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Fragmented Governance, Shared Norms: Navigating Regime Complexity in Aid Data Governance

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Abstract

This study examines the evolution of transnational aid data governance through an in-depth analysis of the OECD Creditor Reporting System and the International Aid Transparency Initiative. Conceptualizing data governance as a socio-technical and politically contested process, it explores how the norms of aid transparency and aid effectiveness have diffused globally, and how reporting standards have emerged and become institutionalized within the fragmented architecture of international development cooperation. The study highlights how regime complexity, characterized by overlapping mandates, institutional tensions, and competing mechanisms, has shaped the trajectory of aid data governance. The findings demonstrate that aid data governance is driven not only by technical rationales and functional imperatives but also by political interests and institutional dynamics. Drawing on qualitative case analysis, the study identifies persistent challenges in aligning transparency norms with reporting practices. It calls for a multidisciplinary approach to future research and for adaptive, interoperable frameworks tailored to post-2030 development agendas.

Keywords

aid effectiveness; aid transparency; Creditor Reporting Systems; data governance; International Aid Transparency Initiative; international development cooperation; regime complexity; transnational governance

1. Introduction

No longer confined to technical or functional domains, data now shapes everyday life, organizational cultures, national data sovereignty, and global power dynamics. More importantly, this phenomenon of datafication—the process of converting aspects of society into quantifiable data—has both produced and legitimized outcomes with profound socio-political and global impacts. Uncertainty and rapid change have

led to a growing demand for more agile and effective data governance that supports policymaking and ensures compliance with emerging international norms. Data governance has become a critical issue in contemporary global technology governance and international development. As digital transformation accelerates, data is no longer a passive byproduct of individual, corporate, and governmental activity. It actively shapes how state actors allocate resources, how agencies monitor progress, and how transparency and accountability are framed and enforced. In particular, international development cooperation has witnessed a proliferation of data-driven mechanisms aimed at improving aid effectiveness, enhancing transparency, and enabling evidence-based aid targeting and decision-making.

However, the rise of data-driven mechanisms raises fundamental questions about who sets the standards, who governs data flows, and whose interests these systems ultimately advance. Aid data governance is often portrayed as a neutral and technocratic process, rather than as a deeply political and institutionally embedded practice. This study argues that data governance in development cooperation should be understood as a socio-technical system in which actors, norms, institutions, and technologies co-evolve to shape transnational governance outcomes within the global development field.

To investigate aid data governance, this study focuses on two prominent aid data standards, the OECD's Creditor Reporting System (CRS) and the International Aid Transparency Initiative (IATI), to offer a historically grounded and analytically in-depth understanding of how transnational data governance has emerged, diffused, and become standardized, and how it operates in the practice of international development.

This research contributes to broader debates on transnational data governance by showing how global standards for aid transparency are not merely technical instruments but contested arenas of norm diffusion, power negotiation, and technological innovation. It demonstrates how data governance in development is shaped by geopolitical asymmetries between donor and recipient countries, by the strategic interests of international organizations, and by normative pressures embedded in global development regimes such as the Paris Declaration on Aid Effectiveness in 2005, the Accra Action Agenda in 2008, the Addis Ababa Action Agenda in 2016, and the United Nations Sustainable Development Goals (SDGs), particularly in light of SDG 17. The development agenda has placed significant emphasis on the need for more open, granular (sub-national level), and continuously shareable development cooperation data. The growing importance of transnational data governance underscores the role of global partnerships and monitoring in enhancing development effectiveness. Despite its relevance, academic research has paid relatively little attention to how transnational aid data standards have emerged and evolved.

The article addresses the following research questions. First, how have international standards for aid data governance, particularly IATI and CRS, emerged and evolved within the global field of development cooperation? Second, what institutional, normative, and technical forces have shaped their diffusion, adoption, and institutionalization? Third, what does this evolution reveal about the broader characteristics and challenges of transnational data governance in international development?

This article is structured as follows. The next section reviews existing work on data governance across various academic disciplines, as well as development norms that anchor data governance within the aid sector. Section 3 provides background on the emergence of aid data governance. Section 4 outlines the research design and methodology, examining the appropriateness of a case study approach for this analysis.

Section 5 presents the findings and the empirical analysis of IATI and CRS, and Section 6 discusses implications for both aid governance and global data politics. Section 7 concludes with reflections on future research directions, advocating for a multidisciplinary approach to the study of transnational data governance.

2. Aid Data Governance as an Evolving Institutional Field

This section offers a focused literature review and underscores the critical intersection between data governance and international development cooperation. It also revisits key debates surrounding widely recognized norms in the aid sector, such as aid transparency and aid effectiveness, and incorporates insights from International Relations theory, particularly the concept of regime complexity, to better understand the tensions between global norms and the practical realities of transnational aid data governance. Throughout this review, this study emphasizes the multidisciplinary nature of data governance and the importance of socio-technical perspectives for understanding transnational aid data governance.

