SciELO Preprints

Publication status: This preprint has not been published elsewhere.

THE LIMITS OF REGULATORY-DRIVEN ECOSYSTEMS: STRATEGIC BEHAVIOR UNDER BRAZIL'S OPEN FINANCE FRAMEWORK

Luiz Fernando Fogaça Vieira, Walter Bataglia

https://doi.org/10.1590/1982-7849rac2027260025.en

Submitted on: 2026-11-18
Posted on: 2026-11-18 (version 1)
(YYYY-MM-DD)

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

THE LIMITS OF REGULATORY-DRIVEN ECOSYSTEMS: STRATEGIC BEHAVIOR UNDER BRAZIL'S OPEN FINANCE FRAMEWORK

OS LIMITES DOS ECOSSISTEMAS INDUZIDOS PELA REGULAÇÃO: COMPORTAMENTO ESTRATÉGICO NO CONTEXTO DO OPEN FINANCE BRASILEIRO

Luiz Fernando Fogaça Vieira[1]
ORCID: https://orcid.org/0009-0001-7808-9792
luizpro@hotmail.com

Walter Bataglia[1]
ORCID: https://orcid.org/0000-0003-4233-9988
batagliaw@gmail.com

[1]Universidade Presbiteriana Mackenzie, São Paulo, SP, Brasil.

Abstract

This study investigates the strategic outcomes of Brazil's Open Finance framework, examining how regulatory-driven data sharing initiatives reshape market dynamics in highly concentrated financial systems. It assesses whether Open Finance functions as a mechanism for ecosystem transformation or institutional accommodation, drawing on concepts from financial ecosystems, regulatory governance, and organizational strategy. A qualitative archival research design was employed, based on a curated corpus of institutional reports, regulatory documents, and technical materials from leading financial institutions. The analysis followed a systematic coding procedure to identify recurring patterns of strategic behavior. The results indicate that Open Finance has delivered significant advances in technical interoperability and customer-facing functionalities. However, these developments remain structurally decoupled from core business models, reinforcing incumbent control rather than enabling multi-sided ecosystem reconfiguration. These findings are synthesized in the Strategic Tension Analytical Framework (STAF), which explains how interdependent tensions between compliance, innovation, and governance enable incumbents to neutralize the transformative potential of open data mandates while maintaining centralized control over value capture. The study contributes by showing that regulatory openness does not operate on a neutral field; but is mediated by existing power structures. It concludes that Open Finance functions primarily as an infrastructural layer that enables incremental innovation while constraining systemic transformation.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Keywords: Open Finance; Regulatory governance; Data governance; Ecosystem dynamics; Institutional strategy.

Resumo

Este estudo investiga os desdobramentos estratégicos do Open Finance brasileiro, examinando como iniciativas de compartilhamento de dados induzidas pela regulação influenciam a dinâmica de mercado em sistemas financeiros altamente concentrados. Analisa-se se o Open Finance atua como mecanismo de transformação dos ecossistemas financeiros ou de acomodação institucional, com base em conceitos relacionados a ecossistemas financeiros, governança regulatória e estratégia organizacional. Adotou-se uma abordagem qualitativa de pesquisa documental, fundamentada em um corpus criteriosamente selecionado de relatórios institucionais, documentos regulatórios e materiais técnicos de importantes instituições financeiras. A análise seguiu um procedimento sistemático de codificação para identificar padrões recorrentes de comportamento estratégico. Os resultados indicam que o Open Finance proporcionou avanços significativos na interoperabilidade técnica e nas funcionalidades voltadas aos clientes. Entretanto, esses avanços permanecem estruturalmente dissociados dos modelos de negócios centrais, reforçando o controle das instituições incumbentes, em vez de promover a reconfiguração de ecossistemas de múltiplos lados. Esses achados são sintetizados na Estrutura Analítica de Tensões Estratégicas (*Strategic Tension Analytical Framework* – STAF), que explica como tensões interdependentes entre conformidade regulatória, inovação e governança permitem que as instituições incumbentes neutralizem o potencial transformador das exigências regulatórias de abertura de dados, preservando o controle centralizado sobre a apropriação de valor. O estudo contribui ao demonstrar que a abertura promovida pela regulação não ocorre em um ambiente neutro, mas é mediada por estruturas de poder preexistentes. Conclui-se que o Open Finance funciona predominantemente como uma camada de infraestrutura que viabiliza inovações incrementais, ao mesmo tempo que restringe a transformação sistêmica.

Palavras-chave: Open Finance; Governança regulatória; Governança de dados; Dinâmica de ecossistemas; Estratégia institucional.

