

Impact of Data Governance on the Quality of Government Economic Decision-Making and Its Implications for the Development of the Digital Economy

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ABSTRACT:

The expansion of the digital economy has intensified the role of data in government economic decision-making; however, it remains unclear how data is actually incorporated into the decision-making process and what effects it has on the outcomes of these decisions. This study, using a qualitative approach and a case study method, examined how data is used in three types of government economic decisions: regulation of digital activities, financial and tax support for digital firms, and public investment in digital infrastructure. Research data were collected through interviews with policymakers, data experts, and executive managers, as well as through analysis of official decision-making documents. The results showed that in regulatory decisions, data were primarily used to identify the existence of a problem and the need for intervention, and played a limited role in shaping the content of regulations. In support decisions, data served as the basis for identifying eligible entities and allocating resources; however, the time lag between data production and implementation, as well as the lack of clarity regarding the source and timing of the data in the decision text, led to revisions and delays in policy implementation. In investment decisions, feasibility data formed the basis for cost-benefit estimations, but the data assumptions underlying these estimations were not reflected in the final resolution text and diverged from real data during the implementation phase. The findings indicated that data were present in all three domains, but their usage differed, and these differences led to varying implementation outcomes. This study shows that the impact of data on the development of the digital economy operates through government economic decisions and depends on how data is incorporated into the decision text and the implementation process.

Keywords: Data governance, economic decision-making, digital economy, economic regulation, support policies, public investment, data-driven policymaking, decision quality.

1. INTRODUCTION:

Over the past two decades, the digital economy has become one of the structural components of economic transformation at the global level. This transformation is not limited to the emergence of new technologies or the expansion of online services; rather, it has led to a profound reconfiguration of relationships among the state, the market, and society. Data, as the central element of this economy, has transformed the role of traditional inputs in many economic activities and fundamentally changed the logic of value creation, competition, and growth. In such a context, government economic decisions are no longer made based on static information and linear models, but are instead shaped in a dynamic, data-driven environment based on complex information flows (World Bank, 2016; Brynjolfsson & McAfee, 2014).

The expansion of the digital economy has simultaneously confronted the role of the state in the economic sphere with new complexities. On the one hand, governments face the necessity of regulating the activities of digital actors, particularly platforms; on the other hand, they must foster growth and innovation in

this sector through support policies and public investment. These tasks are carried out in a context where the boundaries of the digital market are not transparent, the economic behavior of actors changes rapidly, and information related to activities is dispersed across various institutions. Under such conditions, the quality of government economic decision-making becomes highly dependent on how data are accessed, interpreted, and utilized (OECD, 2019).

In the digital economy, data are not merely a tool for describing the current situation; they have themselves become part of the subject of policymaking. Decisions such as defining the scope of platform activities, identifying firms eligible for support, or evaluating the economic justification of investment in digital infrastructure all require reliance on data that differ from traditional data in terms of volume, variety, and speed of production. Research shows that in the absence of appropriate institutional mechanisms, the abundance of data not only fails to improve decision-making, but may also lead to contradictory, costly, and difficult-to-implement decisions (Janssen & Kuk, 2016; Kitchin, 2014).

In response to this challenge, the concept of “data governance” has been introduced in the public policy literature as an analytical framework. Data governance refers to the set of rules, institutional arrangements, and processes that determine how data are produced, which entity owns or is responsible for them, how they are shared, and ultimately how they enter the public decision-making process (Janssen, Charalabidis, & Zuiderwijk, 2017). This concept emphasizes that data, before being a technical resource, are an institutional resource, and the quality of their use depends on the quality of governance.

The importance of data governance becomes more evident when considering government economic decisions. Economic decision-making in government not only requires data analysis but also involves translating data into rules, incentives, and resource allocation. Numerous studies have shown that weaknesses in data governance can result in economic decisions that, although based on data, face challenges in terms of transparency, traceability, and accountability (Bannister & Connolly, 2020; OECD, 2018). This issue is particularly significant in the digital economy, where errors in decision-making can have wide-ranging consequences for competition, innovation, and investment.

Existing studies on data-driven government and evidence-based policymaking have often emphasized the benefits of using data in decision-making, but have paid less attention to the question of how data are actually integrated into the structure of government economic decision-making and what differences this creates in decision quality (Margetts & Dorobantu, 2019). In particular, the distinction among different types of government economic decisions—regulation, support, and investment—and the varying role of data governance in each of these domains has been less systematically examined in the empirical literature. This is despite evidence indicating that the logic of data-driven approaches differs across these domains and cannot be analyzed using a single uniform model (Mazzucato, 2018; OECD, 2021).

