

Why Does Digital Government Policy Exhibit Stage-Based Change?—A Textual Analysis of China's Central-Level Policy Using the Punctuated Equilibrium Framework

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Abstract. China's central government policies have not evolved at a uniform pace in the transition from e-government to digital government. Instead, gradual policy accumulation has been accompanied by periods of concentrated adjustment. Drawing on 61 central-level policy documents, this study combines content analysis, annual change measurement, structural distance analysis, Bayesian Information Criterion (BIC) model comparison, and policy sequence analysis to examine how accumulated governance pressures are translated into policy change at particular moments. The findings identify two periods of pronounced policy change: 2015–2018 and 2022–2025. During the first period, policy priorities shifted from departmental informatization toward interdepartmental coordination, government service integration, and business process reengineering. During the second period, digital government policy expanded to encompass data-related responsibilities, data development and utilization, security safeguards, and organizational coordination, marking a further transition from service delivery to holistic governance. These changes did not constitute abrupt replacements of existing policies. Rather, they reflected the accelerated release of long-standing governance pressures under high-level political attention and agenda authorization. Policy image reconstruction, institutional venue adjustment, and the institutionalization of policy tool mixes jointly promoted policy reconfiguration, while departmental fragmentation and cross-level implementation frictions persisted. This study conceptualizes this pattern as "stage-based concentrated reconfiguration," revealing the coexistence of gradual accumulation and concentrated adjustment within a centralized policy system. The concept extends punctuated equilibrium theory by improving its capacity to explain policy changes that are substantial but not fully discrete. The findings also suggest that sustainable digital government reform requires not only high-level political support but also stable coordination mechanisms, clearly defined responsibilities, and continuous policy instruments capable of converting temporary policy mobilization into lasting governance capacity.

Keywords: digital government, punctuated equilibrium framework, policy attention, policy image, institutional venue

1. Introduction

Digital technology has become an important foundation of government organization and administrative operations. The study of digital government should not be confined to technical developments such as website construction, platform connectivity, and online service delivery. It must also examine how the application of digital technologies reshapes departmental divisions of labor, data-related rights and responsibilities, and public service provision [1, 2]. Existing studies indicate that government digital transformation is not merely a process of technological substitution but a broader transformation of governance constrained by organizational structures, administrative systems, and institutional environments [3, 4]. This raises a further question: if many governance demands persist over long periods, why do central government policies concentrate adjustments to policy objectives, organizational responsibilities, and policy instruments within particular periods?

The continuous evolution of China's central digital government policies provides a relatively complete body of evidence for addressing this question. Early e-government frameworks and the reengineering of government service processes gradually connected informatization with administrative operations [5, 6]. Subsequent initiatives involving system integration, the development of a nationally integrated government service platform, and national government informatization planning further translated interdepartmental collaboration into specific implementation tasks [7, 8]. The guidelines on digital government development issued in 2022 and the subsequent plan for building a Digital China incorporated overall coordination, data governance, and security safeguards into central-level institutional arrangements [9, 10]. Policies on public data development and utilization, together with regulations on government data sharing, further specified the rules governing data resource allocation, development and utilization, and the assignment of responsibilities [11, 12]. These policies constitute a continuous transition from departmental informatization to holistic governance, but the pace of this transition has been uneven. Departmental informatization, information sharing, and service facilitation accumulated gradually over an extended period, whereas substantial changes in policy objectives, levels of political attention, and organizational responsibilities were concentrated within a limited number of periods.

Existing research has distinguished among e-government, government informatization, and digital government and has traced the evolution of the policy meaning of digital government in China [13, 14]. Studies from the perspective of governance modernization have further examined how digital government moves beyond traditional e-government, as well as the institutional boundaries of this transformation [15]. Nevertheless, two limitations remain. First, existing studies generally divide policy evolution into stages according to the issuance of landmark documents or changes in core terminology. Whether the proposed stage boundaries are supported by the complete policy sequence has yet to be systematically examined. Second, policy attention, problem definition, organizational jurisdiction, and instrument adjustment are usually discussed separately, and a longitudinal framework capable of explaining their interconnected changes remains underdeveloped. Defining stages solely according to the issuance of major policy documents risks equating individual policy events with policy punctuations. Conversely, emphasizing continuity alone may obscure the concentration of structural changes within particular periods.

