Exploring service design from the grass-roots level of a governments' public ecosystem: The case of J province

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Abstract

The modernization of the national governance system and governance capacity is one of the major strategies of national development. Service design is contributing its unique role and value to promoting the modernization of the government service system and improving the efficiency of national governance, but the current research is still relatively insufficient. This paper is a preliminary discussion on the application of service design to promote the construction and development of the grass-roots government's sustainable convenience service ecosystem, based on a public service project of administrative examination and approval we did in a town government in J Province in 2021. We hope this paper will serve as a reference for relevant practice and research.

Keywords: public services, service design, government service system, service ecology

Introduction

Public service is related to the life and future of every citizen, which also directly feeds back into the development of society and the country. In recent years, the rapid development of the times and the continuous change of people's needs are putting forward new requirements for the field of public services, which has naturally become a challenge for the government as its important provider. How to improve the level of public services and national governance efficiency, and how to better develop a service-oriented government is one of the important topics, which also points to the modernization of the national governance system and governance capacity. The

comprehensive and in-depth reform of the administrative examination and approval system and the promotion of the modernization of the government service system are the key links. Service design, as a cutting-edge product of interdisciplinary design and management, has brought new vitality to the innovation and development of public services. Moreover, the introduction of service design can also make up for the limitations or deficiencies of traditional public management in the face of today's complex environment.

As a representative of the third and fourth fields of design proposed by Buchanan (1992), it emphasizes design thinking as the core and takes experience, relationship, process, and system as important design objects. From the focus on the business field to the value presented in the social public service field, it covers a multi-dimensional discussion from the specific design application layer to the organization and policy layer. In recent years, service design has become increasingly popular (Adebajo, 2018) and has been rising (Sangiorgi, 2015) in the public sector as a new method to realize the transformation of public services (Parker & Heapy, 2006), which has begun to "influence many areas of government, ranging from the public management to social policies" (Junginger, 2013). Service design is of great significance in the construction and upgrading of the grass-roots government's convenience ecosystem, but the current exploration is still relatively insufficient.

This paper takes the public service project of administrative examination and approval we did in the town government of J Province as an example, hoping to contribute to the preliminary exploration in this field. This project aims to improve the town's public service level and promote the construction and sustainable development of the convenience service ecosystem. Based on the in-depth research and data analysis, we have put forward targeted and systematic innovative solutions for the optimization and sustainable development of public services for local administrative approval.

Research on public service design

Combining qualitative and quantitative research

The preliminary research is carried out in a comprehensive way, including questionnaires, interviews, observations, etc. Our specific research path was "qualitative-quantitative-qualitative". Through the qualitative research process of interviews and observations, we developed an initial overall understanding of the local situation. Then, we moved on to questionnaire design. Qualitative research can provide a more focused research direction for quantitative research, so that the

questionnaire designed can be more effective. the questionnaire design is divided into the *Questionnaire on Public Service Quality of Convenience Service Hall* (citizen version) and the *Questionnaire on Working Experience in Service Center* (employee version). After the questionnaires were collected, we first conducted a reliability and validity analysis (including content validity, construct validity, convergent validity, and discriminant validity) using SPSS 26.0 and AMOS 23.0 software, to ensure the validity and reliability of the data. The data results showed that our questionnaire performed well. Subsequently, we conducted descriptive analysis and Pearson correlation analysis to reveal the information and characteristics contained within the group and service-related aspects. Quantitative research allows for a clearer, more objective and comprehensive presentation and analysis of the problem or phenomenon, facilitating the identification of influencing factors and their correlations, and corroborating qualitative findings. At the same time, it can also point to directions that need to be further developed. On this basis, we returned to the qualitative research approach again, conducting more targeted interviews on specific issues.

The comprehensive use of quantitative and qualitative research methods can increase the depth and breadth of research, and bring more beneficial research space for further problem insight, pain point analysis, demand positioning, and opportunity discovery.

Problem analysis and demand positioning

After that, the project used service design tools such as Persona, User Journey Map, and Service Ecology Map to analyze the user groups, behaviors, and ecosystems involved in the local public service system of administrative examination and approval. The whole process includes problem location and analysis, mining, sorting out and summarizing the key pain points on the entire process and touchpoints, and then exploring opportunities one by one. These provide a solid foundation for the formation of the final solution.