In developing countries, this analytical gap becomes even more significant. Governments in these countries often face institutional constraints, organizational fragmentation, and data dispersion. Under such conditions, the way data are governed can determine whether policies related to the digital economy lead to sustainable growth or turn into a set of fragmented and costly interventions. Comparative studies show that the quality of government economic decision-making serves as an intermediary link that connects data governance to developmental outcomes (OECD, 2019; World Bank, 2016).

Within this framework, focusing on actual government economic decisions and examining the practical pathways through which data enter these decisions appears essential for understanding the relationship between data governance and the development of the digital economy. From this perspective, the present study investigates how data governance within

government organizations shapes the quality of government economic decisions in three domains—regulation, support, and investment in the digital economy—and what implications these changes in decision quality have for the trajectory of digital economy development.

2. METHODS:

This study was conducted using a qualitative approach and based on a multiple case study design. The focus of the research was on examining how data enter the process of government economic decision-making in the digital economy and the consequences of this at the level of specific decisions. The unit of analysis in the study was defined as a “government economic decision,” and each decision was examined within its institutional context and the official documents associated with it. Research data were collected through interviews with actors involved in the decision-making process, as well as through analysis of the documents used in those decisions. The analysis focused on the practical pathways of data use in decision-making.

Scope of the Study and Time Frame:

The scope of the study was limited to economic decisions of the government of the Islamic Republic of Iran in the field of the digital economy. An economic decision was defined as a decision that resulted in regulating the economic rules of digital markets, allocating financial and tax support to digital businesses, or allocating public budgets to digital economy infrastructure projects. The time frame for the decisions under study was set from the beginning of the year 2021 to the end of the year 2023 (according to the Iranian calendar). This period was selected such that the decisions had both been approved and their initial stages of implementation could be described by the participants.

Case Study Design and Case Selection:

The study was designed as a multiple case study with an embedded unit of analysis. Three specific economic decisions were selected as the cases of the study, each representing one of the three domains of regulation, support, and investment in the digital economy. Case selection was based on specific criteria: the decision had to have an officially approved or communicated text, include at least one report or data appendix used in the decision-making process, and allow access to key decision actors. To prevent scope expansion, only one decision was included for each domain, and no alternative cases were added.

Table 1: Characteristics of Three Government Economic Decisions in the Digital Economy and the Role of Data in Each

Role of Data in the Decision Process	Type and Source of Data Used	Decision-Issuing Institution	Economic Decision Domain
Problem identification and justification for intervention	Platform market data, internal analytical reports, macro indicators	Regulatory Authority for Communications and Radio	Digital economy regulation
Targeting beneficiaries and allocating support	Administrative registries, firm performance data, administrative lists	Ministry of Economic Affairs and Finance	Economic support (tax/financial)
Economic estimation and justification of public investment	Feasibility reports based on cost-benefit scenarios	Plan and Budget Organization	Government investment in digital infrastructure

Case 1: Economic Regulatory Decision:

The first case focused on the decision titled “Communication of the Directive for the Support and Regulation of Digital Economy Businesses,” which was developed and issued in 2022 by the Ministry of Information and Communications Technology, with the participation of the National Cyberspace Center. This decision addressed the determination of the economic frameworks governing the activities of digital platforms, their interaction with government institutions, and considerations related to competition and data access.

The documents examined in this case included the official text of the directive issued by the Ministry of Communications (Document No. 1) and the “Report on the Status of the Digital Platform Market in Iran,” prepared by the ICT Research Institute in 2021 (Document No. 2). The second report was introduced as the main data source in the decision-making process and had been cited in the sessions for drafting the directive.

Case 2: Economic Support Decision:

The second case focused on the decision titled “Design and Implementation of a Tax and Financial Support Package for Knowledge-Based Companies Active in

the Digital Economy,” which was approved and implemented in 2022 by the Ministry of Economic Affairs and Finance in cooperation with the Vice Presidency for Science and Technology. This decision concerned determining eligibility criteria for support, identifying qualified companies, and allocating tax exemptions and credit facilities.

The documents examined in this case included the “Executive Guideline for the Tax Support Package for Digital Knowledge-Based Companies” (Document No. 3) and the “Report on the Identification and Classification of Companies Active in the Digital Economy,” published by the Vice Presidency for Science and Technology in 2022 (Document No. 4). The second report contained data on the number of companies, fields of activity, employment, and turnover, which served as the basis for defining the scope of support.

Case 3: Government Investment Decision:

The third case focused on the decision titled “Allocation of Funds to the Smart Government Infrastructure Development Project and the Single Window for Digital Services,” which was approved within the framework of the 2023 national budget law by the Plan and Budget Organization. This decision concerned the allocation of financial resources for developing shared data infrastructures among executive agencies and expanding government digital services.

