

RESEARCH PAPER

Evaluating Digital Public Services in Brazil: Insights from Federal Managers

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Abstract. *Context:* Digital service evaluation plays a key role in informing decision-making and supporting continuous improvement in public administration. In Brazil, federal public managers are directly involved in implementing and interpreting the evaluation mechanisms embedded in digital services. *Goal:* This study seeks to understand how federal public managers interpret and utilize Brazil's digital service evaluation system, with the objective of identifying barriers to its effectiveness and opportunities for improvement. *Method:* The study employed three focus groups with 27 federal public managers representing 12 federal institutions. The sessions investigated how managers perceive the evaluation interface, interpret user feedback, and integrate these mechanisms into decision-making and service improvement processes. *Results:* The study identified ongoing barriers such as low interface visibility, limited analytical tools, confusion between evaluating service quality and service outcomes, and weak user participation. Insights from the third focus group, formed by managers from the Ministry of Management and Innovation (MGI), further emphasized the importance of simplicity, accessibility, transparency, new evaluation attributes, and improved dashboards for internal monitoring. *Conclusion:* Based on these findings, the study proposes recommendations to enhance the effectiveness of Brazil's digital service evaluation system, including improving interface visibility, simplifying evaluation forms, automating data analysis, and establishing feedback loops for users and managers. By integrating operational and institutional perspectives, the study advances the understanding of how evaluation mechanisms can support public value creation and continuous improvement in digital government services.

Keywords: Digital Government, Public Service Evaluation, Service Quality, User Feedback, Public Sector Innovation

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1 Introduction

Digital transformation has become a central enabler of innovation in public administration, allowing governments to deliver more efficient, transparent, and user-centered services. By integrating digital technologies into public sector operations, governments can improve the quality and accessibility of public services, optimize resource allocation, and strengthen citizen engagement [Marsicano *et al.*, 2024; Filgueiras *et al.*, 2019].

Despite significant progress in recent years, however, the effective evaluation of digital services remains a persistent challenge in many countries, including Brazil. Several studies have shown that up to 80% of digital transformation initiatives in the public sector fail to achieve their intended outcomes due to factors such as limited institutional capacity, insufficient leadership, and the lack of structured evaluation mechanisms [Dillon *et al.*, 2023].

In Brazil, the federal government has made significant progress in the digitalization of public services, supported by initiatives such as the *gov.br* platform and the *StartupGov* Program [Venson *et al.*, 2024]. A key milestone in this process was the creation, in 2018, of the Digital Service Evaluation API, developed and coordinated by the Secretariat for Digital Government (SGD) of the Ministry of Management and Innovation in Public Services (MGI). The API enables citizens to evaluate digital services directly within online platforms, generating satisfaction indicators

related to usability, accessibility, and the overall experience. Although this mechanism institutionalizes user participation in service improvement, its effectiveness ultimately depends on how managers interpret and apply the collected data to guide decision-making and redesign services [Menezes *et al.*, 2022].

International benchmarks, such as those observed in Denmark, Estonia, and the United Kingdom, illustrate that high-performing digital governments adopt multidimensional approaches to evaluation. These include automated data collection, real-time feedback mechanisms, and clear performance indicators linked to usability, accessibility, and responsiveness [Scupola and Mergel, 2022; Espinosa and Pino, 2025; Harvey *et al.*, 2023]. Such approaches are closely aligned with the broader movement toward *public value creation*, emphasizing that evaluation is not merely a tool for performance monitoring, but a core component of participatory governance and citizen-centered innovation [Luna *et al.*, 2024; Lee *et al.*, 2023].

Despite Brazil's formal mechanisms for collecting user satisfaction data, including those established by Law No. 13.460/2017 [Presidência da República do Brasil, 2017], there remains limited empirical understanding of how these systems are perceived and used by federal public managers. Understanding the managerial perspective is essential because these actors play a decisive role in translating user feedback into policy adjustments, service redesign, and strategic

improvement actions.

The main objective of this study is to investigate the challenges and opportunities associated with the evaluation of digital public services in Brazil, from the perspective of federal public managers who use and manage the evaluation system. Specifically, it seeks to identify barriers to effective feedback collection, analyze how evaluation data are processed and interpreted, and propose recommendations to improve the system's usability, transparency, and impact.

This article extends the study presented by [Pedrosa et al., 2025] by incorporating new empirical evidence, expanding the analytical scope, and advancing the conceptual interpretation of Brazil's digital public service evaluation ecosystem. The previous work was based exclusively on two focus groups with managers from service-providing institutions and primarily emphasized operational challenges, such as low visibility of evaluation mechanisms, limited analytical capacity, and conceptual ambiguity in user feedback interpretation.

The present study broadens this perspective by incorporating a third focus group with managers from the Information Technology Directorate (DTI) of the Ministry of Management and Innovation (MGI), the institutional body responsible for coordinating the evaluation infrastructure itself. This additional empirical layer enabled the identification of governance-level tensions and systemic dynamics that were not observable in the original study, including trade-offs between standardization and institutional autonomy, tensions between centralized comparability and contextual adaptation, and challenges related to transparency, accessibility, and analytical governance.

Beyond expanding the empirical dataset, the integration of operational and institutional perspectives enabled the development of a multi-layered sociotechnical interpretation of the evaluation ecosystem. This extension resulted not only in refined findings, but also in new analytical categories related to governance tensions, institutional coordination, and sociotechnical trade-offs, an expanded governance-oriented discussion, and a conceptual synthesis model that explains how technological infrastructure, institutional arrangements, managerial interpretation, organizational sensemaking, and citizen participation interact in the evaluation of digital public services in Brazil.

In addition, the recommendations proposed in this journal version were expanded from isolated interface-oriented suggestions into a broader set of multi-level governance recommendations spanning operational, institutional, and strategic dimensions. These include usability and accessibility improvements, analytical capacity-building, transparency mechanisms, institutional feedback loops, and hybrid governance arrangements for balancing methodological standardization with agency-level flexibility.

In summary, this article offers three main contributions. First, it provides an expanded and empirically grounded understanding of how federal public managers perceive and use Brazil's digital service evaluation system, integrating operational, managerial, and institutional perspectives. Second, it advances the literature by identifying systemic challenges such as low interface visibility, limited analytical

capacity, and conceptual ambiguity regarding what is being evaluated that hinder the effective use of user feedback for evidence-based decision-making. Third, the study proposes a set of actionable and practitioner informed recommendations to improve the evaluation ecosystem, including simplifying the interface, adopting multi-attribute evaluation models, automating data analysis, and strengthening transparency mechanisms. Together, these contributions support ongoing efforts to enhance public value creation and promote a more user-centered approach to digital government evaluation in Brazil.

This paper is structured as follows. Section 2 discusses international benchmarks and theoretical foundations related to digital service evaluation and public value creation. Section 3 describes the qualitative methodology adopted, including the three focus groups conducted with federal managers. Section 4 presents the main findings, highlighting challenges and patterns that emerged from the discussions. Section 5 outlines practical recommendations for improving the evaluation system. Section 6 discusses methodological limitations, and Section 7 concludes by summarizing the study's contributions and suggesting future research directions.

2 Background and Related Work

The evaluation of digital public services is a fundamental component of contemporary public management, as it enables governments to understand citizens' perceptions, identify weaknesses, and guide service improvement based on evidence. As public administrations worldwide advance their digital transformation agendas, the ability to measure the quality of digital interactions becomes essential to ensure accountability, transparency, and user trust [Luna et al., 2024; Lee et al., 2023]. Evaluation is not only a technical exercise but also a governance mechanism that supports continuous learning and fosters public value creation [Scupola and Mergel, 2022].