1. User group analysis

In terms of user group analysis, based on the previous research results, three representative user portraits of the two major user groups of the citizens and employees are summarized and established (see Figure 1). As the object of administrative approval of public services, the pain points and needs of the citizens are the core driving force for the continuous improvement of the public service system. They have 11 common pain points, the former reflects 2 independent problems, while the latter presents 3 problems. Based on this, we found 12 opportunities.

The employee group is the counter clerk. As another important object in the public service system, the problems and needs they reflect also directly affect the entire public service system of administrative approval. This group reflects 8 pain points and 10 opportunities.

Figure 1. Persona

2. User behavior analysis

In the public service system of administrative approval, user behavior can be divided into three stages in chronological order: before matter processing, during processing, and after processing. Each stage will correspond to corresponding behavioral characteristics and cause different pain points and needs, which will affect the experience and emotions of the user groups (see Figure 2).

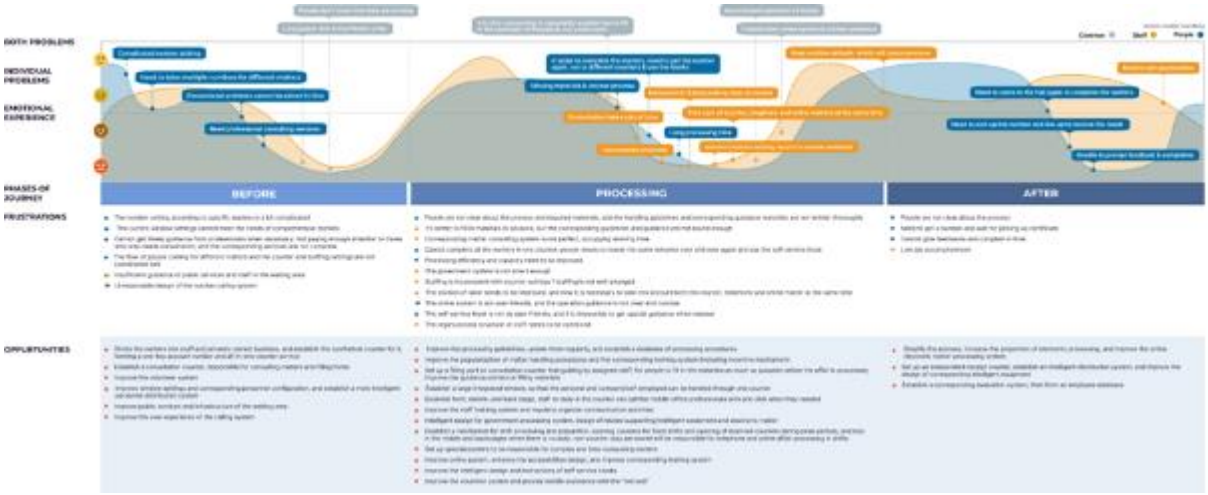

Figure 2. User Journey Map

In the pre-service phase, the citizen group reported 6 main problems and the employee group reported 2 points, corresponding to 6 pain points and 6 opportunities. In the middle stage of matter processing, the citizen and employee

groups reported 12 main problems, corresponding to 11 pain points and 12 opportunities. In the post-matter stage, the citizens reported 3 main problems, and employees showed 1 main problem, corresponding to 4 pain points and 3 opportunities.

3. Current public service ecosystem analysis

After analyzing the user groups, behaviors, and experiences, we entered the macro-level exploration. The Service Ecology Map takes 5W1H as the dimension and expands from the inside to the outside, showing the interrelationships between various elements and levels, and discovering opportunities for improvement. In this project, the corresponding dimensions from the inside to the outside are divided into four levels: within the citizens, between the citizens and the staff in the hall, between the staff in the hall, and between the staff in the hall and the relevant government units (see Figure 3).