The documents examined in this case included the budget allocation table related to the smart government project (Document No. 5) and the “Economic and Technical Feasibility Report of the Smart Government Project,” prepared by the Plan and Budget Organization in 2022 (Document No. 6). The feasibility report included cost estimates, projected economic benefits, and data-based assumptions used in the project design.

Research Participants and Sampling Strategy:

For each of the three cases, three participants were selected based on their roles in the decision-making process. Sampling was conducted using a role-based approach. In each case, one policymaker or senior manager involved in approving the decision, one data expert or analyst who participated in preparing the report or data appendix, and one executive manager or expert responsible for implementing the decision were interviewed. In total, nine interviews were conducted, and each participant was interviewed about only one specific decision to prevent overlap in narratives across cases.

Data Collection through Interviews:

Interviews were conducted in a semi-structured manner, and a single interview guide was used for all participants. The interview guide included the narrative of the decision formation process, the data used at different stages of decision-making, how data were accessed and exchanged among institutions, and how data were reflected in the decision text or supporting

documents. Each interview lasted between 60 and 90 minutes, was audio-recorded, and then transcribed verbatim. The transcribed texts were anonymized and prepared for analysis using role-based coding (Kvale & Brinkmann, 2015).

Document Analysis:

Document analysis was conducted as a complementary data source. In each case, two specific documents were examined: the official decision document and the supporting data document. The analysis focused on identifying parts of the text that referred to data, indicators, estimates, or numerical analyses and that demonstrated the link between data and policy recommendations. The documents were entered into the analysis process in full text and were coded in the same way as the interviews (Bowen, 2009).

Data Analysis Method:

Data analysis was carried out using thematic analysis. In the first stage, the interview transcripts and documents were read in full, and segments referring to the use of data in economic decision-making were identified. In the next stage, codes related to data quality, data access and exchange, the traceability of data in the decision text, and the implementation outcomes of decisions were extracted. The codes were organized based on their recurrence in the data and their relevance to the research question. The codes were then developed into themes and sub-themes, and for each case, the chain of data use—from analysis to implementation outcomes—was reconstructed. In the final stage, comparisons were made across the three cases to identify similarities and differences in data-driven decision-making pathways (Braun & Clarke, 2006; Hsieh & Shannon, 2005). MAXQDA software (version 2022) was used to manage and code the data. All interview texts and documents were entered into the software environment, and coding, retrieval, and comparison of data were conducted within that environment.

Ethical Considerations:

Informed consent was obtained from participants prior to conducting the interviews. Personal names and identifying information were removed from the research text, and the data were used solely for research purposes.

3. RESULTS AND DISCUSSION:

A. The Impact of Data Governance on the Quality of Government Economic Decision-Making in the Regulation of the Digital Economy:

Examination of the decision titled “Bylaw on the Support of Platforms and Digital Economy Businesses” (Approval No. 142180/T60511K, dated 01.11.2022) showed that, in this decision, data functioned more as a tool for identifying an economic problem than as a tool for designing regulations. The data presented in the

report “Status of the Digital Platform Market in Iran,” prepared in 2021 by the ICT Research Institute, demonstrated to policymakers that the activities of digital platforms—in terms of transaction volume, number of users, and diversity of services—had reached a level that could no longer be managed solely under general business regulations. These data formed the basis for the perception that the absence of a specific regulatory framework could lead to economic consequences such as distortions in competition, market concentration, and increased institutional uncertainty. Analysis of the content of this report indicates that its data mainly consisted of estimates of the number of active platforms, main areas of activity, approximate market size, and overall growth trends. These data showed the government that digital platforms had moved beyond a marginal activity and had become a sector influencing employment, financial flows, and economic competition. This data-driven understanding formed the basis for the government’s decision to formally enter the domain of economic regulation of platforms. One of the managers involved in drafting the bylaw explained in the interview: “When the market report was presented, it was no longer possible to say that we were dealing with a small phenomenon. The numbers showed that if the government did not have a clear economic framework, the market itself would effectively determine the path.” One of the policymakers involved in drafting the bylaw stated:

“The market report helped make the issue visible, but when it came to writing specific provisions, we did not have data to show exactly what effect imposing a particular requirement would have on the economic behavior of platforms.”

This statement indicates that data governance in this decision improved the quality of decision-making at the stage of problem identification and justification for economic intervention, but had a more limited effect at the stage of designing regulatory instruments. Data were able to move the decision beyond conjecture and elevate it to a substantiated economic issue, but they were not able to guide the design of regulations in a data-driven manner.