1 Introduction

The Brazilian financial sector presents a paradoxical landscape, shaped by deep historical roots of concentration and rapid recent digital innovations. The high banking concentration in Brazil is not an accidental phenomenon, but the result of a long consolidation process accelerated in the 1990s. Following the economic stabilization of the Real Plan (1994), the loss of inflationary revenues forced systemic restructuring, while state-led programs and a wave of mergers and acquisitions fostered a highly resilient oligopolistic structure (Joaquim et al., 2023; Martins et al., 2014; Paula et al., 2013).

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Within this oligopoly, state-controlled banks—most notably the mixed-ownership Banco do Brasil (BB) and the fully state-owned Caixa Econômica Federal (Caixa)—play a unique, dual strategic role. They act as aggressive market competitors while simultaneously serving as instruments of macroeconomic policy, particularly through countercyclical credit expansion and targeted lending (Bonomo et al., 2015; Capeleti et al., 2022).

The Central Bank's introduction of Pix—a large-scale instant payment system—drastically accelerated financial inclusion and altered transactional dynamics (Duarte et al., 2022). Unlike other digitalization initiatives, the massive and organic adoption of Pix was driven by its immediate utility, zero cost for individuals, and its capacity to integrate even the informal economy (Lorenzo et al., 2026). However, while Pix successfully democratized the payments layer, the structural concentration of the credit and investment markets remained largely intact (Schapiro et al., 2023).

Against this backdrop, Open Finance Brasil (OPF) — a Central Bank-led initiative aligned with global frameworks such as Europe's PSD2 — aims to redistribute data, intensify competition, and enable new entrants through mandatory standardized APIs and shared infrastructure. Yet, despite projections of inevitable growth, its actual impact on incumbent business models remains an open empirical question (Exame, 2025; Febraban & Deloitte Brasil, 2025).

Beyond its competitive and technological objectives, OPF also reflects broader public policy ambitions associated with financial inclusion, innovation, and the development of more efficient and interoperable financial infrastructures. These ambitions are closely aligned with the United Nations Sustainable Development Goals (SDGs), particularly those related to decent work and economic growth (SDG 8), industry, innovation and infrastructure (SDG 9), reduced inequalities (SDG 10), and partnerships for the goals (SDG 17). By examining the conditions under which regulatory-driven openness translates—or fails to translate—into effective ecosystem transformation, this study contributes to understanding the institutional mechanisms that may facilitate or constrain the realization of these broader societal objectives.

International evidence suggests a recurring pattern: strong regulatory mandates alone do not necessarily reconfigure financial ecosystems, as incumbents retain substantial ability to shape standards, timelines, and integration pathways (Gawer, 2021; Jacobides et al., 2018; Zetzsche et al., 2020). This dynamic is consistent with institutional perspectives emphasizing decoupling, strategic responses to regulation, and the active role of actors in shaping institutional arrangements (Lawrence & Suddaby, 2006; Meyer & Rowan, 1977; Oliver, 1991).

To evaluate this shift, this study distinguishes between technical compliance and ecosystemic transformation. While the former refers to the successful implementation of shared infrastructure, the latter is defined as a transition toward a state of structural interdependence where orchestration power is redistributed, and value is cocreated across a diverse network (Adner, 2017; Jacobides et al., 2018). This distinction enables the analysis of the gap between regulatory ambition and observed market outcomes.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Furthermore, Brazil's implementation through industry-led technical committees creates a comparatively more industry-embedded governance model than the centrally coordinated rollouts observed in jurisdictions such as the United Kingdom and Australia. Additionally, the Brazilian OPF encompasses a broad scope within financial services—extending beyond core banking to include insurance, pensions, and investments (BCB, *Banking Report*, 2022; Febraban & Deloitte Brasil, 2025).

While data sharing is mandatory upon customer consent across these regimes, these institutional features grant incumbents substantial influence over operational standards and allow them to shape how deeply open finance capabilities are embedded into their business models, affecting the pace and strategic relevance of integration across segments.

This configuration makes Brazil a particularly revealing case (Yin, 2018), as it enables the assessment of whether an expansive and mandatory regulatory design— particularly in contexts where incumbents actively participate in governance structures —is sufficient to induce ecosystem-level transformation. Consequently, although technically robust, it remains empirically unclear whether OPF has catalyzed major strategic shifts, with ecosystem orchestration remaining largely endogenous to the five largest banks and observed innovations stemming more from prior fintech competition than from open finance possibilities (Febraban & Deloitte Brasil, 2025). This pattern resonates with strategy and institutional literature that conceptualizes regulation as a boundary condition shaping, but not determining, managerial agency, as firms actively respond to and strategically navigate institutional pressures (Baron, 1995; Oliver, 1991).