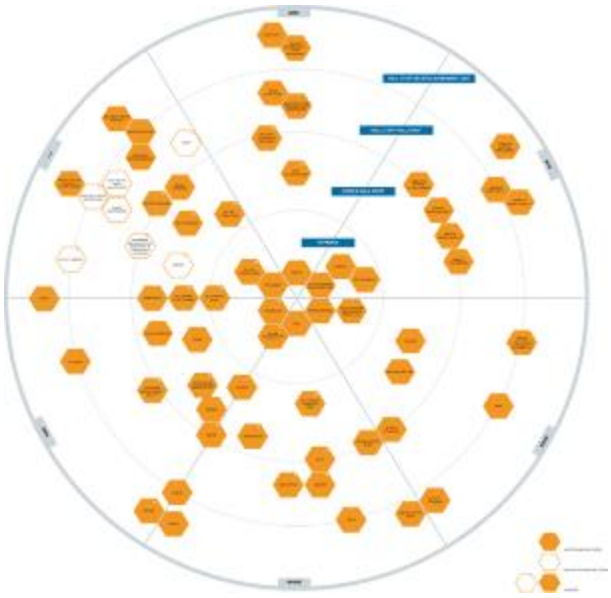

Figure 3. Service Ecology Map

Exploration of the design of the grass-roots government's convenience service ecosystem

Based on the problems, needs, pain points, and opportunities reflected in the analysis of user groups, user behaviors, and the current public service ecosystem, this project used service design tools such as System Map and Service Blueprint to propose targeted innovative solutions (see Figure 4 and Figure 5)

Exploration of system architecture design

When constructing and optimizing the grass-roots government's convenience service ecosystem, it is necessary to comprehensively consider the four aspects of improving the matter system, event system, volunteer service system, and monitoring system, to form a virtuous circle in the interconnection.