Analysis of the final text of the bylaw confirms this pattern. Although the introduction and supporting documentation of the decision refer to the market report, the operative clauses of the bylaw contain no specific references to data indicators, time periods, or quantitative thresholds. In simple terms, the decision text does not show, for example, which specific data or market changes underpinned a given requirement. This issue is important from the perspective of economic decision quality, as it limits the ability of implementers and market actors to reconstruct the reasoning behind the decision. In the data governance literature, this situation is referred to as a weakness in the “traceability of data to decision” (Janssen, Charalabidis, & Zuiderwijk, 2017).

This weakness became more tangible during the implementation phase. A member of the bylaw

implementation secretariat stated in an interview that after the regulations were communicated, part of the government’s interaction with platforms involved explaining the basis of the decisions:

“A large portion of the questions was about what data each clause was based on. We would show the market report, but the text of the bylaw itself did not provide detailed answers.”

From the perspective of economic decision-making, this situation indicates that if data governance is not institutionalized within the decision text, part of the burden of decision-making is shifted to the implementation stage. This transfer of burden increases the implementation cost of the decision and can lead to heterogeneity in the interpretation of regulations. Studies in digital regulation show that the absence of data-driven transparency in regulations is one of the

main factors increasing compliance costs for digital firms (OECD, 2018).

The implications of this situation for the development of the digital economy were twofold. On the one hand, the existence of market data and the initial reliance of the decision on such data enabled the government to establish a formal framework for platform activities, thereby reducing some degree of institutional instability. This was particularly important for larger platforms that require continuous interaction with government institutions. On the other hand, the lack of a transparent link between data and regulatory provisions led some market actors to perceive the regulations as unpredictable. This perception can affect investment decisions, the development of new services, and the entry of new players into the market—an issue also reported in comparative studies of digital economy regulation (Cusumano, Gawer, & Yoffie, 2019).

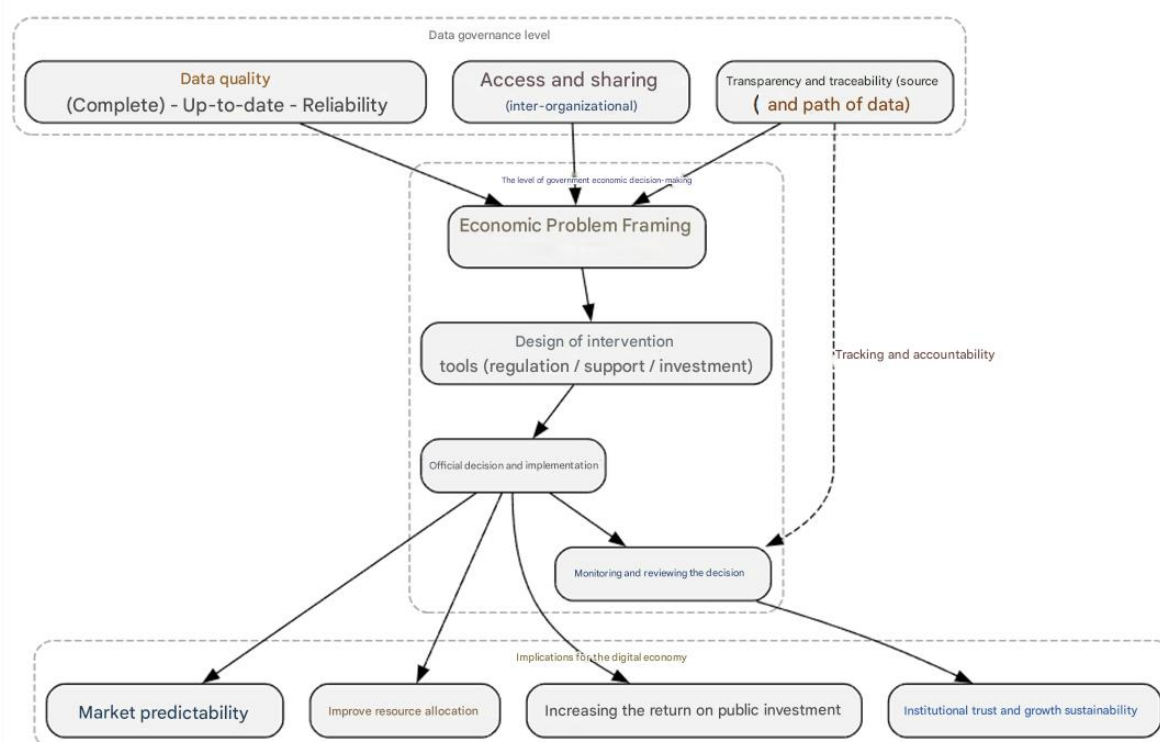


Figure 1: Causal Model of the Impact of Data Governance on the Quality of Government Economic Decision-Making

