the souvenir shops should highlight the characteristics of Baotu Spring and spring culture. Therefore, visitors can continue to immerse in the spring atmosphere. The commodity space where souvenirs are displayed should be designed based on souvenirs, combined with counters, windows, shelves, platforms and other display media, to highlight the characteristics of souvenirs and trigger tourists buying desire.

4.4 Offering Parking Areas and Shuttle Buses

Approximately 3,000 visitors visit the park every day, and almost half of them are self-driving tourists. However, there are only two small parking lots, each of which can accommodate 40 cars. The average duration of tour is 2 hours, indicating that the parking lot can accommodate up to 240 cars when fully utilized. Obviously, parking has become one of most serious problems. Unfortunately, Baotu Spring Park is located in the city center with a small acreage and many other buildings around it. The expansion of the parking lot is almost impossible. The park, however, can use its own location advantage, to strengthen the connection with the surrounding commercial area parking lots at weekends. Simultaneously, there are more than 20 city buses accessing directly to the park, but only two of them lead to the old Jinan railway station. Additionally, more tourist-intensive areas of Jinan west and east stations, airports and hotels are not directly accessible by the city bus. Therefore, Baotu Spring Park can provide its own shuttle bus service in the places where tourists are concentrated, as to solve the problem of insufficient parking space and provide visitors with a convenient travel experience. The lapping design of the bus should be based on the visual characteristics of Baotu Spring and it can also play a certain role in promotion.

4.5 Setting up Dedicated Application

As mentioned by Philip Kotler, Hermawan Kartajaya, and Iwan Setiawan [13], the key to future marketing lies in creating seamless online and offline experiences for users. All problems of Baotu Spring Park have not been completely solved by redesigning the sign system, festivals and activities, and souvenirs. A dedicated mobile application can also complement and reinforce the insufficient services of the park. By operating the dedicated application, the previously identified gaps in facilities and services can be made up, so that the tourists can have pleasant experiences from planning to completion. The design of the application should consider tourists’ demands at three different stage. The information about ground water line, festivals and activities, daily tourism volume, as well as ticket booking service can be accessed by tourists before the travel. The on-site sign system can guide tourists by mobile navigation and real-time positioning services. The functions that customize personal tour route based on visitors’ time, style and preferences chat with staffs should also be provided. After traveling, visitors should be able to order products from the mobile shopping mall and leave comments (See Fig. 6).

5. CONCLUSION

Baotu Spring Park is characterized by springs, including Baotu Spring which is known as the world’s best spring. It is the one of top tourist attractions in Jinan. A large number of tourists still choose to visit here. The park obtains the highest
national attraction level issued by the government. However, the satisfaction rate of tourists is lower than that of the representative places in other cities at the same level. In addition, it is frequently negatively evaluated by influential government media. Therefore, this paper identified the real and hidden problems of the park and suggested the solutions for the sustainable development through service design methods.

The existence of the pain points was discovered by desk research on the comments from MAFENGWO and CTIRP. The results show that the vast majority of tourists are satisfied with the park itself, while a few are dissatisfied with the limited number of attractions and activities, irresponsible staff and low-quality souvenirs. Also, the lack of information transmissions, parking place and high-quality tourist souvenirs were further verified by using shadowing tracking and contextual interviews with ten randomly selected tourists. Moreover, service gaps and facility gaps were visualized by creating a persona and a customer journey map. It can be found that the common and fundamental problems are originated from insufficient services which do not meet tourists’ needs from the planning stage to the completion stage. In addition, the satisfaction of the visitors varies with the season and the spewing situation of the park.

Therefore, five solutions are suggested. Firstly, the sign system of three different indication map and signs should be redesigned according to tourist’s demands and the distribution of attractions, including full-sized information map, road sign and fingerpost sign. Secondly, participatory activities of tourists should be enhanced and developed in order to enrich the service experience in the period when the spring water is not sufficient. Thirdly, the souvenirs and the souvenir display space should be redesigned based on the characteristics of Baotu Spring Park so as to provide visitors with high quality souvenirs and a comfortable shopping experience. Fourthly, the connection with the surrounding commercial parking area should be strengthened, and shuttle cars can be set to solve the problem of parking difficulties. Finally, a uniquely dedicated mobile application can be developed for Baotu Spring Park. Tourists can obtain the necessary travel information which makes their trips more convenient and pleasant.

Further study will be implemented based on the above proposed contents. Due to the demand for informatization of the tourism industry in the current era and the deficient information transmission in Baotu Spring Park, the follow-up study will specifically launch prototype design of a dedicated mobile application.

ACKNOWLEDGMENT

An earlier version of this paper, entitled “A Study on the Revitalization of the Domestic Tourism in Jinan Baotu Spring Park” was presented at 2018 Korea Society of Design Science Spring Conference held in Seoul, Korea, June 2, 2018.

REFERENCES


Sisi Feng
She received the B.S. and M.S in graphic design from Shandong university of Art and Design, China in 2008, 2011 respectively. Since 2012, she has been working as a graphic design instructor at Shandong Management University. Her main research interests in service design.

Jae Sun Yi
She received the B.A. in Graphic Design from University of Michigan, and M.S in Communication Design from Pratt Institute, USA. She is currently an associate professor at Handong Global University in Korea. Her main research interests include social innovation, behavior change, human-computer interaction and service design.
Ji-Hyun Lee
She is a professor in Graphic Design at KunSan National University in Korea and received 2018 KSNU Distinguished Teaching Professor Award. She is mainly interested in interdisciplinary studies which will build the bridge between design, education and social science.