Accordingly, this study addresses three research questions. RQ1: What forms of stage-based concentrated change can be identified in the long-term evolution of China's central digital government policies, and are the proposed stage boundaries jointly supported by different measurements? RQ2: How are accumulated governance pressures and institutional frictions translated into the stage-based reconfiguration of policy instruments through authoritative attention,

policy image reconstruction, and institutional venue adjustment? RQ3: How can this process extend the explanatory scope of punctuated equilibrium theory for policy change within a centralized policy system? To answer these questions, this study first employs structural distance analysis to identify candidate periods in which policy changes were concentrated. It then uses Bayesian Information Criterion (BIC)-based model comparison to assess the stability of the proposed segmentation and examines key policy sequences to explain how stage-based changes emerged. Quantitative measurements are used primarily to identify candidate periods and constrain inferences about periodization, whereas the explanation of the policy change mechanism is grounded in substantive policy content and the temporal relationships among policy documents. Through this approach, the study shifts the analytical focus from classifying policy stages to explaining how those stages are formed, while examining the relationships among policy attention, problem definition, organizational jurisdiction, and policy instrument arrangements within a single temporal sequence.

2. Theoretical foundations and analytical framework

2.1. Punctuated equilibrium and nonlinear policy change

Bounded attention prevents governments from processing all problems simultaneously, while institutional friction delays the conversion of problem pressure into policy response. Policy therefore tends to adjust slowly over long periods but may also change rapidly within short intervals [16, 17]. When an established policy image sustains prevailing problem definitions and instrument legitimacy, negative feedback promotes stability. Once a problem is redefined and enters a more authoritative decision venue, positive feedback can accelerate agenda expansion and policy adjustment [18, 19]. Comparative research has observed this nonlinearity across institutional settings, although the magnitude and transmission of change remain conditioned by institutional structure [20].

Digital government policy spans technical standards, departmental operations, data rights and responsibilities, public services, and security management. Fragmented responsibilities, system differences, and sunk investments can absorb these pressures for long periods, so policy need not respond immediately. Multiple instruments become more likely to change together when information-system construction is redefined as a holistic governance problem and gains higher-level attention and cross-departmental coordination. The punctuated equilibrium framework is therefore used here to explain when pressure enters the policy agenda, not to label every major document a punctuation. If the global model does not support stable segmentation, local change should be interpreted only as concentrated policy reconfiguration within long-term evolution.

2.2. Persistent pressures and horizontal institutional friction

Digital transformation in government changes technological applications, organizational processes, and relationships of authority simultaneously [21, 22]. In Chinese local reforms, platform standardization, process adjustment, and organizational recoupling have altered the structure of grassroots government [23]. Local digital governance is also constrained by actor interaction, organizational boundaries, and modes of collaboration [24]. This research defines the limit of a technology-only account: technology explains which capabilities are available, but not why policy changes concentrate in particular periods.

One source of pressure is the gap between public demand and departmentalized administration. Cross-jurisdictional services, convenient transactions, and information disclosure create continuing

demands, whereas fragmented processes and systems raise coordination costs. As data sharing and development expand, usability and security responsibilities generate a persistent trade-off. New technologies raise governance expectations, but budgets, standards, personnel, and legacy systems still constrain policy choices. Zhejiang's reforms likewise show that digital government must integrate technical architecture, operational coordination, and institutional safeguards; a single technology project cannot carry this transformation [25].

Whether such pressures reach a common agenda depends on horizontal institutional friction. Jurisdictional boundaries, information silos, duplicated construction, and divided data responsibilities weaken the capacity of any single department to advance systemwide reform. Cross-organizational data sharing requires explicit stewardship responsibilities and cooperation rules [26], and cross-level platform government depends on organizational capacity and governance arrangements [27]. A technological-upgrading narrative therefore cannot explain synchronized shifts in attention, problem definition, and coordination responsibility. When these shifts appear together in policy texts, it becomes necessary to examine whether authoritative attention altered existing departmental frictions.