2.1. Data Governance as a Multidisciplinary Concept

In recent years, there has been a proliferation of scholarly work on the topic of data governance across disciplines. Data governance commonly refers to how planning, oversight, and control of the management and use of data are exercised and by whom (Data Management Association, 2009). It involves working with stakeholders to consolidate diverse goals and set common standards for data production, sharing, and anonymization, and to ensure that data flows are effectively and ethically transformed into public goods. Researchers have further sought to define data governance from the perspective of information systems (Alhassan et al., 2019; Basukie et al., 2020), public administration (Janssen et al., 2020), communication (Winter & Davidson, 2019), philosophy (Hummel et al., 2021), and political science (Dammann & Glasze, 2023; Liu, 2021). Systematic literature reviews reflect the importance of multidisciplinarity, highlighting the diverse conceptualizations, domains, cross-functionality, and applications of data governance across academic fields (Abraham et al., 2019; Alhassan et al., 2016; Al-Ruithe et al., 2019). Whereas "governance" is widely acknowledged as a basic concept in political science and international relations, early studies of data governance were conducted predominantly within Information Systems and Technology Management (Zuboff, 2023; Zuiderwijk et al., 2012). To date, however, too little attention has been paid to creating deeply contextualized understandings of data governance and investigating its political dynamics.

Scholars recognize that data governance provides a structured framework for data-driven decision-making in organizations (Janssen et al., 2012; Weller, 2008). It identifies responsible actors and codifies procedures that guide their actions and ensure compliance with shared norms, thereby setting the operating rules for data management. In transnational contexts, common data standards and reporting schemes are crucial for coordinating practice across heterogeneous institutional, legal, and political environments in states. However, existing scholarship has paid insufficient attention to the historical and cross-border dynamics by which data governance evolves, focusing instead on stakeholders within national boundaries and sectoral silos. For example, studies examine data governance in relation to private-sector innovation (George et al., 2014), open government initiatives (Janssen et al., 2020; Luna-Reyes et al., 2014), interorganizational coordination (Markus & Bui, 2012), citizen participation, and public-sector data use (Meijer & Potjer, 2018; Sahay, 2016). These approaches often remain bounded by national systems or technical institutions,

overlooking the transnational complexities that increasingly shape global data practices. International development, therefore, settings require frameworks that account for transnational complexity.

2.2. Rethinking Data Governance Through a Transnational Lens

The limited attention to international dynamics in data governance underscores the need for a conceptual lens from international relations, one that elucidates how governance arrangements evolve across borders and why national perspectives often collide with global norms and legal jurisdictions. Data sovereignty has emerged as one of the central concepts for analyzing these tensions. Data sovereignty serves as a normative reference point for determining who governs data, who can access them, and which legal frameworks apply when diverse conflicts arise (Hummel et al., 2021). While it is frequently asserted at the national level, data sovereignty cannot be discussed in isolation. Its inherently transnational nature is evident in ongoing tensions between the EU's General Data Protection Regulation (GDPR), the US's platform liability regimes, and emerging approaches to AI governance. These frictions are not merely legal disagreements. They also reflect strategic assertions of data sovereignty, with states seeking to impose their normative and regulatory preferences within a fragmented and contested global data governance landscape. In this context, conflicting standards represent more than technical incompatibilities. They are expressions of competing visions of control, accountability, and public interest in the digital era.

While data sovereignty centers on who governs and controls data across borders, the concept of regime complexity shifts attention to how multiple international governances coexist and interact without a clear hierarchy or coordination mechanism (Alter, 2022; Alter & Meunier, 2009; Drezner, 2009). As defined by Raustiala and Victor (2004, pp. 278–279), regime complexity is "an array of partially overlapping and nonhierarchical institutions governing a particular issue-area." Early contributions by Alter and Meunier (2009) emphasize that such complexity arises when state and non-state actors pursue their interests across multiple institutional venues, leading to forum shopping, norm collision, and strategic layering of institutions. Drezner (2009) further highlights the power asymmetries and governance challenges that emerge from a fragmented institutional environment.

This view is especially relevant for understanding transnational data governance in international development, where initiatives often operate across competing normative frameworks and overlapping institutional arrangements. Alter and Raustiala (2018) argue that regime complexity is no longer exceptional but a systemic feature of global governance, particularly in domains where power is diffuse and authority is contested. More recently, Alter (2022) underscores how geopolitical and technological transformations continue to shape these dynamics, with direct implications for digital governance, global health, and climate policy.

These governance tensions are closely linked to the diffusion of international norms, which do not always progress linearly. As Finnemore and Sikkink (1998) suggest, norms may emerge, cascade, and become institutionalized, though often unevenly and contentiously in transnational contexts. Norm entrepreneurs promote new institutional visions, such as aid transparency and data governance that gain traction through persuasion, systematization of practices, and their formal embedding within international frameworks. Beyond norm diffusion, coercive, and mimetic isomorphic mechanisms also shape institutionalization (DiMaggio & Powell, 1983). Across these accounts, a core insight is that regime complexity reflects not only

institutional proliferation but also the strategic behavior of actors navigating uncertainty and contested authority. The result is a landscape in which norms and standards coexist, overlap, and compete, shaping how data governance unfolds in practice.

