Postprint: Research on the Sustainability of Government Information Service Evaluation Systems

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Date: 2023-08-27T00:00:00+00:00

Abstract

[Purpose/Significance] Currently, establishing a normalized evaluation mechanism has become an effective management strategy for governments at all levels to improve their information service levels. However, the complexity, diversity, and developmental nature of contemporary society continuously impact the application effectiveness of existing evaluation systems, creating an urgent need for research on the sustainability of evaluation systems. [Method/Process] This study creates a sustainability model for evaluation systems (S-PPF model), which at the theoretical level embodies the differences in evaluation indicator sets, the relevance of evaluation objectives, and the developmental nature based on the division principle of past, present, and future. Furthermore, by proposing the concept of an evaluation continuum and related practical principles, it achieves operability at the application level. [Results/Conclusion] The study finds that the S-PPF model can simultaneously address challenges such as the pertinence, relevance, and timeliness of evaluation systems, representing an effective sustainability solution for evaluation systems.

Full Text

Preamble

Research on the Sustainability of Government Information Service Evaluation Systems

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Abstract

[**Purpose/Significance**] The establishment of a normalized evaluation mechanism has become an effective management strategy for governments at all levels to improve their information service levels. However, the complexity, diversity, and developmental nature of contemporary society continuously challenge the effectiveness of existing evaluation systems, creating an urgent need for research on the sustainability of these systems. [**Method/Process**] This study proposes a sustainability evaluation system model (S-PPF model) that embodies, at the theoretical level, differences in evaluation indicator sets, relevance of evaluation objectives, and developmental characteristics based on the temporal division of past, present, and future. At the application level, operability is achieved through the concept of an evaluation continuum and related practical principles. [**Result/Conclusion**] The findings demonstrate that the S-PPF model can simultaneously address the challenges of pertinence, relevance, and timeliness in evaluation systems, offering an effective solution for evaluation system sustainability.

Keywords: government information service; evaluation system; sustainability; S-PPF model; evaluation continuum
DOI: 10.13266/j.issn.0252-3116.2018.20.004

Introduction

Evaluation systems have become the most common and important feedback mechanism for measuring performance in modern management systems, finding widespread application across industries in China. In government information service departments, regular evaluations of service effectiveness have become a standard management tool for assessing the quality of information services at various levels. Corresponding management mechanisms have been established at certain levels of government organizations. This high adoption rate of evaluation systems objectively requires that such systems be not only scientific but also sustainable. Just as society pursues sustainable development, stakeholders expect an evaluation system to meet current needs while remaining applicable to future environments.

However, research on evaluation system sustainability has been long neglected. The fundamental reason lies in the fact that evaluation has become commonplace in contemporary society, leading many to perceive it as a straightforward topic. For instance, when evaluation involves a specific functional department in a particular region, government managers often do not view it as a complex challenge—a rating scale plus evaluators may seem sufficient. This low-threshold characteristic at the micro level often causes managers to overlook the necessity of sustainability research.

Yet when evaluation is elevated to the macro level, its inherent complexity and diversity become apparent. Many factors that can be ignored at the micro level—such as relevance and temporal factors—become critical to evaluation

effectiveness at the macro level. Achieving feasibility and effectiveness in such complex social environments requires substantial human, material, and financial resources. These rising management costs objectively limit the temporal flexibility of evaluation system construction. It is no longer feasible to replicate the micro-level approach of organizing resources to rebuild evaluation systems from scratch whenever a need arises. To maximize system longevity, sustainability must be addressed. Consequently, sustainable evaluation systems will gradually become the goal in system construction, with sustainability emerging as a key criterion for success.

Government information services constitute an essential component of government activities, directly affecting operational and decision-making management levels, and playing a crucial role in ensuring smooth information channels, maintaining public order, and coordinating social relations. China attaches great importance to government information services, establishing specialized information agencies both within and outside government systems to provide information, support, and dissemination services, such as information centers, archives, and public libraries affiliated with governments at various levels. These providers exhibit both synergistic relationships and complex hierarchical structures internally. For example, according to the Archives Law of the People's Republic of China, China's archival administration operates under a unified leadership and tiered management model. Archives administrative departments manage national archival affairs by level and specialty, but this management is limited to archival business matters. Lower-level archival institutions only accept professional guidance from higher-level archival administrative agencies, with actual leadership residing with local party committees and governments—a dual management model. This structural complexity in the supply side of government information services necessitates macro-level perspective in evaluation system construction.

Based on this analysis, this paper pursues three research objectives: (1) Using China's current government evaluation systems as a foundation, examine key factors affecting evaluation system sustainability, analyzing their causes and coping strategies; (2) Construct a sustainability evaluation system model (SpacePastPresentFuture model, or S-PPF model) to address these factors, exploring its sustainability mechanism and proposing practical principles to enhance operability; (3) Select archival institutions as empirical subjects due to their dual management complexity, which provides a representative case for verifying the necessity and adaptability of the S-PPF model in government information service evaluation systems.