Recent studies have demonstrated that collaborative service-design workshops supported by LLMs can accelerate the consolidation of ideas, improve stakeholder engagement, and facilitate consensus-building in public service redesign [da Silva et al., 2025]. These findings reinforce the importance of structured, evidence-informed mechanisms for incorporating user and managerial feedback into digital service innovation, an element that is also central to effective service evaluation practices.

This section first introduces the human-centred quality concepts that underpin the evaluation of digital public services, followed by a review of international and Brazilian studies on digital service evaluation. It then presents the Brazilian institutional framework governing feedback mechanisms and concludes by identifying the research gap that motivates this study.

2.1 Human-Centred Quality: Usability, Accessibility, and User Experience

The evaluation of digital public services involves multiple dimensions of human-centred quality that are frequently discussed together but represent distinct concepts. In

The figure displays three examples of the Digital Service Evaluation Interface (DSI) integrated into the gov.br platform. Each example is a form for evaluating a digital service, with the header 'Ministério da Gestão e da Inovação em Serviços Públicos (MGI)'.

Example 1 (Left): The 'Como foi a sua experiência com o serviço?' (How was your experience with the service?) section shows a star rating from 'Péssima' (1 star) to 'Excelente' (5 stars). The 'O que pode melhorar?' (What can be improved?) section has a grid of icons for 'Difícil de encontrar' (Hard to find), 'Foi demorado' (It was slow), 'Não consegui resolver' (I couldn't solve it), 'Informações confusas' (Confusing information), 'Site/aplicativo não funcionou bem' (Site/app didn't work well), and 'Difícil de usar' (Hard to use). The 'Deixe elogio, sugestão ou crítica (opcional):' (Leave praise, suggestion or criticism (optional):) section has a text area for feedback.

Example 2 (Middle): Similar to Example 1, but the 'O que faltou para você dar 5 estrelas?' (What was missing for you to give 5 stars?) section has a grid of icons for 'Difícil de encontrar', 'Foi demorado', 'Não consegui resolver', 'Informações confusas', 'Site/aplicativo não funcionou bem', and 'Difícil de usar'.

Example 3 (Right): Similar to Example 1, but the 'O que você mais gostou em nosso serviço?' (What did you like most in our service?) section has a grid of icons for 'Foi rápido' (It was fast), 'Fácil de encontrar' (Easy to find), 'Fácil de usar' (Easy to use), 'Consegi resolver' (I managed to solve it), 'Informações claras' (Clear information), and 'Site/aplicativo funcionou bem' (Site/app worked well).

Each form includes a 'Enviar avaliação' (Send evaluation) button and a '2000 caracteres restantes' (2000 characters remaining) indicator.

Figure 1. Example of the Digital Service Evaluation Interface integrated into the gov.br platform.

Human–Computer Interaction (HCI), usability, accessibility, and user experience (UX) are complementary constructs that contribute to the quality perceived by users when interacting with digital systems [Figueiredo *et al.*, 2025].

According to ISO 9241-11, usability refers to the extent to which a system can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a particular context of use [Bevan *et al.*, 2015]. Usability therefore focuses on task accomplishment and interaction performance, including aspects such as ease of navigation, clarity of information, learnability, and error prevention [Aizpurua *et al.*, 2016].

Accessibility concerns the extent to which products and services can be perceived, understood, navigated, and used by individuals with diverse abilities and needs. Its objective is to reduce barriers and promote inclusion, ensuring equitable access to digital services regardless of physical, sensory, cognitive, or technological constraints. Although accessibility contributes to usability, it represents a distinct quality dimension with specific requirements and evaluation criteria, such as those established by the Web Content Accessibility Guidelines (WCAG) [Aizpurua *et al.*, 2016].

User experience (UX) is a multidimensional construct that extends beyond usability by incorporating users' perceptions, emotions, trust, satisfaction, and perceived value throughout their interaction with a system. While usability focuses mainly on task performance, UX also includes subjective and contextual aspects of the interaction, integrating functional, emotional, and contextual dimensions. [Ntoa, 2025].

This distinction is particularly relevant in the context of digital government, where citizens interact with services not only to complete tasks but also to access rights, obtain information, and engage with public institutions.

Consequently, evaluating digital public services requires a multidimensional perspective capable of capturing operational performance, inclusive access, and broader experiential aspects simultaneously.

Recent studies in public-sector service design argue that digital services should be understood as components of broader service ecosystems involving citizens, public servants, organizational processes, institutional rules, and governance structures [Figueiredo *et al.*, 2025]. From this perspective, service quality emerges from interactions among multiple stakeholders rather than from interface characteristics alone [Figueiredo *et al.*, 2024]. As a result, usability, accessibility, and user experience jointly contribute to public value creation by influencing trust, service adoption, participation, and citizen engagement.

In this study, the concept of human-centred quality is adopted as the broader analytical perspective. Within this perspective, usability, accessibility, and user experience are treated as complementary but distinct dimensions that jointly influence citizens' perceptions and interactions with digital public services. This conceptual distinction supports the interpretation of the findings and the formulation of recommendations presented in the subsequent sections.

2.2 Related Work on Digital Service Evaluation and Human-Centred Quality

2.2.1 International Benchmark Practices

Countries with mature digital governments have progressively incorporated evaluation systems as integral components of their service design and delivery frameworks. The (E-Government Benchmark 2024) report [Capgemini and Sogeti, 2024] highlights that European Union member states achieving high levels of digital maturity, such as Denmark,

Estonia, and Finland, adopt multidimensional monitoring approaches that combine quantitative metrics, user feedback loops, automated data collection, and real-time visualization dashboards. These practices enable managers to track service performance continuously and promote adaptive management based on citizens' experiences.

In Denmark, digital strategies include mandatory evaluation mechanisms for online services, where feedback is systematically analyzed to support policy and design decisions [Yasuoka *et al.*, 2022]. Estonia has advanced the integration of interoperability and service quality through its X-Road architecture, which facilitates cross-institutional data exchange and real-time monitoring [Saputro *et al.*, 2020]. In the United Kingdom, frameworks such as the *Essential Digital Skills Framework* [GOV-UK, 2018] establish guidelines for evaluating accessibility, inclusiveness, and usability in public interfaces.

In the academic domain, models such as SERVQUAL by [Parasuraman *et al.*, 1988] and EGSQUAL by [Aljukhadar *et al.*, 2022] have been widely used to measure service quality across dimensions such as reliability, responsiveness, empathy, and tangibility. Adapted to digital contexts, these models provide theoretical grounding for understanding how users perceive trust, efficiency, and usability in government platforms [Kaur *et al.*, 2023].

Despite these advancements, most international studies focus either on citizen experience or on technical metrics, with limited attention to how public managers interpret and operationalize evaluation data within government structures.

2.2.2 Brazilian Studies

Brazilian research has also contributed to the understanding of human-centred quality in digital systems. Recent evidence indicates that accessibility, usability, and user experience are among the most frequently evaluated dimensions in digital products and services. For example, Oliveira and Eler [2025] conducted an extended systematic literature review showing that user-generated reviews provide valuable evidence regarding accessibility barriers, usability issues, and user experience concerns. Their findings highlight the importance of integrating user feedback into continuous service improvement processes.

Similarly, Campos *et al.* [2025] demonstrated that usability and user experience evaluations increasingly rely on multidimensional assessment approaches that combine objective performance measures with subjective perceptions. Although these studies focus on different technological contexts, they reinforce the importance of adopting comprehensive evaluation perspectives that consider both interaction quality and users' experiences. These findings are particularly relevant to digital government contexts, where citizen feedback represents a key mechanism for assessing service quality and informing continuous improvement initiatives.

Despite these contributions, the Brazilian literature has primarily examined accessibility, usability, user experience, and citizen feedback from the perspective of system users. Comparatively less attention has been devoted to understanding how public managers interpret evaluation results, operationalize user feedback, and incorporate

evaluation evidence into governance and decision-making processes in digital government environments.

