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Research on Service Point Optimization of Cultural and Creative Characteristic Towns Based on Kano AHP-QFD Model—Taking China Xuan Paper Town in Anhui Province as an Example

Yuanhui Liang*, Rina Abdul Shukor

City University Malaysia, Petaling Jaya 46100, Selangor, Malaysia.

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Corresponding author: Yuanhui Liang, City University Malaysia, Petaling Jaya 46100, Selangor, Malaysia.

Abstract

This article aims to optimize the service touchpoints of China Xuan Paper Town in Anhui Province through the Kano AHP-QFD integrated model, in order to enhance customer satisfaction and competitiveness of the characteristic town. One is to use the Kano model to collect and classify customer needs; The second is to use AHP to evaluate the importance of each service touchpoint; The third is to transform customer needs into specific characteristics of service design based on the QFD method; The fourth is to develop targeted optimization strategies for service touchpoints. Identified the main service touchpoints of Xuanzhi Town and analyzed its existing problems; Customer needs were classified using the Kano model and their importance was evaluated; The weights of each service touchpoint were calculated using AHP; The key characteristics of service design were determined based on the QFD method and prioritized. Specific service touchpoint optimization strategies have been proposed, including strengthening service facility construction, improving service quality, highlighting cultural characteristics, etc., to enhance tourist satisfaction and promote the sustainable development of the town.

Keywords

Kano model; Optimization of service touchpoints; China Xuan Paper Town

With the vigorous development of cultural and creative industries, the improvement of service quality in characteristic towns as a new carrier of cultural tourism has become crucial. As a characteristic town with profound historical and cultural heritage, China's Xuan Paper Town faces challenges such as incomplete service facilities and a single tourism product. In order to enhance customer satisfaction and competitiveness, this paper introduces the Kano AHP-QFD integrated model to optimize the service touchpoints of Xuanzhi Town. By conducting in-depth analysis of customer needs and the importance of service touchpoints, targeted optimization strategies are formulated to provide strong support for the sustainable development of the town.

1. Theoretical Basis and Methodology

1.1 Overview of Kano Model

The Kano model is an important tool in service design and customer satisfaction evaluation, which divides customer

needs into five types: charismatic quality, univariate quality, essential quality, undifferentiated quality, and inverse quality. Charm quality is service that exceeds customer expectations and can bring surprises; Univariate quality refers to the part where customers perceive a linear correlation between service quality and service satisfaction; Quality is a fundamental service that customers take for granted; No difference in quality has no impact on customer satisfaction; Reverse quality can lead to customer dissatisfaction. In service touchpoint optimization, the Kano model can effectively identify potential customer needs, distinguish the importance of service attributes, provide clear improvement directions for service designers, and enhance customer satisfaction.

1.2 Principle of Analytic Hierarchy Process (AHP)

Analytic Hierarchy Process (AHP) is a multi-criteria decision-making method, whose basic principles include constructing a hierarchical structure model to decompose decision-making problems into levels such as objectives, criteria, and solutions; Construct a judgment matrix to quantify subjective judgments by comparing the importance of each criterion or scheme pairwise; Perform consistency checks to ensure the rationality of the judgment matrix. AHP is highly applicable in evaluating the importance of service touchpoints. It can effectively handle multi criteria decision-making problems, decompose complex service touchpoint systems into manageable hierarchical structures, and quantify the subjective judgments of experts or customers, providing a scientific basis for evaluating the importance of service touchpoints.

1.3 Quality Function Deployment (QFD) Method

The basic idea of Quality Function Deployment (QFD) is to translate customer needs and expectations into specific requirements for product or service design, in order to ensure that the final product or service can meet customer needs. In the optimization of service touchpoints, the application process of QFD first includes the unfolding of customer needs, clarifying customers' specific expectations for services; Next, determine the characteristics of service design, that is, what attributes should the service possess to meet customer needs; Finally, a relationship matrix is constructed to analyze the degree of correlation between service design characteristics and customer needs, providing clear direction and focus for optimizing service touchpoints and ensuring that service design can accurately meet customer needs (Zhu et al., 2023).

