

# *Research on Precision Service and Intelligent Management for the Rapid Development of Homestays*

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**Abstract:** The rapid expansion of the homestay industry has led to iterative upgrades in service and management models. Precise service and intelligent management have become key supports for breaking through industry development bottlenecks and enhancing core competitiveness. This article is based on the actual development of the homestay industry, defining core concepts and sorting out relevant theories, analyzing the current practical problems faced by homestay services and management, exploring the construction strategies and implementation paths of a precise service intelligent management system, and providing practical and feasible theoretical and practical references for the homestay industry to achieve refined and sustainable development.

## 1. Introduction

In recent years, the homestay industry has rapidly risen through the upgrading of cultural and tourism consumption, becoming an important force in promoting rural revitalization and diversified development of the cultural and tourism industry. Its unique accommodation experience and cultural connotation are highly favored by consumers. With the continuous expansion of the industry scale, the traditional extensive service and management model is no longer suitable for the personalized needs of consumers and the high-quality development demands of the industry. How to improve operational efficiency and solve development problems through precise service and intelligent management has become an important issue that urgently needs to be addressed in the current homestay industry.

## 2. Theoretical Foundations of Precision Services and Intelligent Management in Homestays

### 2.1. Core Conceptual Definitions: Rapid Development of Homestays, Precision Services, Intelligent Management

The rapid development of homestays specifically refers to the industry situation in recent years, where various small and medium-sized homestay formats have emerged rapidly and their scale continues to expand, relying on the recovery of domestic cultural and tourism consumption, the guidance of rural revitalization policies, and the diversification of public travel demand. Its development is no longer limited to a single accommodation function, but also integrates local

customs, living scenes, and other elements. Moreover, most homestays are operated by individuals or small teams, lacking standardized service and management models. Precision service is the combination of homestays and the actual needs of their guests, abandoning standardized service routines and providing targeted service content that fits the habits of the guests, such as preparing children's products for family guests and optimizing office facilities for business guests. This type of service does not require complex technical support, and the core is to meet the real needs of the guests rather than formal services. Intelligent management is the efficient promotion of order management, customer demand recording, service connection and other work in homestays by combining daily operational reality with simple and easy to operate digital means. Unlike the complex intelligent systems of high-end hotels, the intelligent management of homestays focuses more on practicality and convenience, adapting to the operational capabilities and cost budgets of small business entities [1].

## **2.2. Related theoretical basis: Service Science, Data Science, Intelligent Management Theory**

As a systematic knowledge system, service science aims to standardize service behavior through scientific methods, adapt to the emotional experience of customers, and adapt to the reality that homestays are mostly operated by individuals and focus on interpersonal interaction. It guides homestays to abandon formal services and focus on the real needs of customers to carry out service work. Its essence lies in implementing services through details rather than simply piling up theories. Data science focuses on simple and actionable data collection and organization, providing theoretical support for recording basic information such as guest preferences and order flow for homestays. It does not require complex data processing techniques and is tailored to the operational capabilities of small-scale homestay operators, allowing homestays to grasp core operational information through basic data. The theory of intelligent management focuses on efficient and convenient management methods, which are in line with the basic needs of order management and service connection in the daily operation of homestays. It guides homestays to use simple digital tools to optimize management processes, avoid high-end and complex intelligent systems, adapt to the low-cost and high-efficiency operation demands of homestays, and connect with the subsequent analysis of homestay management difficulties and system construction.

## **2.3. Analysis of Homestay Service and Management Model Evolution**

The service and management model of the homestay industry is not static, and its evolution process is deeply rooted in the expansion of market size and changes in technological environment. Early homestay operations mainly relied on the enthusiasm and local knowledge of individual homeowners, with highly personalized services but loose and difficult to replicate management. The rise of online booking platforms has promoted the scale and standardization of homestay operations. The standard processes and evaluation systems provided by the platforms not only improve booking efficiency, but also make some service content tend to be homogeneous. Currently, in the face of fierce market competition and increasingly refined customer demands, the model of relying solely on platforms or personal experience has shown bottlenecks. The dual pressure of refined management and personalized services has directly given rise to the widespread demand for data tools in the industry. This evolutionary trajectory reveals the inherent logic of the industry's transition from personal experience driven to data intelligence driven, providing a historical perspective for understanding the inevitability of precision services and intelligent management [2]. The core characteristics of each stage are summarized in Table 1.