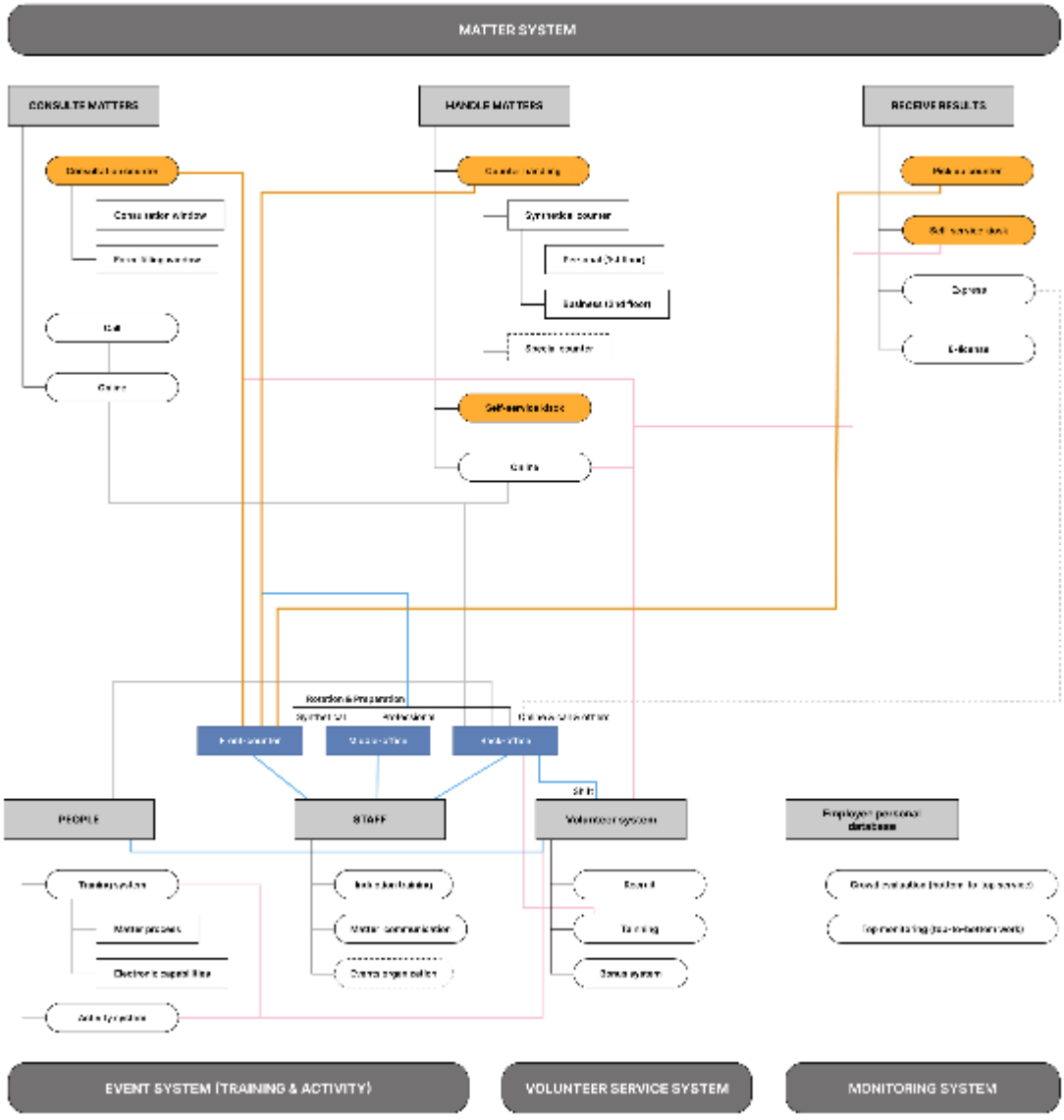

Figure 4. System Map

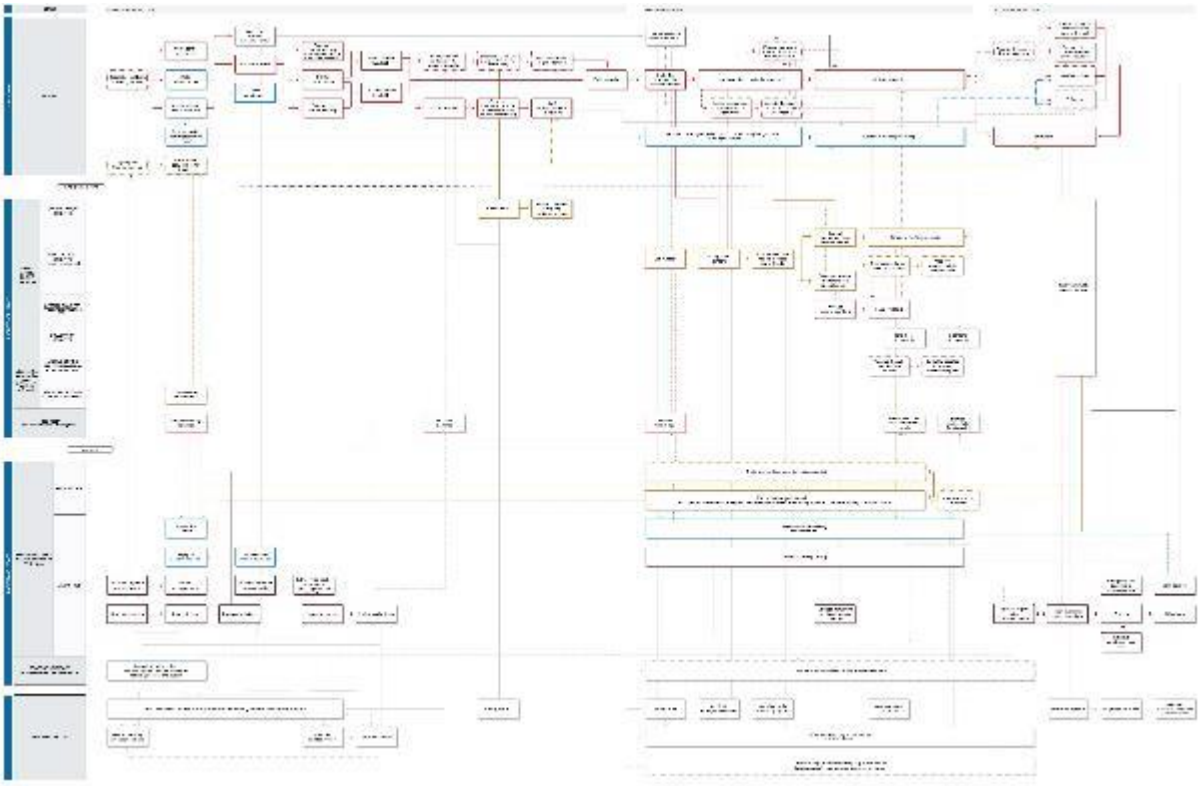

Figure 5. Service Blueprint

1. Matter system

The relevant design of the matter system can be divided into three parallel matters: consulting matters, handling matters, and receiving results. Among them, the consultation service counter can set up consultation windows and form-filling windows, and the staff are responsible for rotation. The setting of the consultation window mainly solves the problem that consultation takes up too much time for matter processing and meets the relevant needs of the citizens. The setting of the form-filling window mainly alleviates the time-consuming phenomenon caused by material explanation in matter processing.

The handling matter can be divided into three categories: counter processing, self-service kiosk processing, and online processing. Among them, the counter handling can try to combine specific matters into a synthetical counter responsible for personal or company/self-employed, forming an all-in-one counter service. The setting of the large integrated window can meet the needs of the citizens to realize one-time matter processing in a single window. At the same time, it can also alleviate the uneven matter handling, which can spread the flow of people and relieve the pressure of the separate window.

Moreover, special counters can be set in parallel with the synthetical counter. This counter is mainly responsible for the complex and time-consuming matter processing transferred from the synthetical counter. When the staff at the synthetical counter assess the matters to be processed are very complicated and will take more than 30 minutes, they can directly transfer them to the special counter for processing. The setting of the special counter will alleviate the queuing phenomenon to a certain extent.

In terms of receiving the results, it can be divided into four methods: counter collection, self-service kiosk collection, express delivery, and electronic licenses, to meet the demands of the public to quickly obtain certificates.

2. Event system

The event system is mainly developed in the form of training and activities, especially the former. The establishment of a training system will play a positive role in matter handling. The training system is mainly divided into two parts: for the citizens and employees. For the citizens, regular training on procedures and electronic handling can be held, and corresponding incentive mechanisms are set up to encourage everyone to participate. The establishment of the citizen training mechanism mainly alleviates a series of problems caused by the citizens being unclear about the matters to be handled, procedures, required materials, and how to fill in forms.