1 Literature Review

A search of Chinese and foreign journal databases including CNKI, EbSCO, and ProQuest reveals limited research on evaluation system sustainability. Drawing from academic interpretations of sustainable development, this paper defines evaluation system sustainability as: the ability of an evaluation system to long-

term meet intrinsic demands for accuracy, comprehensiveness, and timeliness, while dynamically adapting to constantly changing complex social environments and actively developing itself. The literature review focuses on two key factors in sustainability research: “space” and “time.”

1.1 “Space”-Related Literature

Most research concentrates on the spatial dimension, focusing on evaluation system internal structures around themes such as evaluation subjects, content, strategies, and methods. Government information service evaluation research primarily involves constructing evaluation indicator systems. For example, Zou Kai et al. built a public satisfaction evaluation system based on customer satisfaction theory; Li Youzhi et al. used the balanced scorecard method to construct a performance evaluation system comprising public, cost-benefit, and internal management dimensions; Lei Yong developed a public library government information service performance evaluation system covering infrastructure, collections, technology, staff, and service effectiveness; and Zhou Wei et al. constructed a system from user satisfaction, input-output, internal optimization, and sustainable development perspectives.

1.2 “Time”-Related Literature

Time-related research primarily appears in dynamic forms, focusing on dynamic mechanisms, applications, and methods. However, although these studies consider temporal factors, most only reflect changing patterns of indicator weights over time, remaining based on static indicator combinations. If these indicators cannot change with time and environment, sustainability cannot be ensured.

1.3 Literature Summary

Current literature emphasizes spatial attributes due to their direct connection to evaluation accuracy and effectiveness at a given moment. However, spatial-only research is inherently flawed, ignoring temporal impacts. Even successful systems gradually lose value over time. Time-related studies, while incorporating temporal factors, have narrow scopes, mostly focusing on weight variations. They remain based on static indicator sets that cannot ensure sustainability without content adaptation to temporal and environmental changes. Integrating both spatial and temporal dimensions with reasonable relationships offers a viable solution to evaluation system sustainability.

2 Key Factors Affecting Evaluation System Sustainability and Coping Strategies

2.1 Key Sustainability Factors

Three critical factors affect evaluation system sustainability: pertinence, relevance, and timeliness.

Pertinence: Current government performance evaluation systems often suffer from excessive generality, resulting in vague feedback. Lack of pertinence leads to trust deficits, weakened promotion effects, and reduced importance. A primary cause is uniform performance indicators across departments for horizontal comparison purposes, ignoring functional differences and only assessing commonalities while neglecting unique departmental characteristics.

Relevance: In current government performance evaluation systems, inter-departmental relevance relies on horizontal comparison, which often blindly pursues indicator uniformity to establish connections. This approach cannot simultaneously resolve the contradiction between relevance and pertinence.

Timeliness: When evaluation objects or stakeholder cognition change over time, timeliness issues emerge. These affect not only operational mechanisms but also indicator content due to object development. In information services, rapid technological advancement profoundly impacts service levels, rendering time-detached evaluation systems incapable of dynamic adaptation. Compared to pertinence and relevance, timeliness has greater impact on sustainability, as using premature or outdated indicators directly distorts results.

2.2 Coping Strategies

Common improvement measures adopt a combination of universal and specific indicators: (1) Increasing specific indicators enhances pertinence but reduces relevance; (2) Increasing universal indicators enhances relevance but reduces pertinence; (3) Over time, both universal and specific indicators lose effectiveness, causing simultaneous decline in pertinence and relevance with increased complexity. These measures create contradictions where addressing one factor affects others, making it difficult to achieve the original intent of evaluation system construction.

3 The Sustainable Evaluation System Model (S-PPF Model)

Sustainable development emphasizes both temporal and spatial factors. The S-PPF model integrates these dimensions to create a spatial-temporal collaborative sustainability evaluation system. In the three key sustainability factors, pertinence and relevance relate to space, while timeliness relates to time.

Spatial Dimension: Drawing from systems theory, which reflects internal structural characteristics, the S-PPF model unifies pertinence and relevance within a single space. Two construction principles apply: (1) Treat all evaluation objects as a whole while acknowledging differences, building different indicator sets for different objects based on overall direction to highlight pertinence within a global framework; (2) Replace indicator-based relevance with objective-based relevance, selecting objects with similar evaluation objectives for horizontal comparison. This principle restores objects' true nature, facil-

itates mutual improvement, and enhances supervisory effects while achieving pertinence and relevance.