While these studies contribute important insights into accessibility, usability, user experience, and user feedback, they do not specifically address the institutional arrangements and governance mechanisms that shape digital service evaluation in the public sector. The next subsection therefore examines the Brazilian institutional framework that supports citizen feedback collection and service evaluation.

These studies also demonstrate the growing interest of the Brazilian HCI and Interactive Systems research community in evaluating accessibility, usability, and user experience, reinforcing the relevance of incorporating human-centred quality perspectives into digital government evaluation. Several of these contributions originate from research communities associated with the Brazilian Computer Society (SBC), including venues dedicated to Human-Computer Interaction, Information Systems, and Interactive Systems research. Their inclusion helps situate the present study within ongoing national discussions on digital government, citizen interaction, accessibility, usability, and service evaluation.

2.3 Digital Service Evaluation in Brazil

Brazil has made substantial progress in digital transformation over the past decade, consolidating more than five thousand services on the unified *gov.br* platform. According to the United Nations *E-Government Survey* [UN, 2022], the country ranks among the global leaders in online service availability. However, measuring user satisfaction and translating feedback into actionable insights remain major challenges.

Law No. 13.460/2017 [Presidência da República do Brasil, 2017] established the right of citizens to evaluate public services and mandated that federal institutions implement feedback mechanisms. To operationalize this requirement, the Secretariat for Digital Government (SGD) under the Ministry of Management and Innovation in Public Services (MGI) developed the *Digital Service Evaluation API*. This system allows public bodies to embed an evaluation interface on service pages, enabling users to rate satisfaction, indicate problem resolution, and leave comments.

Figure 1 illustrates the evaluation interface available on the *gov.br* portal. Submitted evaluations are stored in a central database and made publicly accessible through the *Painel de Serviços Públicos* [Ministério da Gestão e da Inovação em Serviços Públicos, 2026], which displays aggregated metrics such as volumes of evaluations, satisfaction levels, and the most frequently rated services.

Although this system represents a significant advancement in institutionalizing citizen participation, prior studies highlight persistent limitations in the use and interpretation of evaluation data. Research by [Filgueiras *et al.*, 2019] and [Viana, 2021], for example, shows that many public organizations perceive evaluation as a bureaucratic requirement rather than as a strategic learning tool. Other works identify issues such as low visibility of evaluation components, insufficient incentives for user participation, and the absence of analytical tools capable of processing large volumes of qualitative feedback [Menezes *et al.*, 2022; Pedrosa *et al.*, 2022].

These issues reflect a gap between the technological availability of feedback systems and their practical use for continuous improvement. Many public managers receive large datasets but lack the analytical support or training needed to interpret them effectively. As a result, feedback seldom translates into service redesign, process optimization, or targeted communication strategies.

2.4 Research Gap

Despite the growing body of literature on digital service evaluation, most studies focus on user experience, interface design metrics, or international models of digital maturity. Far fewer investigations examine how public managers, who are responsible for interpreting evaluation data and implementing improvements, perceive and operationalize feedback mechanisms in practice. In addition, existing evidence in Brazil rarely incorporates the institutional perspective of the federal body responsible for governing the evaluation system.

This creates a critical gap: the lack of empirical understanding of how operational and institutional actors jointly experience and shape the evaluation of digital public services. Addressing this gap requires studies that triangulate perspectives, examine governance arrangements, and identify the systemic barriers that prevent evaluation mechanisms from generating public value.

To situate the contribution of this work within the broader literature, Table 1 compares key prior studies with the approach adopted in this article.

Taken together, this review demonstrates the need for an empirical investigation that integrates operational and institutional perspectives to understand how digital service evaluation mechanisms are perceived, used, and improved within the Brazilian federal administration. This study addresses this gap by combining evidence from three focus groups, including managers responsible for both delivering digital services and governing the evaluation system, thereby contributing to a more comprehensive understanding of Brazil's digital service evaluation ecosystem.

3 Methodology

This research adopts a qualitative methodological approach grounded in interpretive inquiry, seeking to understand how federal managers perceive, use, and improve the digital service evaluation system implemented in Brazil. The choice of a qualitative design reflects the complexity of the studied phenomenon, as the evaluation of digital services involves technical, organizational, and behavioral dimensions that cannot be fully captured through quantitative metrics alone.

Our study follows the recommendations by [Kontio *et al.*, 2004] for employing focus groups to obtain practitioner insights in information systems research, and the methodological rigor described by [Wohlin *et al.*, 2012] for ensuring reliability and traceability in empirical studies.

3.1 Study Design

This work is an extended version of the study previously published by [Pedrosa *et al.*, 2025]. The original paper presented findings from two focus groups conducted with 20 federal managers and identified key issues related to visibility,

data use, conceptual confusion between service quality and service delivery, and low user participation in evaluations. The present article expands the scope of that investigation by incorporating a third focus group conducted with 7 managers from the Ministry of Management and Innovation (MGI), the institutional body responsible for coordinating the evaluation system itself.

This extension allows for a more systemic perspective of the evaluation ecosystem, combining operational, managerial, and institutional views. It provides a deeper understanding of how the evaluation process is organized, how data are used internally, and what design improvements can enhance its transparency, usability, and integration with decision-making processes.

Figure 2 summarizes the methodological workflow adopted in this extended study. The process begins with the original investigation conducted by [Pedrosa *et al.*, 2025], which included two focus groups with service providing institutions. The present work expands that design by incorporating a third institutional focus group with managers from the Ministry of Management and Innovation (MGI), enabling a systemic view that integrates operational and governance perspectives. All sessions were recorded, transcribed, and systematically analyzed through a multi-stage process involving initial coding, triangulation of insights, and refinement of thematic categories. The integration of these analytical layers resulted in an expanded interpretive model and a set of actionable recommendations for improving the digital service evaluation system.

3.2 Focus Group Design

The focus group method was selected for its ability to elicit rich qualitative data through collective discussion and shared reflection among practitioners. Each session followed a semi-structured discussion guide, which included a semi-structured script designed to ensure comparability across groups, while still allowing participants to elaborate freely on their specific contexts.

The guiding questions were structured around four thematic dimensions: (i) understanding of the evaluation purpose and process, (ii) perceived usability of the API interface, (iii) managerial use of evaluation data, and (iv) suggestions for improving data visualization and citizen engagement. Table 2 presents an overview of the main discussion topics explored during the sessions.

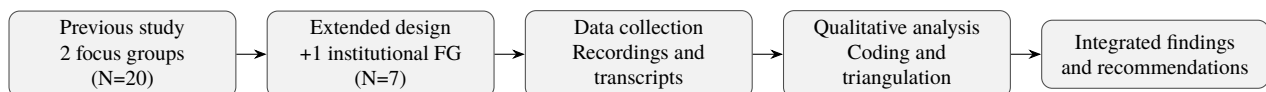
The three focus groups were conducted between September 2024 and November 2025. Each session lasted approximately 90 minutes and was held remotely using the Microsoft Teams platform. All meetings were recorded with participants' consent and later transcribed verbatim for qualitative analysis. Two facilitators and one observer were present in each session to ensure the consistency of moderation and accurate note-taking.