Viewed through this lens, the case of CRS and IATI illustrates regime complexity in practice. IATI emerged in response to limitations within the OECD's CRS but did not replace it. Rather, it coexists alongside it, contributing to overlapping mandates, reporting requirements, and institutional tensions. These overlaps reflect deeper normative and structural divergences, including tensions between transparency and state-centric claims to data sovereignty, access, localization, and control. Understanding IATI's evolution thus requires analytical frameworks that go beyond socio-technical and institutional perspectives, engaging directly with the strategic politics of regime complexity in transnational governance.

2.3. A Socio-Technical View on Data Governance

While the concept of regime complexity highlights the fragmented and overlapping nature of transnational governance arrangements, it does not fully explain how data governance emerges, is negotiated, and becomes institutionalized across countries. To illuminate these dynamics in the aid sector, this study adopts a socio-technical perspective that foregrounds the mutual shaping of technical systems and socio-institutional structures. Originating as a critique of technological determinism, the socio-technical tradition provides a foundation for examining the political, social, and institutional dimensions of diffusion, standardization, and governance (Avgerou, 2000; Bostrom & Heinen, 1977). Prior works trace the socio-economic and organizational consequences of technological change and data standards in globally embedded contexts (Avgerou, 2002; Walsham, 2017). From this point, data governance is co-constructed under organizational and infrastructural constraints. Likewise, the design, adoption, and diffusion of aid information systems reflect power relations, norms, and global dynamics, rendering purely technical explanations insufficient (K. R. Park, 2017a).

A socio-technical lens is therefore well suited to account for the emergence and institutionalization of data governance. Data platforms and information systems must be analyzed in situ (Kling & Lamb, 2000; Lyytinen et al., 2009; Orlikowski & Iacono, 2002). Systems such as ERP, e-government, and contemporary AI function not only as technological artifacts but as socio-institutional arrangements (Orlikowski & Iacono, 2002). This insight is particularly salient in international development, where heterogeneous institutional configurations prevail and authority over data management is anchored in pre-existing hierarchies (Avgerou, 2002; Walsham & Sahay, 2006). Rejecting apolitical or teleological accounts of technology, socio-technical studies emphasize the contingent, embedded, and evolving character of technological governance (Williams & Edge, 1996). Data governance and its related technical standards typically prevail not because of intrinsic technical superiority but because they align with the interests, capacities, and power structures of influential actors.

In sum, transnational data governance is shaped by intersecting technical, political, and institutional forces across national and transnational arenas. Concepts such as norm diffusion, regime complexity, and socio-technical systems together indicate that data governance emerges through negotiation among heterogeneous stakeholders, rather than through technical optimality alone. These insights motivate an integrated analytical framework for explaining how aid data governance has evolved and how it is exercised in practice.

3. Contextualizing Data Governance in International Development

This study traces the historical emergence and institutionalization of transnational aid data governance, and in doing so offers theoretical and policy insights into the evolving relationship among standard-setting, digital transformation, and international development cooperation. While perspectives of regime complexity and socio-technical systems illuminate how data governance emerges through institutional negotiation and technological constraint, these dynamics must be situated within the longer-standing debates, norms, and practices of development cooperation.

In particular, challenges in aid data governance—fragmented implementation, uneven technical and statistical capacity, and competing standards—now intersect with core normative agendas. Among the many norms that have evolved over the past three decades, aid transparency and aid effectiveness have been especially prominent. Understanding how data governance operates therefore requires tracing the historical institutionalization of aid reporting systems, the diffusion of transparency norms, and the changing interplay among international actors, data platforms, and accountability mechanisms.

Foreign aid has been the most direct policy instruments and a major source of external finance for pursuing global development agendas, including the Millennium Development Goals endorsed in 2000 and the Sustainable Development Goals established in 2015 (Fukuda-Parr & McNeill, 2019; Fukuda-Parr & Muchhala, 2020). Debates on aid data governance are closely intertwined with long running discussions of transparency (Ghosh & Kharas, 2011). Amid mixed evidence of economic progress in recipient countries, debates over transparency and effectiveness intensified. Scholars and practitioners sought to determine whether, and under what conditions, aid is transparent and effective (Collier & Dollar, 2004). Efforts to enhance transparency and standardize aid data have been advanced by international norm entrepreneurs such as the OECD Development Assistance Committee (OECD-DAC), and the World Bank. The OECD-DAC's CRS, established in the late 1970s, was the very first effort for data reporting, and has served as the most comprehensive aid database among OECD DAC countries (Findley et al., 2011; Kilama, 2016; Powell & Findley, 2011; Tierney et al., 2011). CRS data function as metadata that clarifies who provides aid, where and how it is delivered, and to what extent cooperation occurs.

The Paris Declaration on Aid Effectiveness (2005) signaled a pivotal moment by emphasizing aid data sharing and the effectiveness of its delivery and use. Its five core principles, including ownership, alignment, harmonization, managing for results, and mutual accountability (OECD, 2005) presuppose robust data sharing. In this architecture, the CRS has operated as a foundational transnational data governance instrument, providing the database and reporting framework that underpin the Paris commitments. The Accra Agenda for Action in 2008 further elevated the role of aid data sharing and drove the use of information systems for sharing aid data. This shift reflected a broader process of coalition building and negotiation among state and non-state actors. In this context, sharing aid data increasingly constituted a norm—understood as "collective understandings that make behavioral claims on actors" (Checkel, 1998).