The resulting disconnect between regulatory ambition and market reality motivates the central research question: How does OPF regulatory framework shape the emergence of new financial ecosystems, and what strategic tensions emerge between policy objectives and incumbent-dominated market dynamics in a context of mandatory data sharing and industry-embedded governance?

Despite the policy relevance of OPF, empirical research on the strategic mechanisms of regulatory-incumbent interaction remains limited. Most studies on open banking and emerging open finance regimes have focused on customer adoption, API infrastructure, and socio-economic outcomes such as financial inclusion and competition (e.g., Tolentino & Cataldo, 2023; Grassi et al., 2022). However, these perspectives remain insufficient to fully explain observed market outcomes in highly concentrated financial systems.

Existing perspectives have provided robust, yet isolated, explanations. Ecosystem research highlights the innovation potential of technical openness, interoperability, and multi-sided complementarities (Adner, 2017; Jacobides et al., 2018), while also demonstrating how keystone actors preserve control through platform governance and ecosystem orchestration (Gawer, 2021). Complementarily, path dependence literature explains how historical trajectories and existing organizational arrangements constrain strategic reconfiguration over time (David, 1985; Sydow et al., 2009). In parallel, institutional theory explains ceremonial compliance and strategic responses to regulation (Meyer & Rowan, 1977; Oliver, 1991). However, the theoretical gap lies in the functional

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

integration of these perspectives. The literature still lacks a unified mechanism explaining how dominant actors mobilize institutional compliance to contain openness while preserving incumbent-centered value appropriation.

To address this gap, this study introduces the Strategic Tension Analytical Framework (STAF). Using institutional theory as the primary explanatory backbone and ecosystem dynamics as the empirical context, the STAF conceptualizes how regulatory openness becomes recursively mediated through incumbent strategic agency. Rather than functioning as a descriptive taxonomy, the framework provides a relational explanation of why technically advanced open finance infrastructures may still produce limited structural transformation. By examining OPF as a regulatory intervention in a highly concentrated financial market, our study contributes to international debates on regulation-induced ecosystems, strategic adaptation, and the limits of institutional design as a catalyst for systemic transformation.

2. Theoretical Framework

2.1 Open Finance and Ecosystems

The concept of business ecosystems, introduced by Moore (1993), describes loosely coupled networks of organizations that coevolve their capabilities and roles while aligning around a shared value proposition (Adner, 2017; Jacobides et al., 2018). In digitally enabled ecosystems, platforms and shared governance become critical, as highlighted by Gawer and Cusumano (2014). OPF can therefore be understood as a regulator-led attempt to engineer a financial ecosystem through mandatory data sharing rules.

Building on this perspective, ecosystems can be further differentiated as an interconnected and interdependent network of actors—including focal firms, complementors, customers, and regulators—who simultaneously cooperate and compete while coevolving around a shared platform (Gomes et al., 2018). However, as Gomes et al. (2018) articulate in their systematic review, when zooming into the strategic intent of these networks, two distinct paradigms emerge: the 'business' and 'innovation' ecosystems. A business ecosystem is primarily oriented toward value capture, where a dominant firm orchestrates the network to protect its competitive advantage and maximize individual, firm-level profit-taking. Conversely, an innovation ecosystem is driven by value co-creation. It leverages the symbiotic nature of the network to jointly generate new value propositions, rather than merely extracting rents from existing ones.

Digitization and open regulation have enabled the emergence of user-centric networks linking banks, fintechs, platforms and regulators (Gawer, 2021). Within ecosystem theory, incumbents or new entrants may assume keystone roles, orchestrating network stability and value distribution (Iansiti & Levien, 2004). This process lowers orchestration costs and enables newcomers to capture strategic positions (Jacobides, 2022), while standardized application programming interfaces (APIs) constitute the technical backbone that allows secure third-party access and new service development (Zachariadis

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

& Ozcan, 2017). OPF framework goes beyond the UK model by encompassing investments and insurance (Open Finance Brasil, 2025), currently integrating over 800 institutions and supporting Banking-as-a-Service and Pix-based initiation.

However, the same infrastructure that reduces entry barriers also reinforces incumbent control through complementary assets and pre-existing relationships (Gawer, 2021; Jacobides et al., 2018). Value co-creation is the central competitive mechanism (Ramaswamy & Ozcan, 2014), customer data becomes strategic assets that enable account aggregators, personalized offerings for underbanked segments, and embedded finance. Yet incumbents frequently respond defensively, as Teece (2010) and Gawer (2021) observe, by integrating open APIs selectively to reinforce rather than disrupt existing logic.