The findings indicate that data governance in the regulation of the digital economy in Iran has improved the quality of government economic decision-making at the level of problem identification and legitimizing regulatory intervention. However, due to limitations in the types of data used, the lack of up-to-date data, and the absence of transparent documentation of data within the decision text, it has not been able to fully enhance decision quality at the level of precise design of economic rules and reduction of market uncertainty. This result is consistent with international findings showing that data-driven regulation leads to sustainable improvements in economic outcomes only when data are directly and traceably reflected in regulatory texts and decision-making logic (OECD, 2019; Janssen & Kuk, 2016).

B. The Impact of Data Governance on the Quality of Economic Decision-Making in Supporting the Digital Economy:

Analysis of the decision titled “Tax and Financial Support Package for Knowledge-Based Companies Active in the Digital Economy,” designed and implemented in 2022 by the Ministry of Economic Affairs and Finance in cooperation with the Vice Presidency for Science and Technology, showed that data governance in this domain played a role not at the level of identifying the necessity of policy, but at the level of allocating economic resources and defining the beneficiaries of the support policy. Unlike the regulatory decision, where data played a primarily descriptive role, in this decision data directly became a decision-making instrument; that is, determining “who

receives support” and “who falls outside the scope of support” was based on data.

The foundation of the support decision was the report “Identification and Classification of Companies Active in the Digital Economy,” prepared in 2022 by the Vice Presidency for Science and Technology. This report contained a set of data on companies’ fields of activity, number of employees, registration status, and estimated turnover. Content analysis of the report showed that the data were produced in a classified manner, with the primary objective of creating a usable picture for support policy, rather than merely monitoring the situation. This distinction elevated data from a descriptive role to a decision-making role, an issue referred to in the policy literature as the transition from “data-informed policy” to “data-driven allocation” (Margetts & Dorobantu, 2019).

However, the empirical findings of the study showed that data quality, particularly in terms of timeliness and integration, played a decisive role in the final quality of the support decision. The data used at the time of designing the support package had been produced several months prior to implementation. This time gap resulted in some companies that were eligible at the time of implementation not being included in the initial list of beneficiaries. A data expert from the Vice Presidency stated in the interview: “The data provided an accurate picture of the market at the time of production, but the digital market changed faster than the data production cycle.” This observation is consistent with previous studies showing that in technology support policies, data lag can lead to inclusion and exclusion errors (OECD, 2020).

Another important aspect in analyzing data governance in this decision was how data were recorded in the policy text. Examination of the executive guideline of the support package showed that although eligibility criteria (such as field of activity or number of

employees) were specified, the data source, data date, and method of extraction were not included in the decision text. From a data governance perspective, this means that the support decision is neither reproducible nor auditable in terms of data. An executive manager of the support package in the Tax Administration explained in the interview: “In practice, for many cases we had to re-examine the data, because the decision text did not specify exactly where this information came from.” This experience shows that even when data are central to the decision, the absence of data transparency in the policy text can reduce implementation quality.

From a theoretical perspective, this finding aligns with the “targeted policy design” literature, which emphasizes that support policies are effective when their targeting logic is understandable and traceable for implementers and beneficiaries (Bannister & Connolly, 2020). In this study, data enabled relative targeting of support, but the lack of transparent data documentation in the decision text caused part of the targeting logic to be redefined during implementation. This redefinition increased the implementation cost of the policy and led to delays in resource allocation.

The implications of this situation for the development of the digital economy had two distinct dimensions. On the one hand, the existence of classified data enabled the government to move support away from a general and broad approach and direct it toward a specific segment of the digital ecosystem. This is consistent with the innovation economics literature, which shows that targeted support is more likely than general support to influence the growth of technology firms (Cunningham, Gök, & Larédo, 2016). On the other hand, weaknesses in data governance caused the implementation of the policy to be accompanied by ex-post revisions, delays, and uncertainty—factors that can reduce the short-term positive impact of economic support.