2.3. Authoritative attention and institutional venues in a centralized policy system

An institutional venue is the organizational location through which a problem receives agenda authorization, cross-departmental coordination, or specialized jurisdiction; it is not synonymous with the issuing agency. In China's policy process, high-level authorization can reduce the cost of agenda access, while coordinating bodies and lead departments reallocate responsibilities. Functional fragmentation, hierarchical implementation, and information constraints nevertheless continue to shape policy delivery [28, 29]. Chinese policy output is also nonlinear, and authoritative authorization changes the form of venue shift described by conventional punctuated equilibrium theory [30, 31]. Because of information disadvantages, some problems receive a concentrated response only after pressure has accumulated [32].

In China, venue change often appears as an upward shift in the coordination level, concentration of lead responsibility, or creation of specialized data-governance jurisdiction. The affiliation, functional scope, and coordinating capacity of local data-governance agencies directly affect the organizational foundations of data governance [33]. High-level attention can reduce agenda friction among departments but cannot immediately eliminate divergent standards, fragmented authority, or implementation gaps. A single high-level document can therefore demonstrate agenda change, but the formation of a new institutional arrangement must be assessed through subsequent rules, platforms, organizations, and oversight policies.

2.4. Integrated framework and observable expectations

The explanatory framework links persistent governance pressure and institutional friction, authoritative policy attention, policy-image reconstruction, institutional-venue adjustment, and institutionalization of the instrument mix. Governance pressures accumulate within existing departmental structures. Major meetings, plans, and high-level documents elevate the issue, expanding an efficiency- and service-centered problem definition toward coordination, data governance, security, and holistic governance. Adjustments in coordination mechanisms and specialized jurisdiction provide organizational support for the new goals. Subsequent rules, platforms, sharing, organizational, market, and security instruments convert those goals into

implementation arrangements. The policy mix refers to the alignment among goals, responsibilities, and implementation constraints rather than a simple inventory of projects [34].

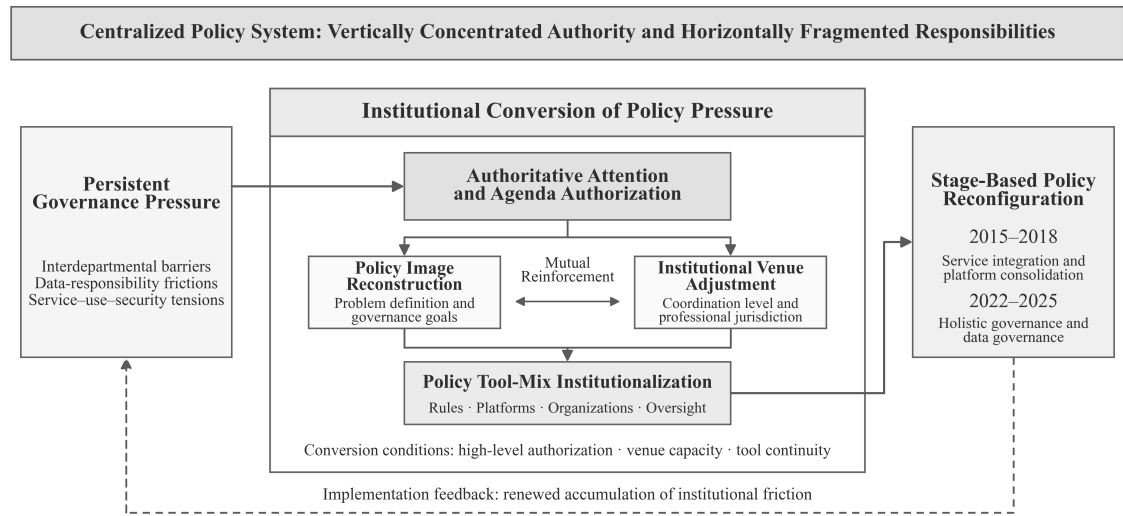


Figure 1. Mechanism of stage-based policy reconfiguration in digital government policy

The framework yields four observable expectations. Around a candidate interval, the number and authority of documents, joint issuance, or attention at major meetings should change. If attention has genuinely shifted, policy goals and problem definitions should broaden rather than merely adding technical terminology. Institutional change should also involve an adjustment in coordinating relationships or specialized jurisdiction and be implemented through rules, platforms, and organizational instruments. Continuing supporting policies after a key document indicate that the new arrangement may be stabilizing; where evidence is insufficient, the interval remains a candidate. Quantitative measures locate and constrain the claim, while policy sequences explain how change occurred.