Meanwhile, attention to emerging information and communication technologies (ICTs) has grown, given their potential to catalyze and support international development cooperation (Gomez & Pather, 2012). Expected benefits of ICTs and aid-data sharing include increased transparency, greater cost-effectiveness in delivery, and enhanced decision-making quality and government capacity (Basu, 2004; Ndou, 2004). By collecting and

managing aid data through a centralized, country-level aid information management system, stakeholders aim to improve aid targeting and overall aid effectiveness (K.R. Park, 2017b). With broadband connectivity and advanced ICT tools expanding in many low- and middle-income countries, such systems became technically feasible, reshaping expectations for aid data governance.

With this backdrop, the IATI was launched in 2008 as a global response to growing demands for more timely, detailed, and accessible aid data. While building upon the foundations of the CRS, the IATI sought to address some of CRS' key limitations, most notably its focus on quantitative and aggregated data set, retrospective and OECD DAC-centered reporting. IATI introduced a complementary standard aimed at enabling real-time, project-level, and forward-looking information sharing across a broader spectrum of development actors, including non-OECD DAC donors, international organizations, recipient governments, and civil society organizations (CSOs; Netherlands Ministry of Foreign Affairs, 2015).

IATI's technical standard was designed to improve interoperability and promote transparency through open data principles. This technical architecture cohered with IATI's institutional aim to constitute an inclusive, multi-stakeholder publishing and access platform, beyond OECD-DAC donors, for machine-readable, comparable aid information (Powell et al., 2015), thereby underpinning the initiative's legitimacy and facilitating endorsement by major bilateral and multilateral donors.

This section examined how aid data governance has evolved as a normative and institutional response to long-standing challenges in international development cooperation. Tracing the emergence of IATI alongside the pre-existing CRS illuminates how global actors have pursued the standardization of aid data in the name of transparency, accountability, and effectiveness. With this context in place, the next section outlines the methodological approach used to analyze the institutionalization of aid data governance in greater empirical depth.

4. Methodology

This study adopts an interpretive case study design. The purpose is to investigate how aid data governance and information-disclosure standards are institutionalized and implemented through interactions among various actors. A case study is appropriate when the main research questions are the "how" and "why" of a social phenomenon in its natural setting (Yin, 2009). Data collection primarily involved semi-structured interviews, the most commonly used method in qualitative case studies, and was supplemented by a literature review and participant observation for triangulation. A total of 12 interviews were conducted with participants, including representatives from IATI and the World Bank, statisticians and aid-reporting specialists from donor agencies; government officials from partner countries; one academic; and two high-level development policymakers deeply engaged with the IATI. Most interviews were conducted between 2016 and 2019, with two follow-up interviews in 2022 and one in 2025 with previously interviewed participants. Each interview lasted 45 minutes to one hour. While a prepared questionnaire guided the interviews, the interaction was adapted to the interviewee's responses, encouraging open and natural dialogue (Kvale, 2009).

Data was also collected from various sources, including project documents, technical reports, policy reports, and other information on the OECD-DAC and the IATI websites. Data was also collected from various

sources, including project documents, technical reports, policy reports, and other information on the OECD-DAC and IATI websites. Because IATI and the OECD-DAC CRS are based on open data, most meetings, minutes, resolutions, and related documents are publicly available on their websites, where researchers have relatively high access to data. The English versions of the full standards and official publications released with each version update were included as subjects of analysis. Official annual reports from the CRS and IATI provided foundational material for detailed analysis of their objectives, direction, and scope of aid data disclosure. Early data collection comprised archival research mainly from 2016 to 2018, with additional data gathered in 2024. Data collected in the first stage, particularly from development agencies, were continuously cross-checked and revisited during analysis to iteratively refine interpretations.

Data analysis followed the general steps of thematic analysis, which involves identifying differences in interpretation and themes across contexts (Fereday & Muir-Cochrane, 2006). While thematic analysis is typically inductive, this study also employed a deductive approach. Certain themes derived from existing research, along with pre-existing categories such as indicators and the data structures of the CRS and IATI, were used to design the interview questions and guide data collection. These predefined themes and categories were subsequently reinterpreted based on the interviews and documentary evidence.

5. Evolution of Aid Data Governance in International Development

5.1. Norm Diffusion and the Emergence of IATI

This study examines the CRS and IATI as a case study of an emerging aid data governance standard and traces the emergence and institutionalization of IATI as an alternative to the OECD CRS. While CRS had served as the dominant aid reporting standard since the 1970s, by the 2000s, it faced increasing criticism due to its limited scope, donor-centric design, reliance on aggregated and retrospective data, and inability to adequately capture data from emerging donors and multilateral initiatives. These limitations, alongside growing normative pressure for openness and accountability, created a policy window for IATI.

As briefly discussed in Section 3, IATI was launched in 2008 through the Accra Agenda for Action. IATI introduced a more flexible, open-data-based, and participatory approach to aid data governance. Though it draws on CRS classifications, IATI distinguishes itself through greater granularity and interoperability. Designed to provide an open data standard for publishing aid data, IATI accommodates a broader array of actors, including non-OECD DAC donors, CSOs, and recipient countries. Unlike CRS, which is centrally governed and standardized, IATI operates as a voluntary initiative with a more open data structure, signaling a shift in governance toward interoperability and openness.

