

# Innovative Development of Bed and breakfast in the Mode of Internet Crowdsourcing

Xinyang Liu\*

School of management, Shanghai University, Shanghai, China

\*Corresponding author e-mail: 993504579@qq.com

**Keywords:** Crowdsourcing, Genetic algorithm, The Internet.

**Abstract:** With the rapid development of Internet information technology, as a new business model, crowdsourcing has been applied in many industries. Nowadays bed and breakfast facility are surging, but there are also restricting factors in the process of development. Based on the full analysis of the relationship between crowdsourcing and bed and breakfast facility, the study finds the correspondences of both. Then on the basis of operating mechanism and the elements of crowdsourcing, the study puts forward an operation mechanism of the bed and breakfast facility in crowdsourcing mode, builds the corresponding application process, and uses genetic algorithm to carry out the optimal matching task of crowdsourcing bed and breakfast facility. As a result, the paper realizes the Internet the crowdsourcing model under the new development model of bed and breakfast facility.

## 1. Relevant concept analysis

### 1.1 The bed and breakfast

Bed and breakfast originated in Europe and America, represented by British B&B. Because of the cultural differences around the world, most countries use B&B for bed and breakfast, and some countries call bed and breakfast as Home Stay, Family Hotel, Guest House and so on. The development forms of bed and breakfast differ from place to place, and the definition is not consistent.

In China, the definition of bed and breakfast facility is not an authoritative and accurate concept. In the study of bed and breakfast problems, there are various terms such as "bed and breakfast", "family hotel", "farmhouse" and so on. "Family hotel" focuses on the provision of accommodation, and "farmhouse" focuses on catering. Taiwan introduced the concept of bed and breakfast earlier. Taiwan "people dorm administrators manage method" stipulated in article 3: "The bed and breakfast facility of these measures means using residential spare room and operating in household sideline production way, combined with the local culture, natural landscape, ecology, environment, resource and agriculture, forestry and fishery production, to provide accommodation place of rural life", this concept is accepted by many scholars and references [1].

Based on the existing research, this paper defines "bed and breakfast" as Chinese bed and breakfast with the above characteristics, including short-term accommodations, rural entertainment and other similar reception facilities.

### 1.2 Crowdsourcing

The concept of crowdsourcing was first proposed in 2006 by Jeffrey Howe, a journalist for wired magazine. He believed that crowdsourcing refers to the practice of a unit or individual outsourcing work or tasks previously performed by internal employees to non-specific public groups through voluntary outsourcing. Shuancheng Wei (2010) argues that "crowdsourcing is the use of public creativity and wisdom to solve all kinds of business problems that companies face." Sufen Lin (2015) considered that "the basic model of crowdsourcing consists of the employer (enterprise), intermediary (crowdsourcing platform) and the recipient (crowdsourcing participant)". Scholars

such as Estellésarolas have studied the concept of crowdsourcing and found that companies, institutions, individuals, or non-profit organizations can all become crowdsourcing participants [2].

According to the existing research, this study defines crowdsourcing as the practice of organizations using the public power to solve and complete a series of collective ideas, co-creation, test and evaluation.

## **2. The relationship between crowdsourcing mode and bed and breakfast**

### **2.1 Development features of bed and breakfast facilities**

With the rapid development of tourism, the bed and breakfast facility has developed rapidly in our country. In the development of "the counter urbanization", bed and breakfast facility has driven by the demand of the modern rural complex. Universal leisure era, eager to release the pressure, reminiscing about country life and the rise of advocate natural way of holiday economy development all lead to the increase in the number of bed and breakfast.

### **2.2 Factors restricting the development of bed and breakfast facilities**

#### **2.2.1 Difficulties in operation and management of bed and breakfast facilities.**

In China, the organization of bed and breakfast lags in development and has little effect. The mainland government has an unfair problem in treating all kinds of bed and breakfast, paying too much attention to the development of rural tourism while ignoring the development of other bed and breakfast. The marketing method of bed and breakfast mainly relies on government promotion, and the industry organization can only play the basic role of guidance, organization and so on.

#### **2.2.2 The service quality of bed and breakfast is uneven.**

Most of the bed and breakfast houses in China are operated by themselves. The owners of bed and breakfast houses and related employees have not received relevant learning and training, and have not introduced scientific modern management system, unified internal management standards and advanced management concepts of the dormitory administrators in various countries. The uneven service level also leads to the phenomenon of rip-offs and disorderly soliciting of some bed and breakfasts, which severely damages the image of bed and breakfasts.