3.3 Participants and Institutional Diversity

A total of 27 federal managers from 12 institutions participated in the study. The participants occupied managerial, coordination, advisory, and specialist roles associated with the design, operation, monitoring, or governance of digital public services. All participants

Table 1. Comparison between prior studies and this work

Study / Context	Analytical Focus	Method / Data	Identified Gaps Compared to This Study
International benchmarks (e.g., Denmark, Estonia, UK; [Capgemini and Sogeti, 2024; Yasuoka <i>et al.</i> , 2022; Saputro <i>et al.</i> , 2020; GOV-UK, 2018])	Digital maturity, automated evaluation, user-centered metrics	Administrative data, UX models, national indicators	Do not examine internal managerial perceptions; limited focus on governance constraints in emerging contexts
SERVQUAL, EGSQUAL, digital UX models [Parasuraman <i>et al.</i> , 1988; Aljukhadar <i>et al.</i> , 2022; Kaur <i>et al.</i> , 2023]	Service quality attributes, user experience evaluation	Quantitative models, structured metrics	Do not analyze public-sector feedback systems or managerial data-use practices
Brazilian studies [Filgueiras <i>et al.</i> , 2019; Viana, 2021; Menezes <i>et al.</i> , 2022; Pedrosa <i>et al.</i> , 2022]	Citizen feedback, visibility issues, low participation	Interviews, case studies	Lack institutional (MGI) perspective; limited triangulation of operational and governance insights
Human-centred quality studies (Brazilian literature) [Oliveira and Eler, 2025; Campos <i>et al.</i> , 2025]	Accessibility, usability and UX evaluation	Systematic literature reviews and mapping studies	Focus on user perceptions and interaction quality; do not investigate managerial interpretation of evaluation data or governance processes
This study (our work) [Pedrosa <i>et al.</i> , 2025]	Managerial perceptions, institutional governance, systemic challenges in evaluation	Three focus groups with 27 federal managers from 12 institutions (including MGI)	Provides integrated operational + institutional view, identifies systemic barriers, and proposes actionable recommendations informed by practitioners

**Figure 2.** Methodological workflow of the study.**Table 2.** Main discussion topics in the focus groups

Discussion Topic	Dimension
Understanding of the evaluation system and its objectives	Conceptual
Usability and visibility of the evaluation interface	Technical
Use of collected data in managerial decisions	Organizational
Perceived challenges and resource limitations	Operational
Recommendations for improving citizen participation	Strategic

were federal public servants and collectively represented a diverse set of organizational domains, including digital government, taxation, public health, social assistance, public security, financial regulation, intellectual property, foreign affairs, and government oversight. This diversity provided complementary perspectives on both operational and institutional aspects of the digital service evaluation ecosystem.

The first two focus groups involved 20 managers representing agencies such as the National Institute of Social Security (INSS), the Federal Police, the Central Bank, the Brazilian Patent Office (INPI), the Ministry of Foreign Affairs, and the Federal Revenue Service. These participants were responsible for managing or monitoring digital services offered to citizens through the *gov.br* platform.

The third focus group, conducted in November 2025, included 7 managers from the Ministry of Management and Innovation (MGI), particularly from the Secretariat of Shared Services (SSC) within the Information Technology Directorate (DTI). The inclusion of this group brought valuable insights into institutional challenges related to simplicity, accessibility, data visualization, and internal dashboard management.

Unlike the participants from service-delivery institutions, the MGI managers were directly involved in the governance, coordination, and evolution of the evaluation infrastructure itself. Their participation enabled the study to capture both operational perspectives from agencies responsible for delivering services and institutional perspectives from the body responsible for defining standards, maintaining the evaluation platform, and coordinating digital government initiatives. Table 3 summarizes the focus groups and their participant composition.

In line with qualitative research standards, data saturation was monitored throughout the sessions. After analyzing the transcripts from the third focus group, no substantially new themes emerged, indicating that thematic saturation had been reached.

3.4 Data Collection and Analysis

The transcriptions from the three focus groups were analyzed by the authors. During the first phase, researchers identified recurring expressions and statements associated

Table 3. Participant Profile Characteristics and Institutional Representation

Institution	Participants	Domain / Participant Profile
National Institute of Industrial Property (INPI)	5	Intellectual property services and digital service management
Federal Revenue Service (Receita Federal)	2	Digital taxation services and citizen-facing digital platforms
Federal Police (Polícia Federal)	2	Digital public security services and service delivery management
Ministry of Social Development (MDS)	2	Digital social assistance services and citizen support programs
Central Bank of Brazil (Banco Central)	2	Digital financial services, regulation, and public digital channels
SUS Ombudsman (Ouvidoria do SUS)	2	Citizen feedback, service evaluation, and health service monitoring
Office of the Comptroller General (CGU)	1	Government oversight, transparency, and accountability mechanisms
National Institute of Social Security (INSS)	1	Digital social security services and citizen service delivery
Federal Savings Bank (Caixa Econômica Federal)	1	Large-scale digital public services and financial inclusion initiatives
Ministry of Foreign Affairs (Itamaraty)	1	Digital consular and international citizen services
SouGov Platform	1	Digital human resource services for federal public servants
Secretariat of Shared Services (SSC/DTI/MGI)	7	Digital government governance, evaluation infrastructure, and service coordination
Total Participants	27	Federal public servants involved in digital service delivery, monitoring, evaluation, governance, and digital transformation initiatives

with difficulties in using the evaluation tool, perceptions about the role of citizen feedback, and internal management constraints. These codes were then grouped into broader categories corresponding to conceptual, technical, and managerial aspects. In the second phase, themes were refined to reflect the multi-level structure of the evaluation process, distinguishing between operational-level issues (such as low visibility of the evaluation button) and strategic-level challenges (such as the absence of performance dashboards).

The third focus group introduced new insights that were subsequently incorporated into the coding matrix, enriching the analytical model developed in the previous study. This integration of multiple sessions allowed the researchers to validate initial findings while expanding the interpretation toward systemic and design-related recommendations.

By expanding the empirical base and triangulating insights across three focus groups, this extended study contributes a more comprehensive understanding of digital service evaluation practices within the Brazilian federal government. The methodological rigor and inclusion of both operational and institutional perspectives provide a solid foundation for analyzing the systemic barriers and opportunities for improvement identified in the next section. The approach also reinforces the importance of participatory evaluation methods as tools for reflection, learning, and co-production of value in digital governance.

3.5 Ethical Considerations

This study was conducted under the umbrella research project entitled “Service Design for Agile Governance: Research Applied to the Digital Transformation of Federal Public Services”, which was approved by the Research Ethics Committee of the Institute of Human and Social Sciences of the University of Brasília (CEP/CHS-UnB), under Opinion No. 8.126.365 and CAAE 94501325.3.0000.5540, in accordance with the Brazilian National Health Council Resolutions No. 466/2012 and No. 510/2016.

The procedures also complied with ethical and privacy standards established by the Brazilian General Data Protection Law (Law No. 13.709/2018) [Macedo, 2018].

All participants received a detailed explanation of the study’s objectives, confidentiality procedures, and voluntary participation terms before participating in the focus groups. Participation was entirely voluntary, and participants could withdraw at any time without penalty. All sessions were recorded only with participants’ consent, using the Microsoft Teams platform. The recordings were stored in restricted-access institutional repositories accessible only to the research team, used exclusively for transcription and analysis purposes, and handled in accordance with the approved ethical protocol. The recordings were subsequently transcribed and anonymized, and personal identifiers were removed from all transcripts. Individual quotations are presented anonymously throughout this article.

3.6 Coding Procedure

The qualitative analysis followed an inductive coding approach. Two researchers independently coded the transcripts, compared categories, and resolved disagreements through consensus. Codes were then grouped into higher-order themes reflecting operational, managerial, and institutional dimensions of the evaluation process. This procedure increased reliability and traceability of interpretations.

4 Results and Discussion

The qualitative analysis of the three focus groups revealed a broad and multifaceted panorama of how public managers perceive and experience the current system for evaluating digital public services in Brazil. By combining perspectives from agencies that apply the evaluation instrument (Groups 1 and 2) and those responsible for coordinating and improving it within the Ministry of Management and Innovation (Group 3), this extended study offers a more systemic understanding of the challenges, expectations, and opportunities related to the evaluation process.

Four major thematic categories emerged from the analysis: (i) visibility and usability of the evaluation interface, (ii) difficulties in the use and interpretation of data, (iii) conceptual distinctions between evaluating service experience and policy outcome, and (iv) institutional perspectives on governance, transparency, and system improvement.