Table 1: Characteristics of the Evolution Stages of Homestay Services and Management Models

Evolution stage	Core driver	Characteristics of Service Mode	Characteristics of Management Mode
Personal experience dominant period	Owners' personal abilities and resources	Non standard, flexible, and deeply personalized integration	Highly handcrafted, highly arbitrary, and reliant on intuition
Platform standardization development period	Online platform rules and traffic	Standardization of processes and stability of basic services	Online ordering, reliance on platform tools, preliminary standardization
Exploration period of data intelligence	Market demand differentiation and data accumulation	Pursuing personalized experience optimization based on data	Start integrating multi-party data to assist decision-making and try automated tools

### 3. Service and Management Challenges Amidst Homestay Rapid Expansion

#### 3.1. The Conflict Between Homogeneous Services and Personalized Demands

In the rapid development process of homestays, most operators still use the early extensive management model. These operators are mostly individuals or small teams, lacking professional management experience and systematic management ideas. In daily operations, they rely more on personal experience to handle affairs, without standardized operating procedures and management standards. The operation of homestays involves multiple aspects such as order verification, customer maintenance, material management, and hygiene control. Refined operation requires homestays to carefully control and promote each task in a standardized manner. However, in actual operation, many homestays have problems such as chaotic order records, unplanned material procurement, and lack of unified standards for hygiene and cleanliness, and even cases of missing customer information and service connection gaps. Due to limited energy and lack of scientific management methods, operators are unable to carry out refined control over various aspects of operation, which is not only related to the shortcomings in the evolution of management models in the early stage, but also incompatible with the operational pressure brought by the rapid development of homestays, making it difficult to meet the basic requirements of refined operation in the industry.

#### 3.2. The Conflict Between Extensive Management and Refined Operational Requirements

The management methods of many homestays are still at the initial stage of manual bookkeeping and scheduling. Managers rely on personal memory or simple tables to process room status information, and there is a lack of precise basis for material procurement and loss accounting. This management model may be feasible when the number of housing units is limited, but once the business scale expands, the number of room types increases, and the passenger flow increases, the response delay and error rate of manual management will significantly increase. The progress of room cleaning, linen replacement cycle, and inventory of consumables are difficult to synchronize in real time, which may inadvertently prolong the vacancy period of the property and increase material costs invisibly. The market's expectation for specialized and standardized operation of

homestays, coupled with the widespread reliance on manual labor and decentralized decision-making, constitutes the core contradiction that restricts their efficiency improvement and quality assurance [3].

### **3.3. The Conflict Between Data Fragmentation and Insufficient Intelligent Decision Support**

The various types of data generated in the operation of homestays are mostly scattered in different scenarios. Operators often record order data on booking platforms, customer preferences on personal mobile phones or laptops, and material consumption data on purchase vouchers. These data do not have a unified organization channel, showing obvious fragmentation characteristics, and even some data is lost due to lack of timely organization. Operators often lack basic data organization awareness and simple methods, and are unable to integrate scattered data such as orders, customer situations, and materials. It is difficult to capture key information such as customer demand patterns and operational shortcomings from these basic data. The rapid development of homestays requires operators to make reasonable decisions based on actual operational data, such as adjusting service content and optimizing material procurement plans. However, fragmented data cannot provide effective decision-making references for operators, resulting in operators still relying on personal experience to make decisions and unable to achieve scientific decision-making. This not only continues the shortcomings of previous extensive management, but also fails to meet the basic needs of the industry's rapid development for decision-making efficiency and rationality.

### **3.4. The Conflict Between Rising Labor Costs and Service Experience Stability**

The rapid development of homestays has led to an expansion in operational scale and an increase in demand for service personnel. However, the labor costs in the current labor market are rising year by year, and most small and medium-sized homestay operators find it difficult to afford sufficient labor costs. They can only hire a small number of service personnel or even have their families work part-time. The number of service personnel is insufficient and lacks professional training. They need to balance multiple tasks such as reception, cleaning, and customer maintenance on a daily basis. Their energy is severely lacking, which can lead to problems such as delayed service response, inadequate cleaning, and non-standard reception processes. The service experience of homestays depends on the actual service quality of service personnel. The fatigue and lack of professionalism of service personnel can lead to inconsistent service quality received by different time periods and customer groups. Sometimes it can meet the basic needs of customer groups, while other times there may be omissions. Operators cannot improve service stability by increasing manpower, nor can they improve service quality under the premise of cost control. This not only continues the problem of extensive management in the early stage, but also restricts the steady improvement of homestay service level [4].