3. Data and methods

3.1. Policy corpus and document-level coding

The materials were collected from the State Council Policy Document Database, the central government portal, and official websites of central departments. The search covered 1999–2025. After title-based retrieval and deduplication, official full texts were reviewed against the inclusion criteria and supplementary searches were used to check for omissions, yielding 61 central-level policies. Local documents, news reports, duplicate reports, and documents that mentioned digital technology only as background were excluded. For each document, the source, title, publication date, issuing body, official link, and reason for exclusion were retained to make corpus boundaries and evidence locations traceable [35].

The codebook contains policy-image and policy-instrument modules. The image module covers efficiency, disclosure, service, coordination, data governance, security, intelligent applications, and holistic governance. The instrument module covers planning, rules, platforms, sharing, oversight, organization, market, and security instruments. Policy attention is observed through annual document counts, issuing authority, joint issuance, the share of comprehensive policies, and attention at major meetings. Institutional venues are identified from lead responsibility, coordinating

bodies, data-management responsibilities, and platform organization. Initial automated rules were used only to locate evidence and test conceptual boundaries. Agreement among automated rules is not human intercoder reliability; all decisions were checked against the original policies, with evidence excerpts, reasons for adjustment, and final codes retained.

3.2. Annual change and structural distance

Annual measurement first aggregates policy-attention indicators and then calculates the share of documents containing each policy image and instrument. To reduce scale differences, indicators are standardized within the analytical window; the stability of initial rules, annual shares, and standardization procedures are reported in the supplementary materials. Structural distance compares standardized mean values for attention, image, and instrument indicators in rolling windows before and after each candidate year. The baseline uses a three-year window, while sensitivity analysis varies window width, starting year, corpus scope, indicator modules, standardization, and distance metrics. Equation (1) defines structural distance, where c is the candidate year, h is window width, and K is the number of indicators. A larger value indicates a greater difference in policy structure between adjacent windows, but does not by itself establish a statistical breakpoint.

$$D(c, h) = \sqrt{\sum_k^K (\bar{Z}_{k,pre} - \bar{Z}_{k,post})^2} \quad (1)$$

3.3. BIC model comparison and interpretive boundaries

Structural distance identifies local periods that merit explanation; BIC model comparison tests whether segmentation improves overall fit. Models with zero, one, and multiple breakpoints are compared sequentially, with lower BIC indicating a preferred relative fit. Equation (2) defines BIC, where SSE is the residual sum of squares, N is the number of effective observations, and k is model complexity. Because BIC penalizes additional segments, a segmented model may remain inferior to a continuous model even after reducing residuals. Change-point measurement is used to constrain the theoretical claim, not to replace explanation of the policy mechanism [36, 37].

$$BIC = N \ln \left(\frac{SSE}{N} \right) + k \ln(N) \quad (2)$$

3.4. Process diagnosis, robustness, and alternative explanations

Mechanism diagnosis follows the temporal order of key policies and examines whether problem definition, level of authority, lead responsibility, and subsequent supporting measures are connected. Process tracing requires a clear temporal sequence and comparison with competing explanations [38]. Robustness analysis varies key technical specifications and then removes each main-analysis document in turn to determine whether candidate intervals depend on a particular convention or policy; complete parameters, sensitivity results, and leave-one-out runs are reported in the supplementary materials. The study also considers technological diffusion, a single landmark document, the pandemic shock, and archival availability. Temporal proximity is not causal evidence, and a local increase in distance cannot predetermine that an existing equilibrium has been broken.

Candidate-period identification and mechanism explanation are therefore separated: the model limits the strength of periodization, while the policy sequence carries the explanatory burden.

4. Results: candidate boundaries and policy processes

4.1. Quantitative evidence identifies candidate intervals, not established breakpoints

With the baseline three-year window, structural distance reaches its maximum in 2023 (4.871), followed by 2022 (3.865). Higher early values cluster in 2014–2016, including 3.790 in 2014. When rolling windows, corpus scope, and indicator definitions are varied, the early boundary moves within 2015–2018 and the later boundary remains mainly within 2022–2025. Among 51 leave-one-out runs, 43 retain the no-break model as optimal (84.3%), 48 reproduce the baseline pair of distance boundaries (94.1%), and 50 retain both candidate windows (98.0%). BIC comparison further limits the strength of periodization: the no-break model has a BIC of 66.689, below the one-break model (77.493), two-break model (75.398), and three-break model (112.672). Although segmentation reduces SSE, the improvement does not offset the complexity penalty. The quantitative evidence therefore supports concentrated policy reconfiguration within long-term evolution but cannot confirm discrete punctuations. Structural distance locates candidate periods, while BIC constrains the periodization claim (Table 1).