4.1 Visibility and Human-Centred Quality of the Evaluation Interface

A recurrent concern among participants from all groups was the low visibility of the evaluation feature in digital services. Managers observed that citizens often do not notice or recognize the evaluation option at the end of the service process. One participant remarked:

"I myself, as a user, have never noticed the evaluation button on the digital services I use, and I believe this is the reality for many other users."

Another participant added that this lack of visibility directly impacts data collection:

"Without greater visibility, users end up not providing feedback, which reduces the quantity and quality of the evaluations we receive."

In the third focus group, held with MGI representatives, participants also discussed accessibility and user experience aspects of the evaluation interface. One manager emphasized the importance of simplifying the evaluation process and ensuring inclusion:

"The interface must be easy to use and inclusive. If the form is long or confusing, citizens simply skip it."

Others reinforced that accessibility standards must be systematically integrated into the design, ensuring that users with different profiles can provide feedback. Participants specifically mentioned insufficient accessibility adjustments, including interface elements that may create barriers for users with different visual, cognitive, or interaction needs. The group suggested that the evaluation button be clearly visible throughout the service journey and that contextual prompts or pop-ups could be introduced to encourage participation.

Table 4 summarizes the human-centred quality and visibility challenges most frequently mentioned by the participants.

These results reaffirm the findings of the previous study [Pedrosa et al., 2025], but extend them with institutional evidence about the ongoing efforts to redesign the interface and integrate accessibility requirements into the API.

4.2 Managerial Use of Data and Analytical Limitations

All three groups pointed to persistent difficulties in transforming collected evaluation data into actionable management information. Participants described how data are fragmented and require manual extraction, which delays the generation of reports and limits the capacity to make evidence-based decisions. One manager explained:

"Our team faces significant difficulties in organizing evaluation data and transforming it into management reports. This delays the implementation of service improvements."

The third group added that even when data are centralized, analytical tools remain limited. One MGI participant stated that while the *Painel de Serviços Públicos* provides visibility of general trends, it does not yet offer sufficient detail for operational decision-making:

"The central dashboard is useful to see the big picture, but the data need to be disaggregated by institution. Managers should be able to visualize their own performance without depending on manual extraction."

Participants emphasized the need for automated dashboards, flexible filters, and training programs that would allow agencies to explore results in real time. Another manager added:

"We need tools that do not just collect data but help interpret them. Managers need to understand what these numbers mean and how they can translate into better services."

The consensus across groups indicates that while data availability has improved since 2018, its strategic use is still incipient. These difficulties are aligned with international findings in digital government, which show that the effective use of evaluation data depends not only on technological infrastructure, but also on analytical capacity, data literacy, and organizational routines that embed feedback loops into decision-making.

The Brazilian case examined in this study reflects similar challenges but is further complicated by federative fragmentation, heterogeneous institutional capabilities, and limited integration between central governance bodies and service-delivery agencies.

4.3 Conceptual Understanding of What Is Being Evaluated

Another important issue discussed was the lack of conceptual clarity among citizens regarding what exactly is being evaluated. Participants from all groups confirmed that users often conflate the evaluation of the digital interface with their satisfaction regarding the final outcome of the service. A manager noted:

Table 4. Identified usability and visibility challenges

Observed Issue	Reported by
Evaluation button placed at the end of service flow	Groups 1 and 2
Accessibility and interface clarity issues (e.g., low visual contrast and unclear instructions)	Groups 1 and 2
Insufficient accessibility adjustments	Groups 1, 2 and 3
Absence of contextual prompts for feedback	Groups 1 and 3
Need for simplified and responsive design	Group 3

“Many citizens rate the digital service poorly because they did not get the desired result, such as the approval of a benefit or the issuance of a document, even though the process was carried out correctly.”

Similarly, another participant emphasized that misunderstanding the purpose of evaluation compromises its analytical value:

“Users often do not understand that what is being evaluated is the process and customer service, not the final result. This lack of understanding leads to unfair evaluations.”

Managers from the third focus group built upon this point, suggesting that the evaluation instrument should include differentiated questions for “digital experience,” “service complexity,” and “outcome satisfaction.” One participant explained:

“Sometimes the service works well, but it requires too many steps or document uploads. Complexity itself should be an attribute to be evaluated.”

Another participant suggested that transparency could also be considered an attribute:

“In the context of shared services, transparency and cost efficiency are fundamental dimensions of quality and should be part of the evaluation criteria.”

These reflections point to the need to evolve from a one-dimensional satisfaction measure to a multi-attribute model that distinguishes between technical performance, user experience, and perceived value.

This finding is consistent with previous studies in digital government and service evaluation, which argue that citizens frequently assess public services based on the final outcome of their interaction rather than on the quality of the service process itself. As a result, satisfaction measures may become influenced by outcome-related perceptions, making it difficult to distinguish between dissatisfaction with a policy decision and dissatisfaction with the digital service experience. This reinforces the importance of multidimensional evaluation frameworks capable of separating service quality, user experience, and outcome satisfaction.

As summarized in Table 5, the discussions across all three focus groups revealed a set of recurring dimensions that managers consider essential for evaluating digital public services. These dimensions include aspects related to the digital user experience, the outcome of the service itself, and the institutional support provided throughout the process.

4.4 Institutional and Systemic Perspectives

The participation of managers from the Ministry of Management and Innovation added a strategic layer to the discussion. These participants described the

evolution of the evaluation API and clarified that its current centralized architecture was designed to ensure methodological uniformity across government agencies. One manager recalled:

“This version of the evaluation tool is quite different from the one we first developed at SGD. It follows a centralized model where results are published on a single page and then distributed back to the agencies.”

While this model ensures comparability, participants acknowledged that it reduces the autonomy of agencies to manage their own data and design custom analyses. A participant commented:

“Agencies do not have full control over how their evaluations are processed. We receive the data but cannot directly adjust the instrument to reflect our context.”

The institutional group also discussed the importance of maintaining two complementary perspectives: one from the user and another from the service manager. As one of the coordinators stated:

“For a long time, Brazil only had the internal view, focused on process efficiency. But improving a process does not necessarily mean improving the user’s perception of quality. We now need both lenses.”

These insights reveal an increasing awareness of the balance between centralization for comparability and decentralization for contextual learning. The discussion also reinforced that future system iterations should strengthen transparency mechanisms by allowing public access to aggregated results and showcasing the improvements implemented based on feedback.

4.5 Cross-Group Comparison

A cross-group analysis reveals important contrasts between the three focus groups. While managers in Groups 1 and 2 emphasized operational challenges, such as the lack of visibility of the evaluation interface, difficulties in interpreting raw data, and limited autonomy to redesign the evaluation flow, participants from Group 3 highlighted governance, standardization, and transparency as central concerns. This contrast indicates that agencies operating at the “service delivery layer” experience challenges closer to the end user experience, whereas MGI managers operate at a “systemic coordination layer”, focusing on scalability, uniformity, and compliance with digital government guidelines.

Interestingly, all groups converge on the need for better analytical tools and clearer conceptual differentiation between evaluating a service’s digital interface and evaluating service outcomes. However, they diverge on perceived priorities: operational teams seek flexibility and customization, while institutional managers prioritize methodological consistency

Table 5. Dimensions and examples of evaluation attributes

Dimension	Illustrative Attributes Mentioned by Participants
Digital experience	Simplicity of interface, accessibility, responsiveness, transparency
Service outcome	Processing time, accuracy of information, issue resolution, reliability
Institutional support	Availability of contact channels, feedback acknowledgment, human assistance

across government bodies. These tensions illustrate the multi-level nature of digital service evaluation and highlight the need for governance arrangements that reconcile standardization with contextual adaptation.