#### **2.2.3 Bed and breakfast products are not innovative.**

Most bed and breakfast places attach more importance to imitation than creativity, and their themes are not prominent and their features are not obvious. Both the architectural style, interior decoration and other hardware facilities, as well as the accommodation service and experience sharing are very similar. They lack their own unique business philosophy, the characteristic experience that tourists yearn for and the interaction between hosts and tourists. In a word, the phenomenon of "homogenization" is serious.

### **2.3 The conjunction of crowdsourcing and bed and breakfast**

#### **2.3.1 Openness of crowdsourcing mode.**

Compared with other traditional projects, crowdsourcing discloses the project's standard requirements, technical support and so on to a large extent. The openness of the platform enables all users involved in the project to know the specific details and technical requirements of the project, which reduces the information asymmetry. It enables each of the crowdsourcing staffs task to know the task content and details fairly. The completion of crowdsourcing projects depends on the openness of the network. Therefore, projects that cannot be outsourced in the real society will be presented on the network and often achieve good results.

#### **2.3.2 Participation of crowdsourcing mode.**

Crowdsourcing is a non-organizational behavior of tens of thousands of people, that mainly

composed of professionals, amateurs, part-time workers, enthusiasts and so on. They have strong passion and ability to participate, and often try their best to complete tasks. Using crowdsourcing platform to guide this group, inspire and encourage their participation will greatly provide service efficiency.

### 2.3.3 Innovation of crowdsourcing model.

Crowdsourcing advocates open innovation and believes that everyone has the ability to innovate and should participate in innovation. Innovation can not only bring benefits to the enterprise, but also realize the self-value of participants. In daily business activities, enterprises can guide the support and participation of the public, cultivate the culture of participatory innovation of the public, give play to the pioneering spirit of the public and maximize the value of both parties through crowdsourcing platform.

## 3. Innovative development of bed and breakfast facilities in the crowdsourcing mode

### 3.1 Elements of crowdsourcing

As a new business model, crowdsourcing has its unique operation mechanism (figure 1), which basically includes three elements and business process of the employer, the contractor and the intermediary.

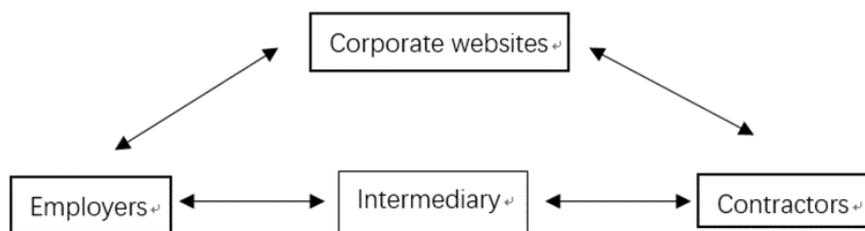


Figure 1. Crowdsourcing operation mechanism.

#### 3.1.1 Employers.

The employers are usually business or individuals who have tasks to solve. For the employers, the task that needs to be crowdsourced shall be decomposed before the contract is issued, which shall be directly published on the company's website to attract netizens to participate and solve the problem by offering a reward. They also can release tasks through intermediary agencies, such as website community association, witkey platform and so on, and sign contracts with new network companies, which include problems to be solved, price and after-sales service terms, etc. The former avoids the intermediary agencies, so the cost of solving the problem is lower. However, due to factors such as the popularity of the company's website and the number of clicks, attracting the participation of many netizens is the key. The latter needs to go through an intermediary. The number, quality and reputation of the intermediary's netizens are all important factors for the success of crowdsourcing, so the selection of the intermediary is very important.

#### 3.1.2 Contractors.

The contractors are a large number of Internet users, who can be both professional and non-professional enthusiasts. People or teams with global interests and capabilities can be paid to take on assignments, sign contracts, design solutions, submit solutions, and review them through a corporate website or intermediary.

#### 3.1.3 Intermediary.

The intermediary is a bridge between the client and the client. It mainly refers to professional crowdsourcing websites, such as the crowdsourcing service platform launched by the online retail giant amazon, witkey website of China and so on. The intermediary shall provide services for the

employer and the contractor, provide the employer with the delivery platform, and attract netizens to participate. It can provide tasks for the receiving party, and feedback to the employer after the tasks are completed. If the plan is approved, the intermediary shall deliver the remuneration, supervise the actions of both parties and protect the rights and interests of both parties [3].