Temporal Dimension: Systems theory suggests that systems and their components constantly change. Understanding a system requires knowledge of its past, present, and future. The S-PPF model divides time into future, present, and past to represent development trends. The model's sustainability mechanism operates through: (1) Dynamic selection of objectives from "future objectives" to "present objectives" while phasing out outdated ones to "past objectives"; (2) Dynamic selection of indicators from "future indicators" to "present indicators" while phasing out outdated ones; (3) Dynamic adjustment of indicator weights based on social development.

4 Practical Principles of the S-PPF Model

4.1 Evaluation Objectives

In the S-PPF model, evaluation objectives serve as the primary carrier of relevance. For government departments, objectives vary by administrative level, function, and organizational structure. China's uneven regional economic development and corresponding policies also cause geographic variations. Additionally, objectives evolve over time even within the same department. Determining appropriate objectives requires comprehensive consideration of spatial and temporal factors.

4.2 Evaluation Continuum

To operationalize continuous time, the S-PPF model proposes a temporal discretization scheme that maintains continuity while enhancing operability. A period is divided into future, present, and past segments (e.g., 2019, 2018, 2017 within 2017-2019). Separate evaluation systems are established for each period and combined into an evaluation continuum. This approach ensures temporal continuity and, more importantly, enables traceability to the past and innovation guidance for the future. The duration covered by a single continuum should align with evaluation object development patterns. For government information service evaluation systems, considering national development planning and modern information technology trends, 3-5 years is recommended.

5 Empirical Research on the S-PPF Model

5.1 Spatial Dimension

Using Beijing's archival institutions as a case study, the S-PPF model first treats all institutions as an integrated whole with a unified evaluation strategy. Different evaluation objectives are then formulated for each institution based on administrative level, function, and structure (see Table 1). This approach significantly improves evaluation effectiveness by: (1) Enhancing pertinence through customized indicator systems for different objectives, avoiding the defects of

uniform systems that include irrelevant content; (2) Improving relevance by enabling horizontal comparisons among objects with similar objectives, providing targeted improvement examples and solutions. For instance, district-level archives with similar objectives form a horizontal comparison zone where performance gaps are clearly visible, allowing lower-performing institutions to learn directly from higher-performing peers.

5.2 Temporal Dimension

The XX District Archives in Beijing serves as the temporal dimension case study. District archives are selected because their intermediate position makes them representative—they receive leadership from municipal archives while supervising subordinate institutions, and serve as direct service windows. The methodology adds temporal factors to conventional indicator construction by including timeliness (premature, appropriate, outdated) options in expert surveys. Results show that while only "traceability" and "green environment" indicators are premature for the overall group, different stakeholder groups (academic scholars, archival experts, government officials, enterprise representatives) show significant variation in their assessments of indicator timeliness. This demonstrates that ignoring temporal construction strategies creates timeliness problems. The S-PPF model's temporal approach identifies premature, appropriate, and outdated indicators to form various indicator sets, enhancing pertinence and effectiveness across different evaluation groups.

Conclusion

Government information services are vital to government operations and decision-making. While evaluation systems can improve service quality, contemporary society's complexity, diversity, and developmental nature create practical challenges, particularly regarding pertinence, relevance, and timeliness. The S-PPF model, integrating spatial and temporal dimensions, offers an effective sustainability solution. Key features include: (1) Treating all objects as a whole while acknowledging differences to enhance pertinence; (2) Replacing indicator-based with objective-based relevance; (3) Dividing development into past, present, and future to highlight timeliness. Practical principles include using organizational hierarchy and location for objective classification, and creating evaluation continuums for temporal discretization.

Empirical research with Beijing's archival institutions demonstrates the model's compatibility with existing organizational structures and its necessity and adaptability. Future research will expand to other government information service departments (information centers, public libraries) and examine long-term application effects.

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Abstract: [Purpose/significance] At present, a normalization mechanism for evaluation has become an effective management strategy for governments at all levels to improve their information service levels. However, the complexity, diversity, and developmental nature of today's society have continuously impacted the application effects of existing evaluation systems, urgently requiring research on the sustainability of evaluation systems. [Method/process] This paper proposes a sustainability evaluation system model (S-PPF model). At the theoretical level, the model embodies differences in evaluation indicator sets, relevance of evaluation objectives, and developmental nature based on the division of past, present, and future. At the application level, operability is achieved by proposing the concept of evaluation continuum and related practical principles. [Result/conclusion] The study finds that the S-PPF model can simultaneously solve the problems of pertinence, relevance, and timeliness of evaluation systems, and can be used as an effective solution to the sustainability of evaluation systems.

Keywords: government information service; evaluation system; sustainability; S-PPF model; evaluation continuum

Note: Figure translations are in progress. See original paper for figures.