4.6 Emerging Organizational Tensions

Beyond the thematic categories, the focus groups revealed deeper organizational tensions that shape how digital service evaluation is interpreted and operationalized. One recurring tension concerns the balance between centralization and autonomy: agencies desire the ability to customize evaluation items and analyze data independently, whereas MGI emphasizes uniformity to ensure comparability across government services. Another tension emerges between data availability and data usability: although evaluation data are technically accessible, managers report lacking the analytical resources, tools, or training necessary to transform these data into actionable insights.

A third tension relates to the purpose of evaluation itself. For some managers, evaluation serves as an accountability mechanism toward citizens and oversight bodies; for others, it is perceived as an internal management tool aimed at improving workflows. These competing perspectives contribute to ambiguity around the value and expected outcomes of the evaluation system.

To consolidate these insights, Table 6 synthesizes the main themes that emerged across the three focus groups, summarizing how they materialize in practice. The table highlights not only technical and interface-related issues, but also analytical gaps, conceptual ambiguities, governance constraints, and deeper organizational tensions that shape how the evaluation system is perceived and used by federal managers.

4.7 Synthesis of Findings

The results reveal that Brazil's digital service evaluation system operates within a multifaceted governance environment characterized by fragmented responsibilities, uneven analytical capacity, and misaligned expectations between institutional actors. Although federal managers consistently recognize the importance of user feedback for improving public services, the evidence indicates that the current evaluation model has not yet matured into an instrument capable of sustaining evidence-based decision-making or systematic public value creation.

First, the findings demonstrate that **technical mechanisms alone are insufficient**. Despite providing a standardized infrastructure for collecting user feedback, the evaluation API's strategic impact is limited by persistent usability challenges on the citizen side and restricted analytical capabilities on the managerial side. This dynamic is consistent with international research showing that feedback systems remain underutilized when not embedded

in organizational routines, supported by adequate analytical skills, or complemented by governance structures that enable learning and adaptation.

Second, the results highlight a **structural misalignment between service-delivery agencies and central governance bodies**. While managers in operational institutions emphasize the need for customization, visibility, and contextual adaptation of the evaluation mechanism, representatives from the Ministry of Management and Innovation (MGI) emphasize standardization, methodological uniformity, and comparability across government services. These contrasting perspectives reflect distinct institutional logics regarding the purpose of evaluation whether it is primarily an accountability mechanism, a diagnostic tool, or an instrument for service redesign.

These differences should not be interpreted merely as divergent opinions among participants. Rather, they appear to reflect the distinct organizational responsibilities, governance positions, and institutional incentives associated with each group. Managers operating at the service-delivery level tend to prioritize operational flexibility and immediate service improvement needs, whereas managers responsible for the governance of the evaluation infrastructure are more concerned with comparability, standardization, and policy coordination. This finding suggests that perceptions of the evaluation system are shaped not only by individual experiences but also by the institutional context in which managers operate.

Third, the study exposes substantial **conceptual ambiguity** in the current evaluation approach. By conflating digital experience, service complexity, and policy outcomes within a single satisfaction metric, the system loses diagnostic precision and generates noise that obscures performance signals. Participants across all groups advocated for a multi-attribute evaluation model differentiating interface quality, user journey complexity, and service outcome satisfaction aligning with international recommendations for more granular evaluation frameworks in digital government.

Fourth, the cross-group comparison reveals deeper **governance tensions** typical of maturing digital ecosystems. Centralization promotes transparency, uniformity, and comparability, whereas decentralization enables responsiveness, contextual learning, and local innovation. The Brazilian case suggests that a hybrid governance model maintaining uniform standards while allowing configurable analytical layers may be necessary to reconcile these competing priorities and enhance service quality at scale.

Finally, the findings indicate that the maturity of Brazil's evaluation system depends less on technological redesign and more on **institutional capacity-building**. This includes strengthening analytical literacy, automating sensemaking processes, establishing feedback loops that make

Table 6. Summary of key findings across focus groups

Theme	Core Insights
Visibility and Usability	Low prominence of evaluation interface; lack of accessibility features; minimal user guidance.
Data Use and Analytics	Fragmented datasets; absence of automated dashboards; limited analytical literacy among managers.
Conceptual Clarity	Users conflate digital experience with service outcome; need for multi-attribute evaluation.
Governance and System Design	Centralized model ensures comparability but reduces agency autonomy; need for clearer transparency mechanisms.
Organizational Tensions	Trade-offs between standardization and flexibility; differing interpretations of evaluation purpose.

improvements visible to managers and citizens, and fostering the sociotechnical conditions necessary for meaningful user participation. In this sense, the evaluation mechanism should be viewed not merely as a performance monitoring tool but as a strategic component of a broader public value governance framework.

Collectively, these insights position digital service evaluation as a multi-layered sociotechnical process shaped by governance arrangements, institutional capabilities, and collective sensemaking practices. By articulating these dynamics, this study contributes to ongoing debates in digital government research and offers a theoretically grounded foundation for reimagining Brazil’s evaluation system as a driver of transparency, continuous learning, and user-centered public sector innovation.

It is important to emphasize that the findings presented in this study reflect the perceptions and interpretations of federal managers responsible for delivering, monitoring, or governing digital public services, rather than the direct experiences of citizens interacting with the evaluation interface. Consequently, observations regarding usability, accessibility, visibility, and citizen engagement should be understood as managerial assessments informed by participants’ professional responsibilities and organizational experiences.

These perceptions provide valuable insights into how evaluation mechanisms are interpreted and operationalized within public organizations, but they do not constitute direct evidence of end-user behavior or satisfaction. Factors such as institutional responsibilities, governance constraints, operational challenges, and exposure to evaluation data may influence how managers interpret citizens’ interactions with digital services. For this reason, the findings should be interpreted as part of a managerial and institutional perspective on the evaluation ecosystem.

Future research should triangulate these managerial perspectives with evidence collected directly from citizens and end users. Such an approach would allow researchers to validate, contrast, and enrich the interpretations presented here, particularly regarding human-centred quality dimensions such as usability, accessibility, user experience, and participation in evaluation processes.

From a theoretical perspective, these findings can be interpreted through the lens of public value creation in digital government. Rather than functioning solely as a

technical mechanism for collecting satisfaction data, the evaluation system operates as a sociotechnical governance instrument through which citizens, service-delivery agencies, and central government actors interact to generate learning, accountability, and service improvement. The tensions identified in this study suggest that the effectiveness of evaluation mechanisms depends not only on technological capabilities, but also on organizational sensemaking processes, institutional coordination arrangements, and the ability of public organizations to transform feedback into actionable knowledge. This interpretation reinforces recent digital government research that views evaluation systems as critical enablers of public value creation, transparency, and citizen-centred innovation.

The structural tensions identified throughout the focus groups are represented in Figure 3 according to the organizational layers in which they primarily emerge. The tension between centralization and autonomy is positioned between central governance and service-delivery agencies because it reflects competing needs for standardization and local flexibility. The tension between digital experience and service outcome is located between agencies and citizens because it emerges from the interaction between citizens’ perceptions of service success and agencies’ attempts to evaluate the quality of the digital service itself. Finally, the tension between feedback collection and interpretation capacity is associated with the evaluation infrastructure, reflecting the gap between the availability of evaluation data and the organizational ability to transform these data into actionable insights.

Figure 3 synthesizes the sociotechnical dynamics revealed in the three focus groups and illustrates how Brazil’s digital service evaluation system operates across multiple interdependent layers. At the top of the model, the Ministry of Management and Innovation (MGI/SGD) establishes centralized governance, defining standards and ensuring methodological uniformity. Service-delivery agencies function at the operational layer, implementing digital services and attempting to use feedback data to inform local decision-making. Citizens interact with the system through the evaluation interface, providing experience-based feedback that feeds the evaluation infrastructure composed of the API, dashboards, and data repositories. The model also highlights three structural tensions identified in the findings: (i) the trade-off between centralized comparability and agency

autonomy, (ii) the conflation of digital experience with service outcomes, and (iii) the gap between data collection and data interpretation capacity. Together, these dynamics shape the extent to which evaluation results can support public value creation through learning, transparency, and service redesign.