For the part of employees, improving the induction training and regular matter communication mechanism to alleviate the problems that may be encountered in the process of matter processing and the increase in processing time caused by a series of problems.

The training system will be connected to a matter process database. The establishment of the database will provide support for the optimization and updating of the work guide and other guidance materials. The counter staff can upload their good handling experience to the database at any time, and the database will regularly generate a better *Instruction Manual* based on the situation reflected by everyone, to alleviate the series of problems caused by the people who do not understand the guide materials. At the same time, this manual can also be used for employee induction training and when it is necessary to quickly search for matters.

3. Volunteer service system

Developing the volunteer service system can improve the public service experience. The establishment and improvement of the volunteer system can provide mobile assistance to the citizens promptly, and meet the demands of the citizens for professional guidance when they need it. And it can strengthen the guidance of

public services related to the citizens, such as the guidance of filling out forms at the consultation counter, and the order guidance in the waiting area. Also, it will play an auxiliary role in the orderly operation of the matter system and training system.

Volunteers can be composed of internal rotation staff and external recruitment. Target recruitment is not limited to students from schools with relevant practical cooperation or students who just have relevant experience needs, and the participation of ordinary people is more encouraged. Ordinary people who sign up to become volunteers will get more training and related experience than other people, which is bound to bring substantial help to their future matters. Volunteer training is associated with the training system, and a corresponding reward mechanism is set up to encourage more people to participate.

4. Monitoring system

The monitoring system refers to the evaluation feedback system, which is composed of citizen evaluation and top supervision. The public evaluation tends to be a bottom-up service evaluation, while the top supervision is a top-down work evaluation. All evaluations will be aggregated in a database of individual employees, which will periodically generate evaluation reports for feedback to employees. The establishment of the monitoring system enables the citizens to provide timely feedback and promote the improvement of works and services. In turn, employees can receive regular feedback to meet their fulfillment needs.