### **3.5. The Conflict Between Rapid Expansion and Sustainable Management Capabilities**

The rapid development of the homestay industry has made many operators eager to expand their scale, either by adding new guest rooms or opening branches, but neglecting the improvement of their own management capabilities. Most operators already lack professional experience in large-scale management and can only cope with the basic operation of small homestays. After the expansion of homestays, the number of operational links has increased. It is not only necessary to balance the service and management of existing guest rooms, but also to add personnel allocation, cross store coordination, and unified control of materials. The management energy of operators has been greatly dispersed, making it difficult to take care of all operational details. Many expanded

homestays have encountered management disconnection problems, either using the management methods of small homestays that cannot meet the needs of large-scale operations, or lacking clear management division of labor, resulting in chaotic operations, declining service quality, and a serious mismatch between expansion speed and their own management capabilities. This not only continues the shortcomings of previous management, but also makes it difficult for homestays to achieve long-term stable operation, leading to an awkward situation where expansion leads to difficulties.

## **4. Strategies for Building a Precision Service and Intelligent Management System for Homestays**

### **4.1. Establishing a Precision Insight System for Customer Needs Based on Multi-Source Data Integration**

Homestays can integrate various basic customer data generated in daily operations, eliminating the shortcomings of fragmented data. Operators can use simple spreadsheet tools to unify and organize multi-source data such as booking platform order data, on-site registration information at check-in, verbal or written feedback from customer groups, and daily observed customer behavior habits, without the need for complex technical tools, to fit the operational capabilities and cost budgets of small and medium-sized homestays. When organizing data, operators can focus on categorizing and recording the travel purposes, dietary preferences, accommodation habits, and specific service demands of customer groups, such as distinguishing the needs of family customers for children's products, business customers for office facilities, and elderly customers for convenient facilities. At the same time, they can timely supplement new check-in data, regularly sort out common needs and personalized differences in the data, eliminate invalid information, and ensure that the data can truly reflect the needs of customer groups. The sorted customer data can be classified and archived according to customer group types, making it convenient for operators to quickly access and call, avoiding data disorder and difficulty in utilization. This not only solves the problem of inefficient decision-making caused by fragmented data in the previous text, but also enables more targeted service provision, truly achieving accurate insights into customer needs.

### **4.2. Building an Integrated “Service-Management” Intelligent Operations Platform**

Hotels can leverage their small-scale operational characteristics to build a user-friendly, cost-effective "service-management" integrated intelligent operation platform. There is no need to pursue high-end or overly complex features—focusing on core daily operations is sufficient. Operators can utilize readily available simplified digital tools from the market, eliminating the need for in-house development and reducing setup difficulty and costs. The platform can integrate basic modules such as order reception, guest management, service dispatch, and inventory registration. Pre-collected customer demand data can be synchronized into the platform, enabling automatic linkage to corresponding guest preferences when new orders are generated. This allows service staff to be promptly notified of targeted service preparations. Operators can assign service tasks uniformly through the platform and clarify staff responsibilities—such as who handles reception, cleaning, or guest feedback—to prevent service oversights caused by role confusion. Service staff can report task completion via the platform, allowing operators to monitor in real-time and promptly address service or management issues. This approach builds on the earlier insights into customer demand while resolving past challenges like fragmented management and disjointed service delivery. By efficiently connecting service provision with daily operations, the system aligns with the practical realities of homestay management and the general public's comprehension level

[5].