1.4 Construction of Kano AHP-QFD Integrated Model

The Kano AHP-QFD integrated model is an innovative framework that combines the Kano model, AHP, and QFD methods to optimize service touchpoints in cultural and creative characteristic towns. The workflow of this integrated model first collects and classifies customer needs through the Kano model, identifying quality attributes such as service charm, uniqueness, and necessity; Then use AHP to evaluate the importance of each service touchpoint and determine the priority of optimization; Then, based on the QFD method, convert customer needs into specific characteristics of service design; Finally, based on the above analysis, develop targeted service touchpoint optimization strategies to enhance customer satisfaction and the competitiveness of characteristic towns.

2. Analysis of the Current Status of Service Contact Points in China's Xuan Paper Town

2.1 Overview of Chinese Xuan Paper Town

The Chinese Xuan Paper Town is located in the beautiful Anhui Province and has a profound historical and cultural heritage. This is the birthplace of traditional Chinese rice paper, and the production process of rice paper has a long history and is renowned both domestically and internationally. In recent years, relying on the rice paper industry, the town has actively developed cultural and creative industries, forming a characteristic industrial system that integrates production, exhibition, experience, and tourism. In terms of tourism development, the town has created multiple tourist attractions and experience projects with its unique Xuan paper culture as the theme, attracting many tourists to come and experience it. As a Chinese cultural and creative characteristic town, Xuanzhi Town has unique cultural resources and industrial foundation, but also faces challenges such as incomplete service facilities, single tourism products, and insufficient market competitiveness (Li & Ye, 2023). Future towns need to further explore cultural resources, optimize service touchpoints, and enhance tourism quality to stand out in fierce market competition.

2.2 Service Touchpoint Identification and Classification

During the on-site investigation, interviews, and literature analysis of the Xuan paper town in China, the main service touchpoints of the town were identified. These service touchpoints cover all aspects of tourists' visit to the town, ensuring

that they can have a comprehensive and multi-level experience. Service touchpoints can be divided into information service touchpoints, such as consultation, guidance and other services provided by the visitor center; Transportation service touchpoints, including transportation connections inside and outside the town, parking facilities, etc; Accommodation service touchpoints, such as specialty homestays, hotels, and other accommodation facilities; Catering service touchpoints, covering various local specialty foods and snacks; And cultural experience service touchpoints, such as showcasing the production process of rice paper and experiencing traditional handicrafts. The identification and classification of these service touchpoints provide clear direction and foundation for subsequent optimization of service touchpoints.

2.3 Analysis of Existing Problems in Service Touchpoints

Based on customer feedback and on-site inspection results, it was found that there are some issues with the service touchpoints in China's Xuan Paper Town. One aspect is the service facilities, some of which are old and incomplete, such as unclear signage and rudimentary public restroom facilities, which affect the tourist experience. Secondly, the quality of service varies greatly, with some service personnel having low professional competence and a less enthusiastic service attitude, making it difficult to meet the diverse needs of tourists. Thirdly, the cultural characteristics are not prominent, and some cultural experience projects lack depth and interactivity, failing to fully showcase the unique cultural heritage of Xuanzhi Town. These issues not only affect the satisfaction of tourists, but also constrain the sustainable development of the cultural tourism industry in the small town (Gui, 2023). Therefore, it is urgent to optimize service touchpoints, improve service quality, highlight cultural characteristics, and attract more tourists to come and experience.