5 Recommendations for Improvement

The three focus groups yielded a coherent and actionable set of recommendations to enhance the digital public service evaluation system currently implemented in Brazil. Although participating managers represented institutions with diverse mandates and service portfolios, their suggestions consistently converged around five strategic areas: (i) increasing the visibility and simplicity of the evaluation interface, (ii) improving data collection, analysis, and visualization capabilities, (iii) distinguishing between evaluation of the digital experience and evaluation of service outcomes, (iv) promoting user engagement through more intuitive feedback flows, and (v) strengthening feedback loops to both managers and citizens.

Beyond isolated interface improvements, the findings indicate that the evolution of Brazil's digital service evaluation ecosystem depends on coordinated actions across multiple governance layers. Based on the perspectives of operational managers and institutional coordinators, the recommendations identified in this study can be interpreted across three complementary dimensions: (i) operational-level improvements focused on usability, accessibility, and user interaction; (ii) organizational-level improvements related to analytical capacity, interpretation of evaluation data, and managerial decision-making; and (iii) institutional-level improvements involving transparency, governance arrangements, standardization, and interoperability across federal agencies.

These recommendations reflect the structural tensions identified in Section 4, especially the trade-offs between centralization and agency autonomy, between data abundance and interpretive capacity, and between accountability objectives and organizational learning. Together, they suggest that improving digital service evaluation requires not only technological redesign, but also institutional coordination, governance mechanisms, and capacity-building strategies capable of supporting continuous learning and public value creation. The subsections below detail each recommendation and its implications across these different governance levels.

5.1 Increase the Visibility and Simplicity of the Evaluation Feature

The most emphatic recommendation concerns the need to make the evaluation component more visible and easily accessible throughout the service journey. Across all groups, managers stressed that the current design where the evaluation prompt appears discreetly at the end of the user flow—fails to attract attention and severely limits response rates. As one participant noted:

“If the user does not see the evaluation component, there is no evaluation. It needs to be presented as a natural step of the service, not as something hidden at the end.”

Suggested improvements included contextual prompts immediately upon task completion, enhanced visual contrast, clearer instructions, and simplified forms. These changes align with international best practices that embed feedback mechanisms directly within service touchpoints rather than treating evaluation as an optional post-task add-on [Capgemini and Sogeti, 2024; Mijac et al., 2024]. This recommendation also connects to system-level tensions between user-centered design principles and the constraints imposed by a centralized, API-based evaluation architecture.

5.2 Strengthening Organizational Analytical Capacity Through Data Collection and Visualization

Managers consistently reported difficulties in accessing, organizing, and interpreting the evaluation data generated by the system. Despite the existence of aggregated dashboards, agencies lack automated tools for granular analysis, filtering, or longitudinal monitoring. As one manager summarized:

“The system should already deliver managerial information. Today it gives us raw data, and we have to work a lot to make sense of it.”

Participants emphasized that agencies—especially those with limited technical capacity—require dashboards disaggregated by institution, service, and time period, as well as pre-processed summaries of qualitative comments. Table 7 consolidates the main suggestions. These gaps echo a well-documented challenge in digital government ecosystems: the mismatch between data availability and organizational capacity to interpret the data [Luna et al., 2024].

Table 7. Recommended improvements in data management

Recommendation	Source
Provide automated dashboards per institution	Groups 2 and 3
Enable export of data with flexible filters	Groups 1 and 2
Summarize qualitative comments into categories	Group 3
Display time-series of satisfaction per service	Groups 1 and 3

5.3 Separate the Evaluation of the Digital Experience from the Service Outcome

Another recurring insight raised in all focus groups—concerns the need to differentiate the evaluation of the digital interface from the evaluation of the substantive result of the service. Managers stressed that users often conflate dissatisfaction with a denied request (e.g., a benefit not granted) with dissatisfaction with the digital application or platform itself. As one participant explained:

“Sometimes the user is unhappy with the decision, not with the digital service. If we mix everything in one question, we cannot improve what really depends on us.”

To mitigate this ambiguity, participants recommended a multi-attribute evaluation model incorporating: (i) **digital experience** (including usability, accessibility, interface clarity, and interaction quality), (ii) **service outcome** (whether the

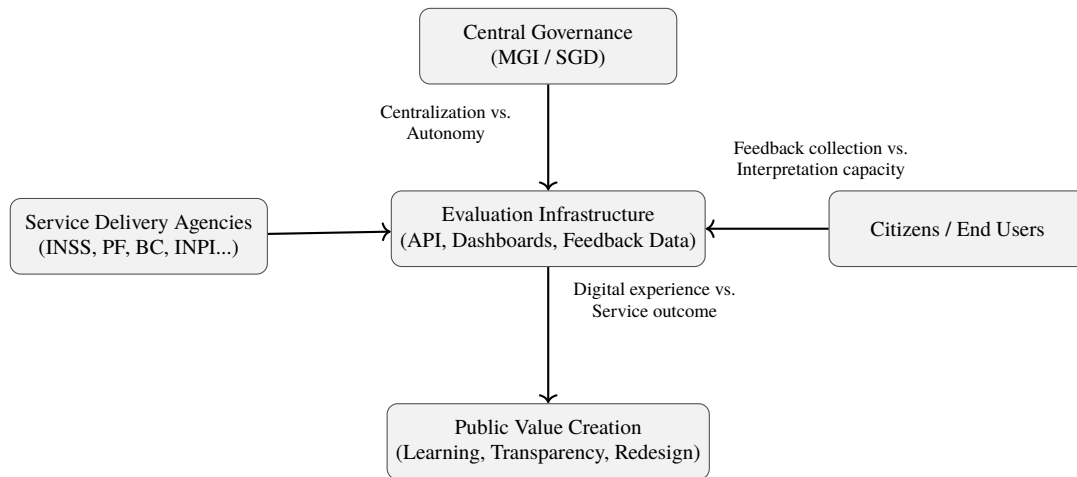


Figure 3. Conceptual model of the digital service evaluation ecosystem in Brazil, synthesized from the three focus groups.

request was resolved), and (iii) **process complexity and transparency** (clarity of required steps and documents).

Table 8 summarizes this structure, which aligns with multidimensional service quality frameworks used in international digital government evaluation systems.

Table 8. Suggested structure for a multi-Attribute evaluation

Evaluation Aspect	Example Question
Digital experience	How would you evaluate your overall experience with the service?
Usability	Was the service easy to use?
Outcome satisfaction	Did the service solve your demand?
Complexity and transparency	Was it clear why documents or steps were required?

5.4 Encourage User Engagement with Short and Relevant Feedback Flows

Managers highlighted that user engagement is strongly influenced by perceptions of burden and perceived usefulness. Lengthy forms, ambiguous questions, or non-intuitive prompts discourage participation. One agency manager summarized this challenge:

“The evaluation process needs to be simple and quick. If it is too long or complicated, people give up before finishing.”

To address this, participants recommended a *progressive disclosure* approach: beginning with a single mandatory question and gradually presenting additional optional prompts. This strategy increases overall response rates while still collecting richer qualitative insights from users who are motivated to expand on their experience.

Participants also emphasized the importance of communicating back to users how their input contributes to service improvements. Such practices strengthen trust, reinforce the legitimacy of the evaluation process, and support the co-production of public value.

5.5 Institutional Transparency and Feedback Loops for Continuous Improvement

Participants from the Ministry of Management and Innovation emphasized that transparency and feedback loops are essential for cultivating a culture of continuous improvement. Agencies should be able to benchmark their performance against similar institutions, while citizens should be able to access aggregate evaluation results. As one MGI manager stated:

“If we publish the results in a clear way, we create a culture of improvement. Managers will want to improve their indicators, and citizens will see that their opinion matters.”