### **4.3. Dynamic Personalized Service Recommendation and Resource Scheduling Mechanisms**

The homestay can leverage the integrated "service-management" operational platform established earlier, combining customer demand data to create a dynamic personalized service recommendation and resource allocation mechanism. This does not require complex algorithms but relies on manual judgment based on fundamental data, aligning with the operational capabilities of small and medium-sized homestay operators. Operators can push services tailored to guest needs after successful bookings by analyzing data such as travel purposes, accommodation habits, and dietary preferences within the platform. For example, recommend nearby family-friendly attractions and prepare children's tableware in advance for family guests; suggest convenient travel routes and reserve lower-floor rooms for elderly guests; or pre-adjust room internet access and prepare basic office supplies for business guests. Resource allocation can be flexibly adjusted around service demands. Operators can reasonably distribute service staff time and material reserves based on daily order types and quantities. For instance, when family guests dominate, deploy staff familiar with child-related services and replenish children's supplies; when business guests prevail, focus on optimizing office support services and ensuring response speed. In cases of last-minute guest demand changes, the operational platform can promptly adjust service arrangements and resource allocation to avoid waste and service gaps, aligning with the actual daily operations of homestays. This approach personalizes services to every detail while addressing earlier issues of service homogenization and inefficient resource allocation.

### **4.4. Full-Process Intelligent Service Quality Monitoring and Optimization Closed-Loop**

Homestays can establish a closed-loop system for intelligent monitoring and optimization of the entire service process by leveraging existing operational platforms, eliminating the need for complex monitoring equipment. This approach combines manual inspections with simple digital record-keeping, aligning with the operational costs and capabilities of small and medium-sized homestays. Operators can set up monitoring nodes for each service stage within the platform, covering everything from guest booking inquiries and check-in procedures to room cleaning, mid-stay service responses, and check-out settlements. Each stage is assigned dedicated personnel to document service conditions and simultaneously input the data into the platform for future reference and verification. After guests check out, operators can gather feedback on service quality through straightforward online messages or phone follow-ups. The collected feedback is categorized and recorded in the platform, with specific issues such as inadequate cleaning or delayed service responses assigned to responsible personnel with clear deadlines for rectification. Once the corrective actions are completed, their outcomes are logged into the platform to close the loop. Operators can regularly review monitoring records and guest feedback to identify common service shortcomings, then adjust service processes based on prior customer demand data. For instance, in response to feedback from elderly guests about travel inconvenience, reception and guidance services can be optimized. This ensures that monitoring is documented, issues are addressed, and corrective actions are implemented effectively, aligning with the daily operations of homestays while also integrating with personalized services and resource allocation efforts mentioned earlier to resolve the instability in service experiences [6].

## 4.5. Flexible Organization and Agile Management Mechanisms Through Human-Machine Collaboration

Homestays can establish a flexible organization and agile management mechanism for human-machine collaboration based on their own small and medium-sized business scale, without introducing complex management systems. They can rely on existing operation platforms and reasonable matching of service personnel to adapt to the management capabilities and operating costs of operators. Operators can clarify the division of labor for human-machine collaboration, allowing a simple digital platform to undertake tedious and repetitive tasks such as order entry, data recording, and service reminders, freeing up the energy of service personnel and allowing them to focus on tasks that require interpersonal interaction, such as customer reception, demand response, and on-site service, to avoid service personnel getting caught up in complex transactional work and affecting service quality. Flexible organizations can adjust flexibly based on order volume and customer needs. Operators can adjust the work content and time of service personnel reasonably according to daily order changes. For example, during peak order periods, service personnel can focus on reception and check-out services, while during low order periods, service personnel can be arranged to carry out cleaning and maintenance, material sorting, and customer feedback sorting. Agile management can rely on the operation platform to quickly respond to various unexpected situations, such as temporary changes in check-in time or special service requirements from customer groups. Operators can adjust service arrangements and personnel deployment in a timely manner through the platform, without the need for cumbersome approval processes. At the same time, the emergency response responsibilities of each position are clearly defined, allowing service personnel to quickly respond to unexpected problems, in line with the actual situation of daily operation of homestays, connecting with the relevant work of quality monitoring loop mentioned earlier, and solving the dilemma of high labor costs and slow management response in the early stage.

## 5. Conclusion

The rapid development of the homestay industry not only brings broad development opportunities, but also puts forward higher requirements for service quality and management level. The deep integration of precise service and intelligent management is the only way for the homestay industry to break through development bottlenecks and achieve high-quality development. This article summarizes relevant theories, analyzes practical difficulties, proposes system construction strategies and implementation paths that are in line with the actual development of the homestay industry, taking into account practicality and operability, providing a foundation for subsequent related research, and also providing specific guidance for homestay operators to optimize service and management models, helping the homestay industry achieve quality and efficiency improvement, stability and long-term development in the rapid development.

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