3. Customer Demand Analysis Based on Kano Model

3.1 Customer Demand Collection

In order to gain a deeper understanding of customers' needs for service touchpoints in Chinese Xuan Paper Town, a detailed questionnaire was designed to collect tourists' expectations and satisfaction data for various service touchpoints in the town. The questionnaire covers multiple aspects such as information services, transportation services, accommodation services, catering services, and cultural experience services, ensuring a comprehensive understanding of tourists' overall feelings towards the town's services. At the same time, a combination of questionnaire surveys and in-depth interviews was conducted to further obtain customers' specific needs and descriptions for service touchpoints. During the interview, tourists expressed their expectations and suggestions regarding the cultural characteristics of the town, the completeness of service facilities, service quality, and transportation convenience. These valuable data and opinions provided a solid foundation for subsequent customer demand analysis based on the Kano model.

3.2 Customer Demand Classification

The Kano model was used to classify customers' needs for service touchpoints in Chinese Xuan Paper Town into three categories: charming quality needs, unitary quality needs, essential quality needs, undifferentiated quality needs, and reverse quality needs. Charm quality demand refers to services that exceed customer expectations, bring surprise and satisfaction to customers, such as unique cultural experience activities; The demand for one yuan quality is a demand that is directly proportional to customer expectations and service performance, such as the comfort of accommodation; Quality requirements are services that customers take for granted, such as basic sanitation facilities; The demand for indistinguishable quality has little impact on customer satisfaction, such as certain non-core decorative elements; Reverse quality demand refers to services that customers do not want, such as an overly commercialized atmosphere. Analyzing the characteristics of various needs helps to more accurately grasp customer psychology and provide strong basis for optimizing service touchpoints.

3.3 Customer Demand Importance Assessment

After collecting and categorizing customers' needs for service touchpoints in China Xuan Paper Town, the importance of various customer needs was further evaluated through statistical analysis. Through data analysis, it is possible to clearly see which needs customers are most concerned about and which needs have a significant impact on customer satisfaction. On this basis, the priority types of needs to be met were determined, such as charm quality needs and essential quality needs, which are key to improving customer satisfaction and loyalty. By prioritizing these important needs, service touchpoints can be optimized more effectively, improving the overall service quality of the town, attracting more tourists to experience, and promoting the sustainable development of the town.

4. Importance Assessment of Service Touchpoints Based on AHP

4.1 Build a Hierarchical Structure Model

In order to scientifically evaluate the importance of service touchpoints in Chinese rice paper towns, a hierarchical structure model for evaluating the importance of service touchpoints was carefully constructed based on the classification of service touchpoints and the importance of customer needs. In this model, the target layer is set as "Optimization of Service Touchpoints in Chinese Xuan Paper Town", which clearly indicates the ultimate goal of the evaluation. The criterion layer is set as various service touchpoints, such as information service touchpoints, transportation service touchpoints, etc. These criterion layers represent the main categories of service touchpoints (Li & Liu, 2023). The sub criteria layer is further refined into specific service items, such as consulting services and tour guidance services under the information service touchpoint. Through such a hierarchical structure model, the importance of service touchpoints can be systematically and hierarchically evaluated, providing strong decision support for subsequent optimization work.

4.2 Construct a Judgment Matrix

After constructing a hierarchical structure model for evaluating the importance of service touchpoints, the next step is to construct a judgment matrix between each level through expert scoring or customer research. This process aims to quantify the relative importance between service touchpoints and provide data support for subsequent evaluations. Invite experts and customers familiar with the service touchpoints of China Xuan Paper Town to participate in scoring. Based on their own experience and feelings, they will compare the importance of each service touchpoint and specific service items pairwise and give corresponding scores. By using these scores, a judgment matrix can be constructed to clearly display the relative importance relationship between each service touchpoint and project. This step is a crucial step in assessing the importance of service touchpoints, providing a scientific basis for subsequent optimization decisions.