This recommendation is aligned with open government principles and international experiences in e-government benchmarking, which use public dashboards to promote accountability, stimulate managerial learning, and encourage service redesign. Strengthening feedback loops also contributes to resolving the tension between accountability-oriented evaluation and learning-oriented evaluation highlighted in the Results section.

Together, these recommendations offer a coherent roadmap for evolving Brazil’s evaluation system from a predominantly data-collection mechanism into a strategic sociotechnical infrastructure for public value creation. More importantly, they demonstrate that improving digital service evaluation requires coordinated interventions across operational, organizational, and institutional dimensions. By integrating usability and accessibility improvements, analytical capacity-building, governance transparency, and hybrid coordination mechanisms, the proposed recommendations contribute to reconciling centralized standards with contextual adaptation needs within federal agencies. In this sense, the study advances the discussion of digital government evaluation beyond interface optimization, positioning evaluation ecosystems as critical components of participatory governance, organizational learning, and user-centered public sector innovation.

6 Threats to Validity

Although the research aimed for a comprehensive analysis of digital service managers’ perceptions regarding user

feedback collection, there are some threats to the validity of the results that merit discussion. The main threats identified include the following: Internal validity may be threatened by response bias in the focus groups, as participants, primarily digital services managers, could be influenced by institutional practices or policies. Their responses might reflect organizational norms rather than the broader experience of digital services, limiting causal attribution between the variables studied. To mitigate this, future studies could include a wider range of participants from diverse organizations and sectors, allowing for a more representative sample of experiences and perspectives.

External validity could be compromised as the focus group participants were not randomly selected, potentially representing a specific subset of digital service managers. This limits generalizability to other sectors or geographical regions. To address this limitation, subsequent research could aim to recruit a more diverse sample, potentially through stratified sampling or including participants from various regions or sectors, ensuring a broader representation of digital services. Another limitation derives from the profile of the participants involved in the study. Although the managers interviewed possess extensive knowledge about the operation and governance of digital public services, they are not necessarily representative of the citizens who directly interact with the evaluation interface. Consequently, findings related to usability, accessibility, visibility, and user engagement reflect managerial perceptions of citizens' experiences rather than direct observations of end-user behavior. Future studies should complement these findings through the inclusion of citizens and service users, enabling methodological triangulation across stakeholder groups.

Construct validity may be affected by how the study's concepts were represented. Pre-existing definitions of a "good" feedback system and technical jargon used by the participants could have shaped their responses, potentially limiting the exploration of alternative perspectives. To mitigate this, we provided clear and precise definitions of key concepts beforehand and use more neutral language to ensure a wider range of responses.

Conclusion validity may be threatened by the subjective nature of the focus group responses, which can be influenced by group dynamics or conformity to dominant ideas. This could lead to biased or inconsistent results, affecting the reliability of conclusions drawn from the data. To minimize this threat, facilitators adopted strategies such as encouraging individual responses before group discussions, ensuring that every participant had an opportunity to voice their opinion. Additionally, we employed more structured discussion format with clear guidelines for participation reduced the influence of dominant voices and improved the consistency of the data collected.

7 Conclusion

This article provided a comprehensive analysis of how federal managers perceive and use Brazil's digital service evaluation system. Building on the investigation presented in [Pedrosa et al., 2025], the study broadened its scope by incorporating an additional focus group with managers from the Ministry of

Management and Innovation (MGI), offering a more complete and institutionally informed understanding of Brazil's digital service evaluation ecosystem. This extended version deepens the analysis and presents a broader view of the challenges and opportunities involved in measuring user satisfaction and public value.

The results of the three focus groups converge toward a clear message: the digital service evaluation system is a relevant and strategic tool, but its potential has not yet been fully realized. Across the different institutions, managers recognize the importance of systematically collecting user feedback, but they also identify structural and operational barriers that limit the system's effectiveness. Among the most critical issues are the low visibility of the evaluation component on service pages, the difficulty in processing and interpreting collected data, and the conceptual ambiguity surrounding what users are actually evaluating.

At the same time, the inclusion of the SSC/DTI/MGI group added valuable insights about governance, interoperability, and the modernization of the evaluation platform. These managers emphasized that simplification, accessibility, and transparency are now central principles guiding the redesign of the evaluation API. Their contributions also revealed the institutional commitment to make results publicly available and to use the data to promote evidence-based improvement cycles.

Overall, this research demonstrates that the maturity of digital service evaluation in Brazil depends on the integration of technological, managerial, and communicative dimensions. Technological advances can improve usability and data processing, but sustainable progress requires the cultivation of a feedback culture in which users, managers, and policymakers share responsibility for service quality. The findings also align with international experiences that highlight the importance of continuous user engagement and the co-creation of value in public services.

Future research should focus on quantifying the relationship between evaluation scores and the adoption of service improvements, as well as on exploring the effects of transparency and feedback loops on citizens' trust in government. In addition, technical studies may examine how artificial intelligence and data analytics can support the automated categorization of qualitative comments, facilitating more agile decision-making.

In summary, this extended study contributes both empirically and conceptually to the understanding of how Brazil's federal government evaluates the quality of its digital services. By combining practical recommendations with a systemic perspective, it reinforces that evaluation should not be an isolated reporting task but an integral component of digital transformation and public value creation.

Declarations

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Authors' Contributions

Glauco Vitor Pedrosa contributed to the conception and design of the study, led the focus group process, and wrote the extended version of this manuscript. Edna Dias Canedo contributed to the research design, data analysis, and methodological validation. Wander C. M. Pereira da Silva led the focus group process, assisted in the interpretation of results and critical revision of the manuscript. Rejane Maria da Costa Figueiredo contributed to the theoretical framing, discussion of results, and supervision of the research.

All authors read and approved the final version of this manuscript. The authors declare that this work extends the previously published paper “*Digital Public Service Evaluation in Brazil: Federal Managers' Perspectives and Improvement Opportunities*” (LASDIGOV 2025), by incorporating additional empirical evidence and analysis.

Competing interests

The authors declare that they have no competing interests.

Availability of data and materials

Qualitative coding framework, thematic categories, and coding structure developed during the analysis are publicly available at Zenodo (DOI: <https://doi.org/10.5281/zenodo.21893610>), in accordance with the confidentiality agreements established with participants, which permit disclosure of the analytical instruments while protecting the identity of interviewees and their institutions.

Further relevant information

Ethical Approval: This study was approved by the Research Ethics Committee of the Institute of Human and Social Sciences of the University of Brasília (CEP/CHS-UnB), under Opinion No. 8.126.365 and CAAE 94501325.3.0000.5540. The study was conducted in accordance with the Brazilian National Health Council Resolutions No. 466/2012 and No. 510/2016.

All participants voluntarily agreed to participate, received information about the study objectives and confidentiality procedures, and could withdraw at any time. All data were anonymized prior to analysis and reporting.

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Citation Diversity Statement: The authors are aware of the potential for bias in citation practices and have made a conscious effort to include references representing a diversity of authors, geographic regions, and perspectives, including works by women, underrepresented groups, and scholars from the Global South.

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A Focus Group Discussion Guide

The semi-structured discussion guide used in the three focus groups is provided below.

Q1. As a manager, what is your perception of how our digital public services in Brazil are currently evaluated?

Q2. How do citizens interact with the evaluation interface?

Q3. How do you understand the purpose of the current digital service evaluation system?

Q4. What are the main challenges in obtaining meaningful evaluations?

Q5. What is the greatest challenge faced by managers of digital public services regarding the current service evaluation system?

Q6. What improvements would you suggest to make the evaluation of digital public services more efficient and useful?