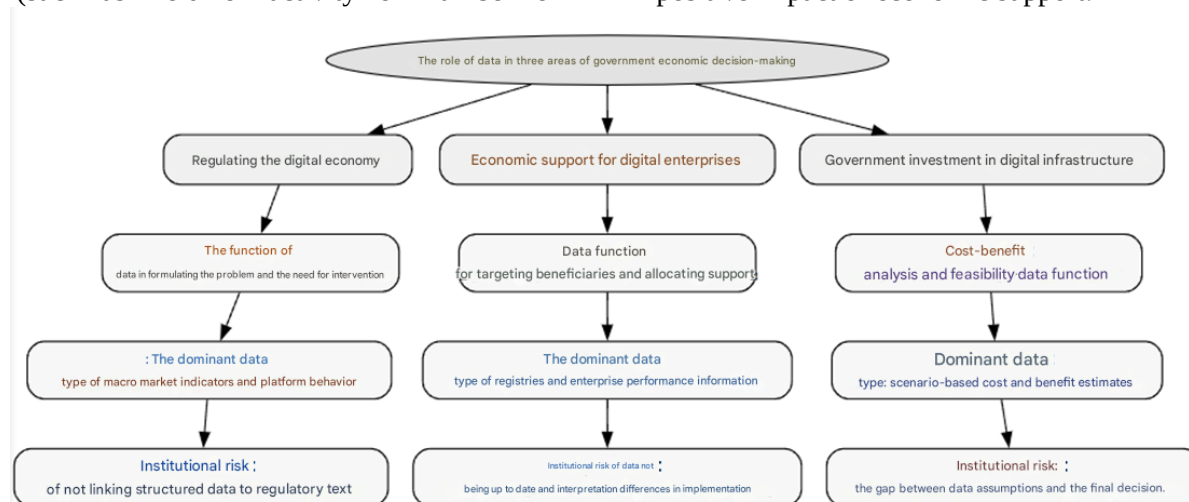


Figure 2: Analytical Matrix of the Role of Data in Three Domains of Government Economic Decision-Making

Data governance in the domain of supporting the digital economy has significantly shifted the quality of government economic decision-making from the level of “expert judgment” to the level of “data-driven allocation.” However, data limitations—particularly in

terms of timeliness and transparent documentation of data in the decision text—have prevented this improvement from fully translating into sustainable enhancements in policy implementation and acceleration of digital economy development. This

result is consistent with findings from comparative studies indicating that data-driven support policies lead to sustainable developmental outcomes only when data serve not only as the basis of decisions but also as part of the implementation and monitoring mechanisms of the policy (Mazzucato, 2018; OECD, 2021).

C. The Impact of Data Governance on the Quality of Economic Decision-Making in Government Investment in the Digital Economy:

Analysis of the decision regarding the “Allocation of Funds for the Smart Government Project and the Single Window for Digital Services,” adopted within the framework of the 2023 national budget law and led by the Plan and Budget Organization, showed that data governance in the domain of public investment primarily influenced the quality of economic decision-making through ex-ante analyses, estimation of economic benefits, and data-driven assumptions about the future. In this domain, data were used not to regulate

market behavior nor to directly select beneficiaries, but to answer the question of whether allocating public resources to a specific digital infrastructure is economically justifiable. The main basis of this decision was the report “Economic and Technical Feasibility of the Smart Government Project,” prepared in 2022 by the Plan and Budget Organization. Examination of the content of this report showed that the investment decision was based on a set of data and quantitative estimates, including estimates of infrastructure implementation costs, expected savings for government agencies, reduction in transaction costs for citizens and businesses, and increased efficiency in public service delivery. In this report, data played a central role in transforming a general policy idea (smart government) into a specific investment project with a defined budget. This characteristic elevated the investment decision from the level of symbolic or programmatic decisions to the level of a calculable economic decision, an issue recognized in the public investment literature as a sign of improved decision quality (Flyvbjerg, 2014).