### 3.2 Operation mechanism of bed and breakfast facilities in the crowdsourcing mode

By using the crowdsourcing model, bed and breakfast's employer firstly subdivides the task and publishes it on the official website of bed and breakfast crowdsourcing or with the help of an intermediary (the professional witkey website). Then participants design crowdsourcing and provide design ideas. And industry experts evaluate crowdsourcing, select the best creative plan, and reward the winner according to the incentive measures made before the contract. Finally, the owner of bed and breakfast gets the plan (figure 2).

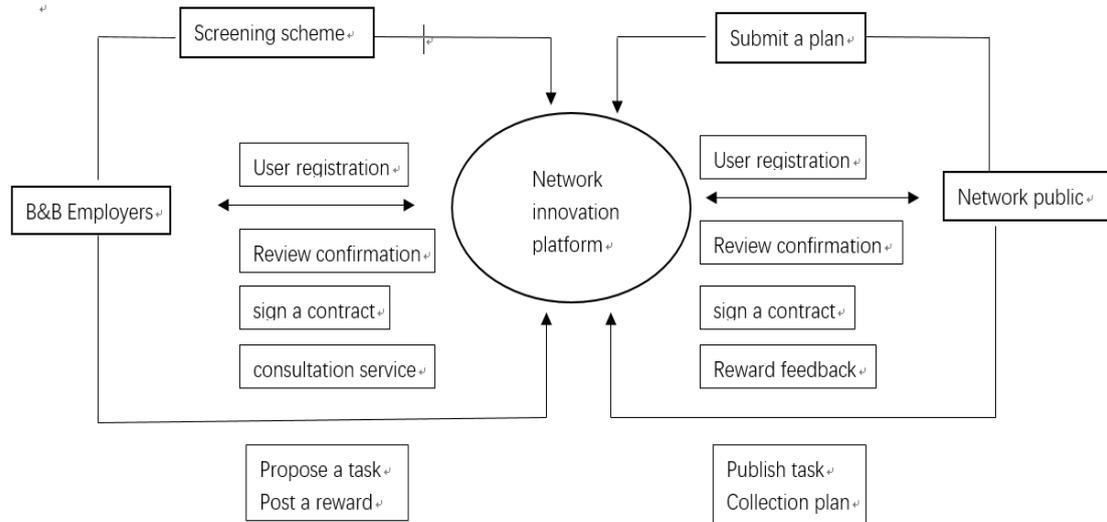


Figure 2. Operation mechanism of bed and breakfast facilities in the crowdsourcing mode.

The operation mechanism of bed and breakfast facilities in the crowdsourcing mode gives the owner of bed and breakfast more space to carry out and improve their bed and breakfast. The contractors come from all Internet crowdsourcing users, which can effectively avoid the restrictions of internal resources in the operation of traditional bed and breakfast. The operation mechanism also can develop public resources, utilize the wisdom from all over the world, and improve the design and innovation ability. However, the biggest difficulty is to attract high-quality participants. In order to avoid the failure of the contract, it is particularly important to conduct targeted marketing before the contract is issued. At the industry level of bed and breakfast, the industry competent department should provide a good network platform to connect and build a witkey platform similar to the BBS of bed and breakfast crowdsourcing, so as to facilitate the crowdsourcing activities of both parties and supervise and regulate their behaviors. As a provider of bed and breakfast, it is necessary to subdivide the consultation task scientifically, implement open and transparent operation process, formulate perfect incentive measures, and solve the worries of the participants [4]. It is necessary for participants to maintain their passion for participation and creation.

### 3.3 Optimal matching tasks of bed and breakfast facilities in the crowdsourcing mode

The crowdsourcing platform realizes the functions of project contract, project consultation, project execution, project completion, submission, review and evaluation, which are the core of the whole process. This core realizes the management of user information, management of company information, allocation of project tasks, specification of project contract, contract, completion, submission, audit, evaluation and other functions. Crowdsourcing platform implement the above features by software process, while some parts of the function need to join the human factors, such

as user information audit and so on. The operation of the platform is a distributed to pick up packages will provide the task of the party. The paper will use the genetic algorithm to find the optimal results of the method. Because the project subcontract task can find the most suitable developers process [5]. In this paper, the genetic algorithm with the task of the subcontract process organic unifies in together, so as to realize the optimal matching of crowdsourcing task of bed and breakfast facility. The module's implementation flow chart is shown in figure 3.