Table 1. Structural distance, BIC comparison, and leave-one-out tests for candidate boundaries

A. Three-year-window structural distance and rank					
Boundary year	D(c,3)	Rank	Boundary year	D(c,3)	Rank
2014	3.790	3	2019	1.585	10
2015	3.417	4	2020	2.745	6
2016	3.139	5	2021	2.006	8
2017	2.007	7	2022	3.865	2
2018	1.969	9	2023	4.871	1
B. BIC comparison of segmented models					
No. of breaks	Break year(s)	k	SSE	BIC	ΔBIC
0	—	13	169.000	66.689	0.000
1	2016	27	117.786	77.493	10.805
2	2016, 2023	41	76.059	75.398	8.710
3	2016, 2020, 2023	55	61.998	112.672	45.983
C. Summary of 51 leave-one-out runs					
Robustness indicator	Runs	Share (%)	Robustness indicator	Runs	Share (%)
No-break model remains optimal	43	84.3	Exact distance-boundary pair	48	94.1

Table 1. (continued)

Both candidate windows retained	50	98.0
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Note: $D(c,3)$ is the Euclidean distance between mean vectors of 13 standardized indicators in the three years before and after a candidate boundary. Lower BIC is preferred; ΔBIC uses the no-break model as the baseline, and bold indicates the lowest-BIC model. Leave-one-out analysis re-estimates the model after sequentially deleting each of the 51 main-analysis policies from 2011–2025. Shares are percentages.

4.2. 2015–2018: how service pressures produced coordinated policy reconfiguration

Before the early interval, central e-government initiatives had accumulated departmental systems and information resources, while duplicated construction, information silos, and fragmented processes steadily increased the cost of cross-departmental service delivery. The 2014 coordination policy brought integrated planning, resource consolidation, and sharing into a common agenda, moving the problem beyond system construction within individual departments [39]. The 2015 big-data initiative then assigned data resources a dual value in public governance and economic development, broadening the definition of previously dispersed technical problems [40]. Policy attention consequently shifted from system operation toward whether departments could perform public functions jointly.

Around 2016, high-level attention converted these pressures into concrete policy arrangements. Internet Plus Government Services called for process optimization and online–offline integration around citizens' transactions, while rules for sharing government information resources incorporated catalogues, exchange mechanisms, and responsibility constraints into a unified institutional framework [41]. The policy emphasis expanded from efficiency improvement to service convenience, interdepartmental collaboration, and data sharing. Zhejiang's At Most One Visit reform indicates that online collaboration and data sharing can support holistic-government operations only when coupled with service integration and departmental coordination [42]. Local experience cannot substitute for central policy evidence, but it helps explain why coordinated services require process, platform, and responsibility arrangements together.

Subsequent documents gradually converted these goals into implementation requirements. The 2017 plan for integrating government information systems specified system consolidation, platform connection, divisions of responsibility, and inspection tasks [7]. Construction of the national integrated online government-service platform in 2018 further strengthened the single entry point, operational coordination, and cross-regional services [43]. This connected sequence linked platform development with coordinating responsibility and sharing rules. Technological diffusion can explain why platforms became feasible, but not why responsibilities and rules strengthened simultaneously; attributing the change to one landmark document would also miss the policy sequence before and after it. The 2015–2018 interval is therefore better interpreted as concentrated policy reconfiguration from departmental informatization toward coordinated services.

4.3. 2022–2025: reconfiguring the holistic-governance policy image and data-governance venues

The later interval confronted a more complex institutional problem. Cross-level government collaboration continued to expand while data sharing, development and use, and security responsibilities entered the policy agenda together. The Fourteenth Five-Year Plan for government

informatization linked major projects, public platforms, and project governance, making digitalization part of national governance-capacity building [8]. Service convenience no longer captured the full policy problem; the central issue became the allocation of responsibility among data mobility, organizational coordination, and risk constraints.