Exploration of the design of staff organizational structure

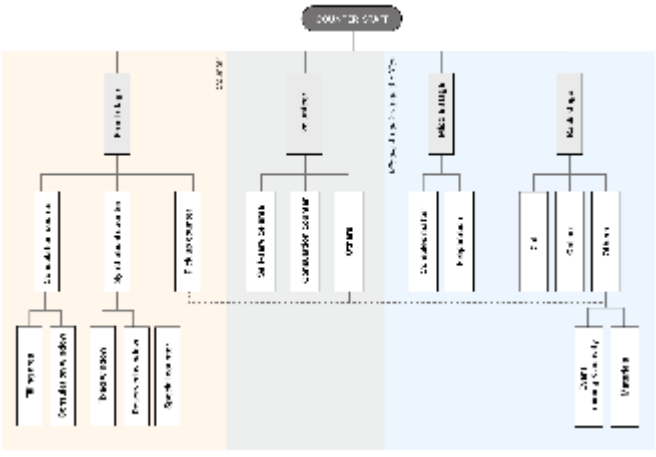

Figure 6. The Design of Personnel Organisation Structures

It is necessary to establish and improve the ecosystem of the staff organization structure with the front, middle and back stages operating in parallel (see Figure 6). According to the rotation mechanism, the staff periodically circulates and flows among the three stations. There are two types of fixed windows and reserved windows for consultation counters, synthetical counters, and special counters.

Employees who are not scheduled to be on duty at the front stage are employed in the middle and back stages. The staff in the middle stage are responsible for complex and difficult matters and work preparation. When the counter staff encounters difficulties in the process, they can seek help from professionals in the middle stage through an all-in-one smart calling system. Except for the special personnel, the professionals here refer to the owner for the original matter handling. In the personnel shift setting of the work rotation mechanism, the above situation should be fully taken into account. At the same time, the peak period of different matter processing should be considered, and personnel can be flexibly changed according to the corresponding situation at different periods.

In terms of post preparation in the middle stage, it can be assisted by an intelligent real-time traffic monitoring system. When the system detects that the flow of people reaches a certain peak or someone has been waiting for more than 20 minutes, the reserved window will be opened, and the staff in the middle stage will join the front stage to alleviate peak-hour problems and queues.

For the front stage, the back stage is also a non-counter staff member on duty. The front, middle and back stages are all composed of counter staff, but there are different divisions and adjustments at different periods, which are determined by the rotation mechanism. The staff in the back stage are responsible for a telephone consultation, online consultation, matter handling, and other work. Other work includes the formulation and update of guidance materials such as guidebooks, the induction and arrangement of material documents, and the implementation of training-related matters. Telephone and online matters are also subject to the rotation mechanism, and different people are responsible for different periods. We do not need to divide personnel into counter handlers and online handlers, because the total amount of matters handled by the citizens is relatively consistent, the choice of window and online matter handling methods presents a form of reverse growth.

The intertwined operation of the work rotation mechanism and the matter ecosystem can release the psychological pressure of employees due to long-term engagement in the counter matters to a certain extent. Although the setting of a synthetical counter will bring new requirements for employees in terms of work, their daily

smiling service time will be greatly shortened, which will help relieve the stress brought by their long-term need to maintain their image.

Summary

The service design, from preliminary research to the proposal of targeted system innovation solutions, injects new power into improving the level of local public services and promoting the construction and development of a sustainable grass-roots government's convenience service ecosystem. In the early stage of public service design research, the combination of quantitative and qualitative research methods will provide an in-depth and broad research space for the exploration and positioning of problems, pain points, needs, and opportunities. The subsequent use of service design tools such as Persona, User Journey Map, and Service Ecology Map will further provide the basis for the final innovative solution generation. In the innovative design of the solution, System Map, Service Blueprint, etc. can be used to realize the design and exploration at the system and organizational structure layer and provide corresponding specific full-process design. This paper, as a preliminary discussion on the application of service design to the modernization development of the government service model and the modernization of the social governance system, hopes to provide a reference for related practice and research.

Acknowledgments

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