Beyond functional concerns, IATI's emergence also reflected mechanisms of norm diffusion and the political needs of powerful donor countries and international organizations (DiMaggio & Powell, 1983; Finnemore & Sikkink, 1998). Its founding members, mostly affiliated with the OECD-DAC, sought to respond to the changing aid landscape and strategically diffuse a new model for aid data governance. Following the 2008 financial crisis, leading donors pushed for broader burden-sharing and inclusion of new actors in development finance, positioning IATI as a normative and technical tool to achieve these goals. While IATI framed itself as a departure from the CRS regime, its diffusion was also shaped by existing power hierarchies and institutional interests. This can be illustrated as an example of standardization through strategic norm promotion.

IATI's diffusion can be analyzed through the lens of institutional isomorphism to explain its spread and institutional legitimacy. IATI's diffusion is best explained by primarily normative, complementary mimetic, and limited coercive pressures. Normatively, major donors and the World Bank, together with advocacy organizations such as Publish What You Fund, Transparency International, constructed IATI as the appropriate standard for transparency and inclusiveness through knowledge brokering, policy advocacy, and evaluative infrastructures. The Aid Transparency Index, for example, assigned explicit weight to IATI membership and use, thereby codifying expectations and conferring social legitimacy (Publish What You Fund, 2016; Weaver, 2016). In this way, IATI became more than a reporting protocol; it functioned as a platform for institutionalizing transparency norms and reconfiguring authority among standard-setting actors.

Mimetic isomorphism operated under uncertainty surrounding annual CRS reporting among OECD-DAC members and SDG reporting among other actors. Agencies in Sweden, Denmark, and the Netherlands adopted IATI to align with peers and open data practices, producing convergence in functionalities and interfaces. Evidence from versions 2.01 and 2.02 indicates that such emulation fed back into the standard's design, privileging open data formats (Netherlands Ministry of Foreign Affairs, 2015). Also, technical harmonization, interface similarities, and the drive toward machine-readable data formats also reflect mimetic processes, suggesting standardization across agencies.

Coercive isomorphism was comparatively modest, emerging indirectly via incorporation of IATI benchmarks into Global Partnership monitoring and conditionalities, notably following U.S. endorsement after the 2011 Busan Forum. Taken together, these mechanisms account for IATI's institutional recognition despite its voluntary character. At the same time, coexistence with the OECD and CRS overlapping mandates but distinct technical and normative bases sustains regime complexity and organizational tensions. Overall, normative and mimetic pressures appear to be the principal engines of institutionalization, with coercion playing a secondary, enabling role. Together, these dynamics underscore the multifaceted nature of IATI's diffusion and its evolving role in the governance of international development.

5.2. Regime Complexity and Overlapping Memberships: Navigating Aid Data Governance

As of 2025, according to the IATI registry, 105 organizations have formally joined it and adopted the IATI standard for aid reporting and data disclosure, and 20 out of the 35 OECD-DAC members (Australia, Belgium, Canada, Denmark, Estonia, the EU, Finland, France, Germany, Ireland, Italy, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Sweden, Switzerland, the UK, and the US) have formally joined IATI. This reflects a participation rate of approximately 57% of OECD-DAC countries, with a concentration among high-capacity donors and norm entrepreneurs. Their engagement has played a pivotal role in shaping the global aid data governance architecture. In addition to donor countries, the IATI membership includes 23 CSOs, 35 partner countries (aid recipients), major United Nations agencies, international development banks, and five private sector entities. The participation of CSOs reflects the initiative's emphasis on inclusiveness and public accountability in particular. This reflects the significant diffusion of the IATI standard since its launch in 2008. This broad base confirms that IATI is not merely an intergovernmental initiative, but rather a multi-stakeholder governance mechanism that integrates diverse voices into the standard-setting and data-sharing process.

As shown in Figure 1, the growth of IATI membership was most notable between 2008 and 2012, with a marked spike in 2011–2012. A significant turning point occurred in 2011 at the Fourth High-Level Forum in Busan, where the then US Secretary of State Hillary Clinton formally announced the US' accession to IATI. This endorsement by a major donor accelerated momentum and led to a surge in new memberships, peaking in 2012, the year with the highest recorded number of new members joining the initiative. However, in more recent years, membership expansion has slowed considerably.