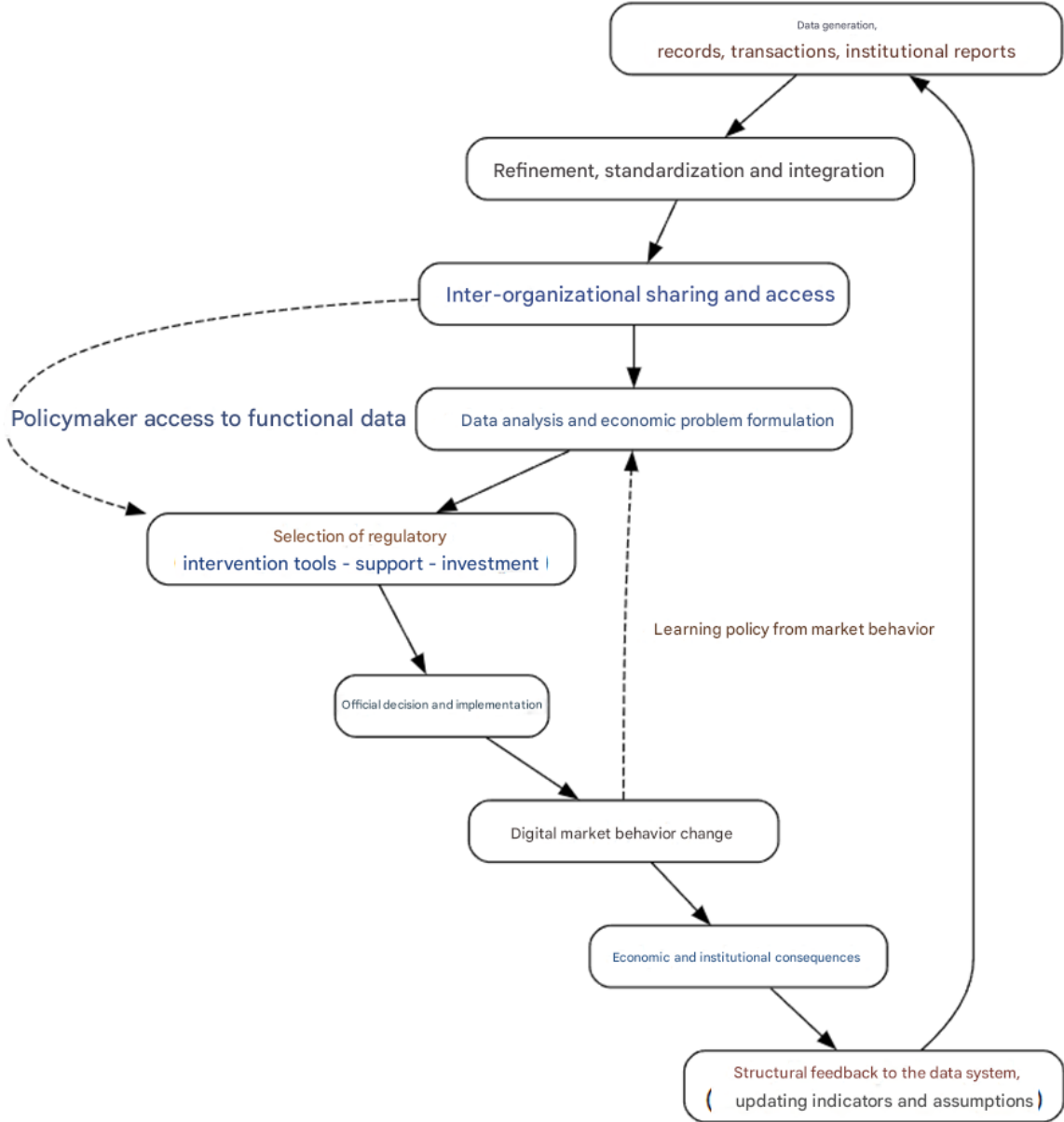


Figure 3: Data Governance–Decision–Outcome Model with an Institutional Feedback Loop

However, the data analysis showed that the quality of the investment decision was highly dependent on data assumptions. The feasibility report was based on the assumption that a large proportion of government agencies would be connected to data exchange infrastructures within a specified time frame and that widespread use of the single window for digital services would be realized. A senior economic analyst of the project explained in the interview that “the economic model of the project was built on a widespread connectivity scenario, and if this connectivity is delayed, a significant portion of the projected benefits will also be delayed.” This statement indicates that while data governance in this decision improved the quality of ex-ante analysis, it also made the decision dependent on a set of sensitive assumptions.

A key point in analyzing data governance in this decision is the gap between the data-driven feasibility report and the final text of the budget decision. Examination of the budget allocation table in the 2023 budget law showed that the investment figure was included without reference to data assumptions, alternative scenarios, or existing uncertainties. The Director General of the Digital Economy Office at the Plan and Budget Organization stated in the interview that “the feasibility report existed in the decision file, but someone who only saw the budget text could not understand exactly what data and assumptions this figure was based on.” This situation shows that data played a central role in the decision-making phase but were not transparently and traceably reflected in the formal recording of the decision.