4.3 Consistency Testing and Weight Calculation

After completing the construction of the judgment matrix, proceed to perform consistency checks on the matrix. This step is crucial as it ensures that the evaluation results are reasonable and reliable. Through consistency testing, it can be verified whether experts or customers have maintained consistent standards during the scoring process, thereby ensuring the objectivity and accuracy of the evaluation. Subsequently, specific mathematical methods are used to calculate the weights of each service touchpoint, which directly reflect the importance of each service touchpoint in the overall service, providing clear guidance for subsequent optimization of service touchpoints (Guilin, 2023). By the size of the weights, it is possible to clearly identify which service touchpoints are critical and need to be optimized, while which service touchpoints are relatively secondary and can be gradually improved.

5. Development of Service Touchpoint Optimization Strategy Based on QFD

5.1 Customer Demand Expansion

In the process of formulating optimization strategies for service touchpoints based on QFD, the first step is to unfold customer needs. The core of this step is to refine and concretize the collected customer needs, and transform them into specific design requirements for service touchpoints. Thoroughly analyze each customer requirement, clarify their expectations and demands, and then combine them with the actual situation of service touchpoints to transform these requirements into actionable and measurable design features. Through this process, a close relationship between customer needs and service design characteristics is established, ensuring that service design can accurately meet customer needs and expectations (Kézai & Rechnitzer, 2023). This not only provides a clear direction for optimizing service touchpoints in the future, but also ensures the effectiveness and pertinence of optimization strategies, which helps to improve customer satisfaction and loyalty.

5.2 Determination of Service Design Characteristics

Based on the expansion of customer needs, further determine the key characteristics of service design according to the importance of customer needs and service touchpoints. For information service touchpoints, emphasis should be placed on improving their convenience, ensuring that tourists can easily access the necessary information, and enhancing travel efficiency. For cultural experience service touchpoints, emphasis is placed on enhancing their interactivity, allowing tourists to deeply experience the charm of rice paper culture through participation and enhance their experience. At the same

time, for other service touchpoints such as transportation services, accommodation services, catering services, etc., corresponding key characteristics were determined based on customer needs and importance assessment results (Helena & Filip, 2023). The determination of these key characteristics provides clear direction and focus for subsequent optimization of service touchpoints, which helps to improve service quality more targetedly and meet customer needs.

5.3 Construction of Relationship Matrix and Prioritization

After identifying the key characteristics of service design, proceed to construct a relationship matrix between customer requirements and service design features. This matrix is used to evaluate the contribution of various service design features to meeting customer needs, and to identify which features can directly improve customer satisfaction. Then, based on the importance of the relationship matrix and customer needs, prioritize the service design features. Through this sorting, it is possible to clearly identify which service items are currently the most in need of priority improvement, thereby ensuring the effective allocation of optimized resources, focusing on improving the quality of key service touchpoints, and maximizing customer satisfaction.

5.4 Optimization Strategy Formulation

Specific service touchpoint optimization strategies have been developed to address the current issues and optimization priorities of service touchpoints. For the problem of inadequate facilities, it is recommended to strengthen the construction of service facilities, such as adding signage and improving bathroom facilities. At the same time, measures to improve service quality are proposed, including strengthening training for service personnel, enhancing service professionalism and enthusiasm. It also emphasizes the need to highlight cultural characteristics, enrich cultural experience projects, enhance interactivity, and other ways to allow tourists to experience the unique charm of Xuanzhi Town more deeply (Tang & Gao, 2022). The implementation of these optimization strategies will effectively enhance tourist satisfaction and promote the sustainable development of the town.

6. Conclusion

This article uses the Kano AHP-QFD integrated model to comprehensively optimize the service touchpoints of China's Xuan Paper Town. By collecting and categorizing customer needs, evaluating the importance of service touchpoints, identifying key characteristics of service design, and developing specific optimization strategies. The implementation of these strategies will effectively enhance tourist satisfaction, highlight the cultural characteristics of the town, and promote its sustainable development. In the future, more innovative methods and technological means can be further explored to continuously optimize service touchpoints and enhance the overall competitiveness of characteristic towns.

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