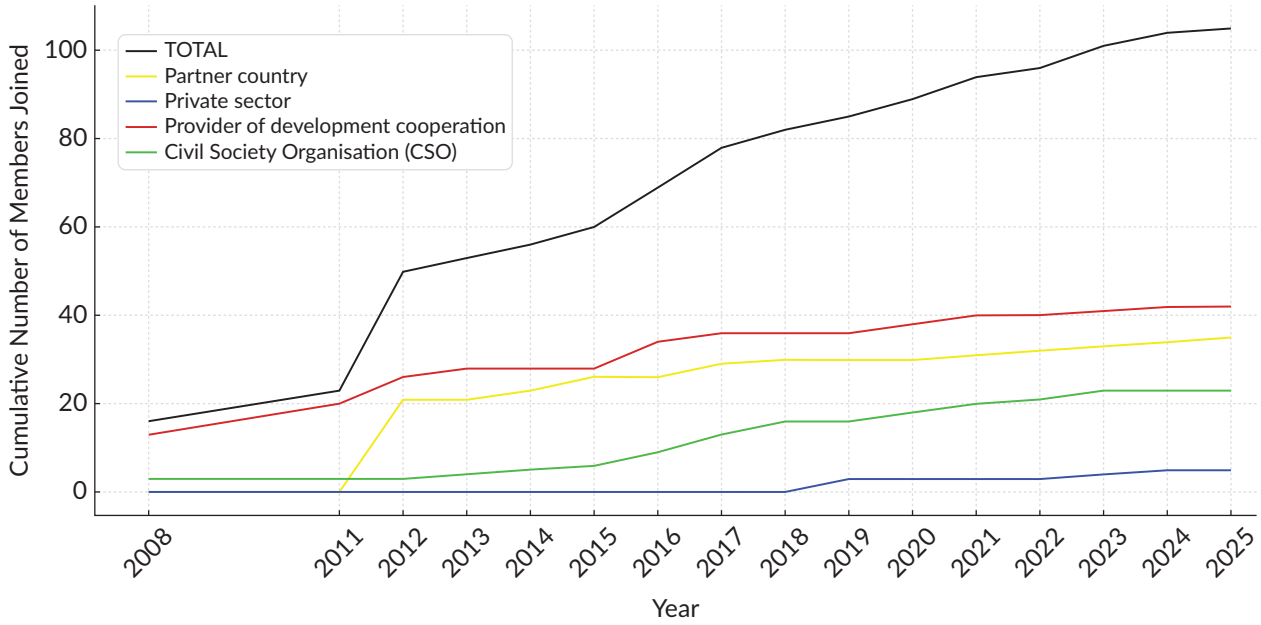

Figure 1. Cumulative IATI membership.

Building upon Raustiala and Victor (2004, p. 279), two prominent features of regime complexity are: (a) the overlaps in scope, membership, and subject matter; and (b) the absence of a clear hierarchy among regimes. From this perspective, in the domain of aid data governance, regime complexity emerged when IATI was introduced alongside the OECD-DAC's CRS. While the CRS had long served as the dominant reporting mechanism for traditional donors, emerging donors such as China and India did not participate in the OECD-led framework, nor did they align with the normative commitments, including transparency and harmonization, as emphasized in the Paris Principles. Moreover, many non-state actors, such as CSOs and philanthropic foundations, had limited or no entry points into the OECD-DAC system, which remained largely donor-centric. The establishment of IATI, with its broader membership and alternative aid data reporting scheme, further contributed to the fragmentation of governance in international development cooperation, exemplifying the dynamics of regime complexity.

Although both IATI and CRS were designed to promote better aid data governance and endorse the Paris Principles, including aid transparency and harmonization, their co-existence clearly shows how overlapping mandates and rule settings within the same policy domain can generate institutional tension and complexity. This reflects a core feature of regime complexity: the absence of a clear hierarchy among multiple governance institutions, which often leads to strategic competition over authority and legitimacy among actors. The early confusion and friction between CRS and IATI also highlighted how different normative foundations, openness versus peer-reviewed intergovernmental accountability, can result in competing standard-setting logics. Such

divergence is not unusual, as actors may choose among overlapping institutions to advance their interests, a dynamic known as "forum shopping" (Drezner, 2009).

The landscape became increasingly marked by overlapping mandates, competing reporting norms, and strategic positioning among actors navigating multiple venues of legitimacy and standard-setting. While the CRS functioned as a central repository tied to OECD-DAC norms, it lacked flexibility and adaptability in response to the shifting configurations of aid delivery and accountability. The emergence of these parallel challenges reflects the growing fragmentation of institutional authority in global aid governance.

Although there are significant similarities between the CRS and the IATI, the very similarities created unexpected organizational and technical challenges in aid reporting practices (Pamment, 2019). One of the main sources of confusion was the duplication of aid reporting practices. While many donor agencies supported the overall vision of IATI, they perceived its additional data reporting requirements as duplicative of their existing CRS reporting systems, resulting in increased labor and time with limited added value. For non-state actors, including CSOs, and partner countries with limited statistical, technical, and financial capacity, IATI implementation was delayed and faced structural obstacles to compliance.

In response to these challenges, IATI released a formal report in 2013 reaffirming its mandate and outlining its commitment to resolving implementation difficulties (IATI, 2013). Also, the IATI secretariat organized technical workshops and capacity-building sessions aimed at helping member organizations align their systems with IATI standards. Despite these efforts, however, structural and political challenges persisted. Technical incompatibilities, inconsistent data ownership, and concerns about overlapping standards continued to hinder broader adoption. Moreover, the underlying tension between IATI's ambition for "real-time, forward-looking transparency" (IATI, 2013) and the more conservative, retrospective orientation of CRS data reporting remained unresolved. These dynamics underscored the enduring complexity of embedding a new transnational standard within an already fragmented aid data governance regime.