The 2022 digital government guidelines changed the level and scope of the policy problem. They placed overall coordination, digital performance of public functions, data resources, security safeguards, and organizational leadership within one framework, moving digital government from operational improvement toward adjustment of the mode of governance [9]. The national integrated government big-data guidelines subsequently specified catalogues, sharing, platforms, and managerial responsibility [44], while foundational data institutions brought rights allocation, circulation and use, and security governance into a broader institutional agenda [45]. These policies addressed overall goals, infrastructure, and data institutions respectively rather than simply repeating one another.

The 2023 Digital China plan embedded digital government in an overall national design, while the institutional-reform plan adjusted organizational jurisdiction through specialized data-management responsibilities [10, 46]. The expansion of policy goals and the change in organizational responsibility were temporally connected. The 2024 public-data policy added arrangements for authorized operation, distribution of returns, and security [11]. The 2025 Regulations on Government Data Sharing then formalized sharing responsibilities, catalogue management, and oversight requirements [12]. Although the 2025 Digital China action plan addresses artificial intelligence and other new capacities, this study treats them only as instrument issues entering the policy mix and does not infer an independent intelligent-governance stage [47].

Evidence from platform governance shows that a unified platform becomes a governance arrangement only when combined with organizational coordination, data governance, and closed-loop operations [48]. The later policy sequence indicates that high-level agenda setting broadened the goals of digital government, while specialized data-management responsibilities and subsequent rules supplied organizational and institutional support. The interval nevertheless lies at the right edge of the observation period, leaving limited time to observe continued supporting policies. Current evidence identifies changes in policy structure and organizational jurisdiction but cannot establish that a new stable equilibrium has formed. The 2022–2025 interval should therefore remain a candidate period of concentrated policy reconfiguration in holistic governance and data governance.

4.4. Shared mechanism and differences between the two intervals

Both intervals followed extended periods of problem accumulation, after which high-level plans or comprehensive documents placed dispersed issues on a common agenda. Organizational responsibilities and policy instruments did not adjust at a single moment but were progressively specified in subsequent documents. High-level attention accelerated this process and strengthened the legitimacy of the new problem definition, while hierarchical differences and fragmented departmental responsibilities continued to shape implementation.

The two intervals addressed different problems. The earlier one centered on fragmented systems and broken service processes: policy extended from departmental efficiency to coordinated services, and instruments concentrated on platforms, sharing, and process redesign. The later interval combined data rights and responsibilities, development and use, and security constraints. Specialized data-management responsibilities became clearer, and rules, organizational, market, and

security instruments gained weight. The object of policy had expanded from information systems to data and the governance relationships surrounding them.

Table 2. Mechanism comparison of two periods of stage-based policy reconfiguration

Dimension	2015–2018	2022–2025	Theoretical implication
Accumulated pressure	Fragmented systems, difficult sharing, and broken service processes	Data rights and responsibilities, cross-level coordination, development and use, and security	Pressure first accumulates within existing institutions
Authoritative attention	Coordinated development, big data, and government services enter the central agenda in sequence	Digital government, foundational data institutions, and Digital China form a high-level agenda package	Authoritative attention compresses agenda friction
Policy image	Efficiency and service expand toward coordination, sharing, and process redesign	Coordination expands toward holistic governance, data elements, security, and intelligent applications	Problem redefinition broadens instrument legitimacy
Institutional venue	Cross-departmental coordination and responsibility for an integrated platform strengthen	Overall coordination and specialized data-management responsibilities become clearer	Jurisdictional reset is an organizational condition for converting friction
Instrument mix	Planning, platforms, sharing, and system integration	Rules, organization, markets, sharing, and security	Instrument alignment provides evidence of institutionalization
Continuation	Subsequent system-integration and platform policies are relatively extensive	Supporting rules exist, but the right-censored observation period is short	Stability of the new structure requires time to assess
Stage assessment	Policy reconfiguration toward coordinated services	Policy reconfiguration toward holistic governance and data governance	Neither interval is a statistically confirmed discrete breakpoint
Theoretical significance	Greater attention transforms departmental technical problems into a common service agenda	Authoritative authorization and specialized venues jointly address data-related institutional friction	PET should examine how authoritative attention converts institutional friction

