



Research on the Continuous Usage Behavior Mechanism of Digital Government Service Platforms: A Qualitative Analysis Based on Grounded Theory

Jingjing Sun^{1,a}, *Yanxia Lu^{2,b}

¹Liaoning Normal University, Dalian, China

²School of Management, Liaoning Normal University, Dalian 116029, Liaoning, China

^a2306281761@qq.com, ^bLuyanxia@lnnu.edu.cn

Abstract. Against the backdrop of Digital China construction, government data platforms are critical digital governance carriers. Addressing challenges like low satisfaction and insufficient stickiness, this study uses grounded theory with 24 semi-structured interviews. Three-stage coding identifies six core categories—platform characteristics, data quality, information quality, service quality, policy and governance, and government-enterprise adaptation—constructing a continuous usage behavior mechanism model. These dimensions synergistically convert usage intention into stable behavior, offering practical guidance for platform optimization.

Keywords: Government Data Platform; Continuous User Engagement; Grounded Theory; Digital China Construction; Chinese-Style Modernization

1 Introduction

With the continuous advancement of China's digital infrastructure, government data platforms have become the core channel for public services and data access [1]. While phased results have been achieved, challenges persist such as inadequate functional design, suboptimal service quality, and insufficient user engagement [2] [3]. This study employs grounded theory to examine users' persistent engagement mechanisms, providing a theoretical foundation for advancing high-quality digital governance.

2 Literature review

Existing studies identify usability [4], system quality [5], and service quality as key drivers of government platform adoption [6], demonstrating that these factors positively influence sustained usage intentions [7, 8]. These findings provide valuable references for this study's grounded theory analysis. As shown in Table 1

Table 1. Core Factors Associated with "User Continuous Usage" in Domestic and International Studies

Literature reference	Research Con-text/Subject	Research technique	Core Influencing Factors	Research conclusion
Gotoh et al. [9]	Government In-formation System	Quantitative Empirical Analysis (Re-gression Model)	Usability, system quality, safety	The usability, quality, and security of government systems lower the user adoption barrier, enhance the experience, and positively foster sustained usage intent.
Taherdost et al.[10]	Mobile Govern-ment Service Platform	Questionnaire Survey + Structural Equation Mod-eling	Platform function-ality and ease of use	The platform's compre-hensive features and user-friendly operations enhance practicality, strengthening users' moti-vation for continued use.
Kong Xin [11]	Government Ser-vice Platform	Quantitative Empirical Analysis (Mul-tiple Regres-sion)	The platform's rel-ative advantages, level of trust, and network externali-ties	Enhance users' reliance on and recognition of the platform, extending their usage duration.
Sheng Hong et al. [12]	Government Ser-vice Platform	Questionnaire Survey + Task – Technology Matching Model	Task-Technical Matching Level	Meet users' actual needs, reduce usage barriers, and maintain their continuous engagement
Lee et al. [13]	Public Service Platform	Qualitative In-terview + Case Analysis	The platform's hu-man-centric attrib-utes (friendliness, practicality)	Optimize the user experi-ence and enhance users' emotional connection to the platform

3 Research Design

3.1 Research Technique

Grounded Theory [14] is a classic qualitative research method that derives theories from raw data through open coding, axial coding, and selective coding, without presupposing a research framework. Its openness and practical relevance make it well-suited for constructing mechanism models of user behavior.

3.2 Sample Selection

Based on grounded theory requirements, semi-structured interviews (≥ 30 min each) were conducted with 24 users across four groups: elderly users, corporate users, front-line staff, and general public, ensuring sample diversity and representativeness.

3.3 Data Collection

Following a systematic literature review, an interview outline covering core research constructs was developed and refined through preliminary interviews with 3–6 users from each key group. Formal interviews were conducted via online meetings from November–December 2025, with informed consent and audio recording, yielding approximately 120,000 words of transcript data.