More importantly, for potential or future members, uncertainty about the long-term future of IATI has become a key consideration in deciding whether to adopt the standard. As one donor country official noted:

> Honestly, the difference between IATI and CRS is not really significant enough to justify the extra efforts for us. IATI asks for more granular and qualitative data, but we simply do not have the capacity to do both. Maybe 10 years ago, joining IATI helped with visibility and international recognition, but that moment was gone. Now, we are approaching the post-2030, a new post-SDG framework. Who can say if IATI will even survive? From our view, continuing with CRS alone is the most pragmatic option. (Interview, senior aid reporting official)

Interviews reflect a tension within the shared norms but fragmented aid data governance. Donor governments, international organizations, and CSOs often share normative commitments to transparency and accountability. However, these shared values do not always translate into sustained institutional engagement. As the regime complexity literature suggests, the coexistence of overlapping and non-hierarchical standards, such as CRS and IATI, can create coordination problems, institutional fatigue, and strategic disengagement. Even when actors agree with the underlying norms, they may opt out of certain regimes due to resource constraints, perceived redundancy, or uncertainty about institutional longevity.

Therefore, the diffusion of a data governance framework is not necessarily followed by coherent or continuous participation, especially when regime complexity allows actors to selectively align with institutions that better suit their own strategic or operational priorities. Such dynamics help account for why IATI membership has continued to grow incrementally, but at the same time without any significant or sustained surge in recent years. While the normative appeal of aid transparency and the need for transnational aid data governance remain broadly supported, the practical challenges and institutional ambiguities within the regime complex have tempered momentum for large-scale expansion.

5.3. Adopting Data Governance Under the New Norm: From the SDGs to the Post-2030 Landscape

At the United Nations General Assembly in September 2015, attended by heads of state from around the world, the SDGs were adopted as the international community's shared development objectives, replacing the Millennium Development Goals (Fukuda-Parr & McNeill, 2019). In terms of aid data governance, this adds another layer of complexity to aid management practices for development agencies, as organizations are required to report their aid activities annually. Discussions on the use of the IATI standard for implementing the SDGs officially began earlier that year, during the third International Conference on Financing for Development held in July. In Chapter 127 of the Addis Ababa Action Agenda, adopted at this conference, the IATI standard was once again highlighted as a global public data standard for managing aid and for monitoring and evaluation of the SDGs, reaffirming its importance for the international community (United Nations, 2015).

Building on this foundation, the development of a concrete standard reflecting the monitoring mechanisms and implementation plans for the 17 SDGs and their 169 targets began. Notably, the IATI standard underwent its most significant revision in late 2015, transitioning from version 1.05 to 2.01, and later evolving into version 2.03 by 2024. This overhaul aimed to align the standard with the SDGs and their 17 goals and 169 targets. In version 2.02, three new codes—Code 7 (goals), Code 8 (targets), and Code 9 (indicators)—were introduced to reflect SDG goals, targets, and indicators, respectively, integrating them into the IATI framework. The technical and administrative discussions during this process were primarily led by the Inter-Agency and Expert Group on Sustainable Development Goal Indicators, which played a central role in shaping the integration of SDG indicators into the IATI standard.

However, detailed discussions on how the IATI standard can be practically utilized and applied to SDG implementation monitoring remain insufficient. While the IATI standard's vision strongly advocates for participatory and open approaches, the standardization and development processes for linking the IATI to the SDG indicators have been largely top-down. As previously discussed, IATI was developed and refined as a more inclusive, public data-based standard that incorporates qualitative information to address the limitations of CRS. However, IATI continues to map development cooperation projects using the existing CRS codes. This reliance on CRS means that each project can only be assigned a single CRS code, creating structural limitations.

To address this issue, the OECD-DAC discussed the reconfiguration of aid data governance and adoption of "multiple purpose" codes that allow individual development activities to be classified under more than one sector or policy objective, moving beyond a restrictive single code. This direction was also a dedicated topic at the IATI Technical Committee meeting held in Ottawa in 2015. While new discussions and standardization efforts on multiple CRS codes were planned for 2018, another pressing need emerged: the development of a

new SDG mapping code to identify which specific SDG targets individual projects contribute to. Despite its importance, this mapping code has yet to be sufficiently incorporated into the IATI standard since discussions began in 2015.

This reflects the broader challenge of modifying legacy standards like CRS, which, due to their institutional longevity and the OECD-DAC governance structure, exhibit path dependency. At the policy level, CRS purpose codes are rhetorically aligned with SDG targets, but operationally, major gaps remain. This clearly illustrates a case of organizational decoupling, where official alignment with norms exists, but actual practices fail to meet those commitments (Crilly et al., 2012). In this process of decoupling, organizations may symbolically adopt the language of alignment while continuing to operate under legacy systems and simplified coding schemes that limit meaningful integration with SDG monitoring frameworks (Crilly et al., 2012). The IATI, while more flexible and inclusive in design, has been constrained by its dependency on CRS, limiting its responsiveness to SDG-specific data demands. Further challenges include the limited use of optional fields within the IATI standard. While 13 fields are mandatory, most SDG-relevant information resides in optional fields that are often underutilized, particularly by donor agencies with constrained capacity. The absence of user-friendly data platforms to analyze IATI data and a lack of local embeddedness also hinder its effective application for aid management and SDG tracking. As a result, the full potential of IATI as a dynamic, SDG-aligned data infrastructure remains under-realized.