5. Theoretical explanation and governance implications of stage-based policy reconfiguration

5.1. From technology diffusion to institutional conversion: the explanatory starting point for digital government policy change

Successive generations of digital technology expand the governance instruments available to government, but they do not determine when policy will change. The evolution of digital government involves technological capacity as well as organizational structures, administrative processes, and relations of responsibility [2, 4]. Across the two policy sequences identified here, the relevant technologies had existed well before the periods of concentrated adjustment. What changed was the definition of dispersed governance problems and their elevation to a higher-level policy agenda. Technology diffusion is therefore better understood as a persistent condition than as the direct cause of stage-based change.

The two periods correspond to different governance pressures. From 2015 to 2018, the central tension lay between department-specific system building and demand for cross-departmental services. Policy adjustment consequently emphasized process redesign, information sharing, and

platform integration. After 2022, data aggregation was no longer the only problem. Institutional provision increasingly addressed who manages data, under what rules data are shared and developed, and how security responsibilities are allocated. The earlier period mainly repaired service coordination; the later period began to reorder rights and responsibilities in data governance.

This difference indicates that digital government policy does not advance automatically with each technological generation. Its problem definition changes in response to specific governance tensions. Local digital reforms likewise show that platform standardization changes government operations only when combined with organizational recoupling and actor collaboration [23, 24]. The key to stage-based policy reconfiguration is therefore not the first appearance of a technology, but the moment at which technological possibilities are translated into public-management problems requiring collective action.

5.2. The conversion role of authoritative attention: agendas and venues in a centralized policy system

The punctuated equilibrium framework treats limited attention and institutional friction as major sources of policy nonlinearity. Problem pressure may persist for long periods, but policy can depart from an established path only when decision makers devote greater attention to the issue and challenge the prevailing problem definition [16, 19]. The evidence further shows that authoritative attention does not simply increase the number of documents. It changes the level at which an issue is handled: problems previously dispersed across departmental systems, public services, or data management enter comprehensive policies and gain legitimacy for cross-departmental coordination.

In China's policy process, this conversion does not primarily depend on competition among open venues. More common forms include high-level agenda authorization, upward movement of coordination, and reallocation of specialized responsibilities. Vertical authority can lower the cost of placing cross-departmental issues on a common agenda, but it does not automatically eliminate the information and responsibility frictions created by horizontal specialization [28, 32]. Comprehensive national deployment can rapidly enlarge policy scope, while implementation must still determine who coordinates, how agencies collaborate, and how accountability is enforced.

Authoritative attention should therefore be understood as a condition that converts institutional friction, not as a sufficient condition for concentrated change. Without an institutional venue capable of carrying an elevated agenda, policy may remain a statement of principle. Without continuing rules and instruments after responsibilities have been adjusted, a burst of documents may not establish a new stage. The integrated platforms and sharing arrangements of 2015–2018, and the specialized data-governance responsibilities formed after 2022, provide evidence that agenda authorization was translated into organizational arrangements. In both periods, the level of attention connected with organizational capacity; the later period differs because it has not yet undergone a sufficiently long period of stabilization.

5.3. Coupling policy image, institutional venue, and instruments: refining the punctuated equilibrium mechanism

Changes in policy image first appear as a redefinition of the governance problem. Early policies treated e-government mainly as a matter of system construction and administrative efficiency. The first period of concentrated policy reconfiguration gave greater prominence to citizen services, process coordination, and information sharing. The second period did not simply replace government services with data governance; it placed holistic-governance performance, data

development, security responsibilities, and intelligent applications within the same policy perspective. Policy-image reconstruction changes the relationships among goals, not merely the terminology used in policy documents.

A new problem definition requires a corresponding institutional venue. Comprehensive State Council deployment and coordination mechanisms supported cross-departmental services, while data governance gradually acquired clearer specialized jurisdiction. Existing research finds that the organizational form of data-governance agencies affects data-resource integration and interdepartmental relations [33], and that organizational adjustment determines whether digital platforms enter routine administration [23]. An institutional venue is therefore not the agency named on a document. It is an organizational arrangement that assigns coordinating authority, specialized capacity, and responsibility boundaries to new goals.