Table 2: Link Between Dimensions of Data Governance and the Quality of Government Economic Decision-Making

Practical Implication for Policy Implementation in the Digital Economy	Observed Effect on the Quality of Economic Decision	Observed Indicators in the Case Studies	Dimension of Data Governance
Need for ex-post revisions and delays in achieving outcomes	Reduced reliability of the decision at the implementation stage	Differences between data at the time of decision and data at the time of implementation	Data quality (completeness, timeliness)
Heterogeneity in policy implementation across institutions	Increased decision costs and coordination difficulties	Limitations on data exchange between devices	Access and inter-organizational data sharing

Difficulty in policy evaluation and learning	Limited institutional accountability	Lack of explicit recording of data source and date in the decision text	Transparency and data traceability
Reduced flexibility of the decision in response to new data	Separation between analytical logic and decision implementation	Dependence of the decision on non-binding analytical reports	Integration of data into the formal decision text

From the perspective of economic decision-making quality, this disconnect between data and the formal decision text has important implications. The public investment literature shows that transparency of data assumptions within the decision text plays a crucial role in enabling revision, course correction, and ex-post accountability (OECD, 2015). In this case, the absence of data assumptions in the budget text led, during implementation, to changes in conditions (such as delays in connecting certain agencies) resulting in informal revisions and adjustments of expectations, without a clear data-based framework for such adjustments.

Interviews with the executive manager of the single window digital services project showed that, in practice, the gap between projected data and actual implementation data led to changes in project timing and prioritization. He explained that “when we saw that actual usage data differed from the report scenario, we had to postpone some parts of the project.” This experience indicates that while data governance improved the economic quality of the initial decision, weaknesses in institutionalizing data within the decision text reduced the flexibility of the decision in response to new data.

From the perspective of digital economy development outcomes, the findings showed that this investment decision produced two simultaneous effects. On the one hand, the allocation of public resources to data exchange infrastructure and digital services strengthened the institutional prerequisites for the development of the digital economy. Previous studies show that government investment in data infrastructure can reduce transaction costs and provide the foundation for the growth of digital businesses (World Bank, 2016). On the other hand, the realization of these developmental outcomes was highly dependent on the quality of project implementation and the fulfillment of data assumptions. The greater the gap between projected and actual data, the more delayed the realization of economic benefits. This finding is consistent with international literature emphasizing that data-driven public investment leads to sustainable outcomes only when data assumptions are explicitly recorded in formal decisions and when mechanisms

exist to adapt decisions to new data during implementation (Flyvbjerg, 2014; OECD, 2018).

4. CONCLUSION:

This study, by focusing on three distinct yet interconnected domains regulation, support, and government investment in the digital economy demonstrated that data governance does not act as an independent or automatic factor; rather, it influences the trajectory of digital economy development through changes in the quality of government economic decision-making. The findings showed that data can play an effective role only when they are meaningfully institutionalized within the logic of decision-making, the decision text, and the mechanisms of implementation and revision. Otherwise, the presence of data remains limited to the level of policy justification and does not lead to sustained improvements in economic outcomes.

In the domain of digital economy regulation, data enabled the government to move from an intuitive perception of the issue to a documented recognition of the necessity for economic intervention. Platform market data allowed policymakers to identify the digital economy as a sector with measurable economic weight and to design a dedicated regulatory framework for it. However, the absence of up-to-date behavioral data and the lack of a transparent link between data and the operational clauses of regulations limited the quality of decision-making at the level of precise design of economic rules and reduction of market uncertainty. As a result, while regulation contributed to the creation of an institutional framework, it did not fully enhance regulatory predictability or strengthen the trust of market actors.

In the domain of supporting the digital economy, the role of data governance was more direct and tangible. Data became an instrument for resource allocation, and the support decision shifted from a general and broad approach toward targeting a specific segment of the digital ecosystem. However, the findings showed that data quality particularly in terms of timeliness, integration, and how data were recorded in the decision text played a decisive role in the quality of policy implementation. The time gap between data production and implementation, along with the lack of transparent documentation of data characteristics in the support guidelines, led to increased implementation costs, ex-post adjustments, and delays in realizing the economic effects of support. These results indicate that even in data-driven policies, weaknesses in data governance can moderate the developmental impact of decisions.

In the domain of government investment in the digital economy, data entered decision-making primarily through ex-ante analyses and economic feasibility assessments, enhancing the quality of decisions in terms of calculability and economic justification. Feasibility reports enabled the government to allocate public resources to digital infrastructure based on cost-benefit estimations. However, the gap between the data in

feasibility reports and the final text of the budget decision meant that data assumptions were not transparently reflected in the formal decision. This disconnect reduced the flexibility of the decision in response to new implementation data and made the realization of projected economic benefits more dependent on the timing and conditions of project execution. This study showed that data governance affects the quality of government economic decision-making through three main mechanisms. First, data make the scope and significance of economic issues observable. Second, the quality and timeliness of data determine the extent to which decisions can lead to the precise design of economic instruments. Third, the way data and data assumptions are recorded in the decision text determines the extent to which decisions are traceable, revisable, and accountable. Differences in the performance of these mechanisms across the domains of regulation, support, and investment have led to differences in the developmental outcomes of policies.

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