This study employed purposeful sampling and maximum differentiation sampling strategies to encompass diverse key user groups on the government data openness platform. A total of 24 respondents were recruited for semi-structured in-depth interviews conducted via online meetings. After obtaining informed consent, all interviews were recorded and subsequently transcribed into textual materials, yielding approximately 120,000 words of original interview data—a robust foundation for grounded theory analysis. As shown in Table 2.

Table 2. Distribution of basic information of interviewees (N=24)

Attribute	Class	Number of people	Proportion (%)
Identity Type	Senior user	6	25.0%
	Enterprise User	6	25.0%
	The general public	7	29.2%
	Grassroots Workers	5	20.8%
amount to		24	100.0%

3.4 Category Refinement

Using Nvivo 15 and three-stage coding (open, axial, selective), 81 initial concepts were extracted and consolidated into 32 fundamental categories, then 7 main categories. Open coding extracted concepts from sentence-by-sentence analysis; axial coding integrated these into 14 subcategories and 7 main categories; selective coding established a core theoretical framework around continuous usage behavior.

3.5 Axial Coding

The 32 basic categories integrate into 7 main categories: platform characteristics, data quality, information quality, service quality, policies and government affairs, enterprise-government alignment, and continuous usage behavior As shown in Table 3.

Table 3. Sustainable Use of Government Data Platform by Users

Core Category	Main Category	Relationship Type	Relationship Structure Connotation
Sustainable Use of Government Data Platform by Users	Platform Characteristics	Basic Condition Relationship	Platform characteristics (smooth operation, convenient navigation) are the basic conditions for platform use, directly affecting users' initial value perception.
	Data Quality	Core Driving Relationship	Data quality (timeliness, accuracy) is users' core demand, determines the platform's practical value, and drives the willingness of continuous use.
	Information Quality	Cognitive Auxiliary Relationship	Information quality (simplicity, conciseness) reduces users' cognitive cost and assists users to efficiently obtain value information.
	Service Quality	Experience Regulation Relationship	Service quality (timely response, offline assistance) optimizes use experience and regulates the positive degree of users' value perception.
	Policy & Government Affairs Adaptation	Scene Adaptation Relationship	Policy and government affairs support (accurate push, historical query) adapt to livelihood service scenarios and expand the coverage boundary of platform value.
	Enterprise-Government Adaptation	Special Adaptation Relationship	Enterprise-government adaptation (stable interface, smooth interaction) meets enterprise needs and realizes precise value matching in government-enterprise scenarios.
	Continuous Use Behavior	Result Feedback Relationship	Continuous use behavior (long-term use, active recommendation) is the final feedback result of users' value perception and demand adaptation.

3.6 Selective Encoding

Selective encoding identifies 'User Value Perception and Demand Adaptation' as the core category, connecting platform optimization across functions, data, services, and policy alignment to ultimately boost users' sustained usage intentions. As shown in Table 4.

Table 4. Selective Coding

Core Scope	Fundamental category	Relation type	The connotation of the relationship structure
Continuous usage by users of the government data platform	Platform Features	Basic Condition Relationship	Platform features (smooth operation and easy navigation) are fundamental requirements for users when utilizing the platform, directly influencing their initial perception of value.
	quality of data	Core Driving Relationship	Data quality (timeliness and accuracy) is users' core requirement, determining the platform's practical value and driving their continued usage.
	Information Quality	Cognitive Assistance Relationship	The improved information quality (accessibility and conciseness) reduces users' cognitive effort, enabling them to efficiently obtain valuable information.
	quality of service	Experience Regulation Relationship	Service quality (timely response and offline assistance) optimizes the user experience and modulates the positive extent of user value perception.
	Policy and Government Service Integration	Scene Adaptation Relationship	The policy and government services (precision delivery, historical traceability) are tailored to public welfare and compliance scenarios, expanding the platform's value coverage boundaries.
	Adaptation between Enterprises and the Government	Specific adaptation relationship	Enterprise-Government Integration (Stable Interfaces, Smooth Interaction): Tailored to enterprise needs, it achieves precise value alignment between government and business scenarios.
	Continuous usage behavior	Result Feedback Relationship	Continuous usage behavior (long-term use and active recommendations) represents the ultimate feedback outcome of users' perceived value and demand alignment.