The continuing appearance of policy instruments gives executable form to the policy image and its institutional venue. Plans establish common directions, rules specify rights and obligations, platforms provide a basis for collaboration, and organizational and oversight instruments maintain chains of responsibility. Research on policy mixes shows that instruments must be assessed by their compatibility rather than by their number in isolation [34]. Both periods examined here exhibit a continuing expansion of several instrument types, an important basis for distinguishing stage-based policy reconfiguration from short-lived agenda fluctuation.

The relationship among policy image, institutional venue, and instruments is not a one-way transmission. As new instruments implement existing goals, they expose new data boundaries, coordination costs, and security responsibilities, causing institutional friction to accumulate again. The policy process therefore combines pressure absorption with pressure reproduction: rules and organizational arrangements temporarily stabilize some tensions, while new governance demands may trigger another round of agenda adjustment.

5.4. From agenda mobilization to institutional capacity: governance implications for digital government

This mechanism shifts the focus of digital government from project provision to institutional capacity. High-level plans can establish common goals, but the durability of cross-departmental reform depends on whether responsibilities, standards, and oversight enter the policy arrangement together. A platform detached from administrative processes and responsibility chains often integrates only technical interfaces. A coordination mechanism without stable authorization can also revert to departmental fragmentation during implementation. The task is not to choose between technology and organization, but to subordinate technical architecture to public responsibilities and embed it in routine operations.

Data governance particularly requires clear responsibility allocation. Developing and using public data expands their public value and range of application, but also intensifies tensions among authorization boundaries, benefit allocation, privacy protection, and security oversight. Specialized data-management agencies must do more than build platforms or projects; they need stable capabilities for catalogue standards, sharing oversight, and cross-level coordination [33, 48]. Data-element policy can remain connected to government performance only when utilization goals and responsibility constraints are institutionalized together.

New instruments such as artificial intelligence should likewise be assessed within existing systems of responsibility. Algorithms can change information processing and service delivery, but they do not automatically resolve departmental coordination, data-quality, or accountability problems. Because the later period is still taking shape, its stability cannot be judged only by the

number of action plans or application scenarios. It also requires evidence that organizational responsibilities, oversight rules, and implementation feedback remain connected over time.

Institutional absorption remains an issue after stage-based policy reconfiguration. Agenda mobilization determines whether reform issues receive concentrated attention; institutional capacity determines whether they become sustainable organizational behavior. The distance between the two determines whether concentrated adjustment creates a new period of stability or allows friction to reaccumulate during implementation. For the punctuated equilibrium framework, this observation shifts attention from the magnitude of policy change to how organizations absorb that change. This is also the principal theoretical contribution of China's digital-government experience.

6. Conclusion

Quantitative results identify two periods of comparatively concentrated policy-structure change, 2015–2018 and 2022–2025. China's central digital-government policy should therefore be described neither as a uniformly paced upgrade nor as several mutually disconnected stages. The evidence instead supports stage-based policy reconfiguration within long-term incremental evolution. The policy materials further clarify the substance of the two periods. Early policies reframed fragmented departmental systems and service barriers as problems of coordinated services and process redesign. Later policies adjusted overall goals around data rights and responsibilities, development and use, and security constraints, while establishing clearer specialized data-management responsibilities. Technological capacity supplied policy options; high-level agendas and organizational jurisdiction determined when those options became common policy; subsequent rules, platforms, and oversight arrangements influenced whether the policies endured.

Methodologically, the study distinguishes boundary identification from mechanism explanation. Quantitative measures compare policy structures in adjacent periods and test how strongly the evidence supports a periodization claim. Policy sequences use the timing and institutional content of key documents to diagnose possible conversion processes. This distinction avoids substituting stage labels for evidence and prevents the absence of discrete breakpoints from obscuring localized concentrations of change. Periodizing digital government policy requires joint attention to textual structure, organizational adjustment, and subsequent supporting measures; policy names and technological concepts alone do not determine boundaries.

The findings also show that digital-government development must address agenda coordination and implementation friction together. High-level planning can establish common goals, but stable operation still depends on sustained alignment among departmental responsibilities, data standards, sharing rules, security constraints, and oversight mechanisms. Future research can extend the observation period and combine local implementation data, organizational interviews, and independent human coding to test whether stage-based policy reconfiguration at the central level produces corresponding organizational behavior and governance performance across levels.

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