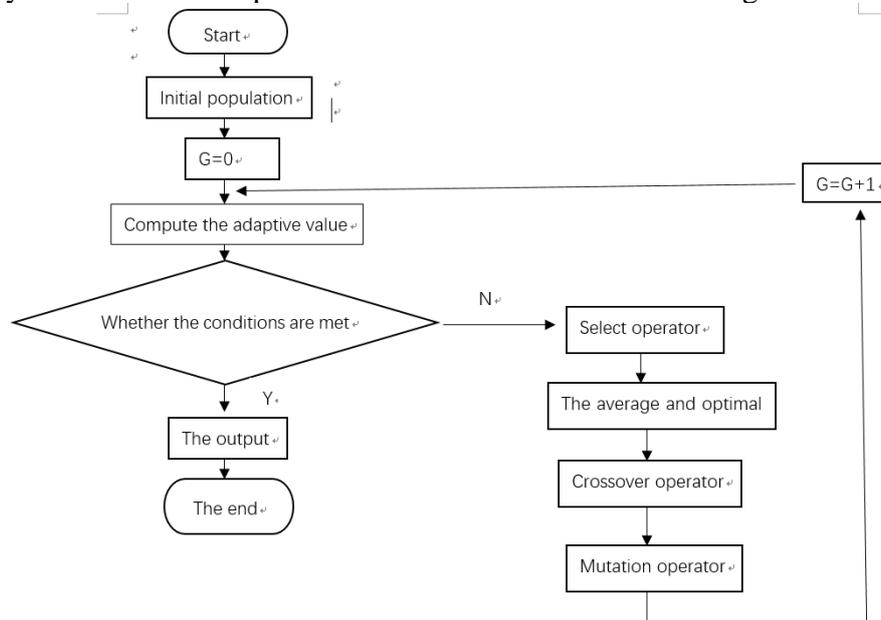


Figure 3. Flow chart of module implementation.

The detailed implementation process is as follows:

### 3.3.1 Coding method.

This module realizes the allocation of project tasks. Firstly, users who can complete the project can be extracted according to the information of project tasks. The coding process of genetic algorithm is adopted in this paper in decimal mode.

### 3.3.2 Initial population.

The population is the set of the algorithm solution, and the initial solution set is generated randomly in the process of this paper.

### 3.3.3 Fitness function.

The level of fitness value is the key factor of whether the project can be assigned to the developer. Fitness value is the credibility of the developer on the platform. Credibility is established by the completion of the developer project, evaluation and so on.

### 3.3.4 Select operator.

Generally, there are fitness scale method, the best individual preservation method and the sort selection method. Fitness ratio method is usually called roulette selection method. The selection probability of a population individual is proportional to its corresponding fitness value. The literal meaning of the best individual preservation method is to save the best individual. In fact, individuals with high fitness value are not intersected in the genetic algorithm, so they are directly put into the next generation. In this paper, roulette selection is used as selection operator to sort selection.

### 3.3.5 Crossover mutation operator.

Crossing operators generally include single point crossing, multi-point crossing and uniform

crossing. Uniform crossing is a kind of crossing interchange method according to certain law. In this paper, the crossover operator is implemented by single-point crossover. The mutation operator changes the position of some genes in a cluster of individuals.

## References

- [1] Xin Li. Research summary of domestic home stay [J]. Tourism overview (second half), 2017 (1).
- [2] Jie Yan, Renjing Liu, han Liu. Review of studies on crowdsourcing at home and abroad [J]. China technology BBS, 2017 (8):59-68.
- [3] Xueqing Qiu. Construction of a creative tourism platform based on Internet crowdsourcing [J]. Finance and economics (academic edition), 2015 (20):17-17.
- [4] Yuan Liu. A study on the group creation model of multinational pharmaceutical companies from the perspective of innovation [J]. Shandong social science, 2017 (12):146-152.
- [5] Yuping Yan, Zhanghui Xiao. Development and research of network crowdsourcing platform based on information technology [J]. Modern electronic technology, 2016, 39 (11):46-49.