3.7 Theoretical Saturation Test

Theoretical saturation was confirmed through six additional interview datasets (Kappa=0.87), with no new categories emerging, validating the completeness and reliability of the coding framework.

4 Model Construction and Mechanism Analysis

The model encompasses six dimensions—platform characteristics, data quality, information quality, service quality, policy and governance, and enterprise-government compatibility—revealing their synergistic mechanisms in driving users' sustained engagement with government data platforms.

4.1 Platform Features – The Fundamental Condition for Continuous User Engagement

Operational fluency is the primary retention factor. Users reported slow loading, poor mobile adaptation, cluttered layouts, and complex menus as major barriers, with elderly users particularly affected by complex navigation structures and pop-up interruptions.

4.2 Data Quality – The Core Driving Force Behind Continuous Use

Data accuracy is perceived through negative experiences with delayed updates and inconsistencies. Users across all groups demand personalized recommendations, yet platforms currently lack sufficient capability, reducing engagement and habitual usage.

4.3 Information Quality: An Auxiliary Element for Reducing Users' Cognitive Costs

Users prefer visual formats combining text, images, and flowcharts. Elderly users particularly suffer from information overload with professional terminology, highlighting how information redundancy hinders consistent usage habits.

4.4 Service Quality – The Regulatory Mechanism for Optimizing User Experience

Service quality acts as an experiential moderator through response timeliness and offline assistance. Delayed feedback diminishes usage willingness, while offline service outlets bridge the digital divide for users with weaker digital literacy.

4.5 Policy and Government Affairs – Expanding the Scope of Platform Value Coverage

Policy documents filled with technical terminology challenge all user groups. Elderly users particularly struggle with specialized module names, expecting plain-language policy explanations beyond official document listings.

4.6 Enterprise-Government Integration: Achieving Precise Value Matching in Government-Enterprise Scenarios

Enterprise users value the platform's one-stop regulatory data access but note that non-standardized data formats requiring manual conversion reduce efficiency. They also highlight gaps in customized services and vertical industry data coverage.

4.7 Continuous Usage Behavior: The Final Feedback of Value Perception and Demand Adaptation

Continuous usage behavior is the core outcome, encompassing regular use and word-of-mouth recommendations. User engagement evolves from value perception → demand alignment → behavioral reinforcement, solidifying through accumulated trust and increasing conversion costs.

5 Research Findings and Recommendations

5.1 Research Conclusion

Through coding and analysis of semi-structured interviews with 24 users, this study identifies six core dimensions: platform characteristics, data quality, information quality, service quality, policy-government alignment, and enterprise-government alignment. Data quality is the core driver; platform characteristics are the prerequisite. Information quality reduces cognitive costs; service quality moderates experience. Scenario-specific adaptation and government-enterprise collaboration enable high-frequency habitual usage.

Data quality is the core driver; accuracy and timeliness directly determine platform value. Information quality reduces cognitive costs for all users, especially the elderly. Service quality moderates experience through timely response and offline assistance. Scenario-specific adaptation—accessible policies, open APIs for businesses, workflow-aligned features for staff—drives habitual usage and word-of-mouth advocacy.

5.2 Recommendations and Strategies

Based on these findings, targeted optimization is proposed across three strategic areas to enhance engagement and unlock public data value.

Strengthen foundational capabilities: optimize system stability, navigation efficiency, and implement age-friendly interfaces and simplified workflows to ensure universal accessibility.

Strengthen data quality governance: establish cross-departmental data sharing, real-time updating, and multi-source verification mechanisms with transparent disclosure of update cycles and sources.

Optimize information and service delivery: adopt accessible formats (visual summaries, plain-language policy), build rapid online response with offline support, and develop customized interfaces for enterprise and frontline users.

5.3 Limitations of the Study

Limitations include regional sampling constraints, need for quantitative validation, and absence of comparative analysis across user groups. Future research should conduct targeted studies per user group to refine the model.

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