Looking ahead to the post-2030 era, the future of aid data governance is likely to be shaped by three converging trends: the exponential growth of development data (Independent Expert Advisory Group on a Data Revolution for Sustainable Development, 2014), the integration of machine learning and AI for decision-making (Lee et al., 2023; S. W. Park et al., 2025; Vinuesa et al., 2020), and the increasing ICT capacity in many developing countries (Walsham, 2017). These trends are altering how aid is conceptualized, reported, and governed. The SDGs introduced a complex monitoring system without a unified standard, and this complexity is only deepening—posing significant institutional challenges even for advanced economies (K. R. Park & Y. S. Park, 2024). In this context, the future of IATI, and aid data governance more broadly, will depend to the extent to which the standards remain interoperable, inclusive, and responsive to rapidly changing development priorities. As the influence of AI and science, technology, and innovation (STI) continues to expand, aid data governance must increasingly align with both national and global STI strategies for sustainable development (K. R. Park, 2022). This shift calls for a more integrated, adaptive, and forward-looking aid data governance framework suited to the post-SDG era.

6. Discussion

This study traces the historical emergence and institutionalization of transnational aid data governance, offering theoretical insights and policy implications for the evolving relationship between standard-setting, digital transformation, and international development cooperation.

First, this research addresses a clear gap at the intersection of data governance and development cooperation. Despite growing policy attention to aid transparency, especially under the SDG framework, scholarly analysis of international aid data governance remains limited. By focusing on the CRS and the IATI, the study provides an institutional and comparative account of how data governance has emerged, diffused, and taken root across organizations, clarifying the mechanisms through which these structures operate in practice.

Second, shared international norms, such as aid transparency, openness and effectiveness, do not automatically yield coherent practices. Regime complexity and overlapping mandates often generate tensions that impede durable commitment and inter-organizational coordination. Drawing on socio-technical perspectives, the analysis situates aid data governance as historically contingent and politically embedded. The core challenge is less about technical compliance than about the navigation of competing institutional logics, uneven capacities, and asymmetric power relations across actors and regimes.

Third, this research foregrounds the heterogeneity of actors who are not only norm entrepreneurs and data providers, but also negotiators of what counts as legitimate knowledge, standard practices, and accountable behavior in the aid sector. The institutionalization of aid data governance within organizations and across countries is accordingly a socio-political construction. The IATI standard emerged from negotiations among major donor countries, international organizations, and norm entrepreneurs seeking to embed their interests and ideas in the aid regime. The durability of legacy systems, such as the CRS, signals inertia and path dependence. Although a broad coalition participates (including donor agencies, CSOs, data professionals, and partner-country ministries), marked power asymmetries persist, with major donors and multilateral institutions continuing to dominate agenda-setting, thereby constraining inclusive ambitions. Unlike the trade (WTO) or climate (Paris Agreement) regimes, aid regime lacks binding enforcement, resulting in fragmented standards and uneven implementation.

Fourth, despite the growing attention to digital technologies and AI, the practical utility of disclosed aid data is constrained. Many IATI fields are optional and underused. SDG integration faces technical barriers, and accessible analytical platforms remain scarce. These gaps exemplify organizational decoupling, formal alignment with global norms amid weak implementation capacity. Recent advances in machine learning, particularly natural language processing and satellite image processing, can improve the usability of aid data. Automated aid classification and SDG reporting, semantic tagging, and text mining can address data gaps, enable more granular, real-time analysis of aid flows and finally support evidence-based policymaking (Lee et al., 2023). Realizing this potential, however, requires institutional commitment, capacity building, and inclusive governance so that data- and AI-driven transformation genuinely enhances transparency and accountability in the aid sector.

Finally, the study calls for interdisciplinary, methodologically plural approaches that link international relations, policy studies, information systems, and development studies. Priorities include actor-centered and institutional analyses of how data governance affects organizations' behavior and development outcomes, and co-production with diverse stakeholders to strengthen capacity and local uptake. This direction also aligns with SDG 17's emphasis on data-enabled global partnerships to "increase significantly the availability of high-quality, timely and reliable data" (SDG, 17). This study also underscores the need for more integrated, policy-relevant scholarship in addressing the fragmentation of global aid data governance.

7. Conclusion

This research examines the evolution of transnational aid data governance through an in-depth analysis of CRS and IATI. Conceptualizing data governance as a socio-technical and politically contested process, it investigates how the norm of aid transparency has diffused and how global reporting standards have emerged and institutionalized within the field of international development cooperation. This study demonstrates that

aid data governance is not just a technical and functional exercise, but a deep political and institutional process shaped by competing norms, power asymmetries, and regime complexity. The coexistence of overlapping systems like IATI and CRS illustrates persistent fragmentation in global development governance. As the post-2030 agenda approaches, future aid data governance must prioritize interoperability, usability, and responsiveness to diverse stakeholder needs within post-global aid governance.

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Conflict of Interests

The author declares no conflict of interests.

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During the preparation of this manuscript, an AI-based tool (DeepL) was used for grammar checking and proofreading. All analytical and theoretical work was carried out by the author.

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