Thus, although OPF supplies the technological and regulatory preconditions for ecosystem emergence, actual formation remains contingent on interest alignment and governance arrangements. In their absence, even advanced architecture may produce limited interdependence and persistent incumbent dominance — the core tension our study examines.

2.2 Institutional Regulation and Data Governance in Open Finance

OPF operates under a hybrid institutional architecture that combines strong state regulation with collaborative sectoral governance. Institutional theory distinguishes three pillars (regulatory, normative, and cultural-cognitive) that shape actors draw upon to confer legitimacy (Schreieck et al., 2022). In the Brazilian case, the Central Bank of Brazil (BCB) exercises infrastructural regulation by imposing mandatory API standards, participation rules, and minimum requirements for security and consent (Gonçalves & de Araujo, 2022), within a broader data-protection framework that establishes a consent-based and data-portability regime. This combination aims to reduce entry barriers and mitigate opportunism and information asymmetry, thereby fostering the institutional trust required for value co-creation in service ecosystems (Bataglia et al., 2025). Hybrid governance materializes in technical-normative committees where banks and fintechs jointly define specifications, generating the normative legitimacy and confidence indispensable for collaboration (Schreieck et al., 2022).

However, infrastructural depth does not automatically eliminate power asymmetries. Compulsory standardization reorganizes data flows, but appropriation capacity remains concentrated among incumbents who already control complementary assets (customer relationships, scale, historical data) and can selectively integrate OPF into their proprietary platforms (Gawer, 2021; Jacobides et al., 2018). Effective adoption also hinges on initial consumer trust and perceived security (Kim & Prabhakar, 2004). By November 2025 the system already recorded 84.43 million unique consents (Open Finance Brasil, n.d.), signalling significant traction, yet still constrained by low awareness and privacy concerns. In summary, despite possessing one of the world's most advanced regulatory and technical architectures, Brazil's transition from open infrastructure to a functional ecosystem continues to be mediated by incumbents' organizational dispositions and by the level of achieved institutional trust.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

The mere existence of infrastructural regulation does not guarantee value redistribution – a finding that reinforces the core tension examined in this study.

The regulatory pressure exercised by the BCB can be understood through the lens of coercive isomorphism (DiMaggio & Powell, 1983), where dominant institutions adopt standardized open-data infrastructures to ensure institutional legitimacy within a highly monitored environment.

Yet mere structural conformity does not equate to strategic transformation. As Meyer and Rowan (1977) classically argue, organizations frequently resort to decoupling by creating formal, visible procedures to satisfy external regulatory requirements while deliberately isolating these structures from their core operational activities. In the context of OPF, this theoretical lens explains why incumbents technically comply with API mandates, treating them as ceremonial compliance layers, yet shield their proprietary business ecosystems from genuine multi-sided disruption.

Crucially, this decoupling in the Brazilian financial sector is not a passive evasion, but an active manifestation of institutional work (Lawrence & Suddaby, 2006). Rather than merely avoiding regulation, dominant institutions engage in 'maintenance work' to preserve the concentrated market structure. They leverage their scale, historical complementary assets, and influence within hybrid governance committees to shape the technical evolution of open standards in their favor. This strategic agency is well-documented by Brazilian institutionalist scholars (Machado-da-Silva et al., 2006), particularly regarding how organizations strategically manipulate their institutional environments rather than passively adapting to them (Crubellate, 2007). This capability allows firms to navigate institutional demands and negotiate compliance without relinquishing control over their internal logic (Oliver, 1991). Consequently, the regulatory mandate is absorbed and neutralized, ensuring that value capture remains concentrated within incumbent-controlled architectures.

2.3 Business Models in Regulated and Digital Environments

Business model theory frames value creation, delivery, and capture in technology and regulation-intensive contexts (Teece, 2010). In financial services, mandatory data-sharing regimes such as OPF force continuous revision of resources, revenue streams, and partner networks (Mancuso et al., 2025). While entrepreneurial orientation and digital capabilities enable innovation in less concentrated markets (Niemand et al., 2021; Ramdani et al., 2022), Brazil's banking concentration produces predominantly incremental and defensive responses.

Open finance creates conditions for business-model reconfiguration by enabling new forms of data-driven value creation, multi-sided interactions, and the integration of third-party services through standardized APIs. However, incumbents tend to exhibit limited degrees of disruptive transformation, often favoring gradual and selective adaptations (Foss & Saebi, 2017; Teece, 2010). Instead, their responses are shaped by path dependence, as historically accumulated assets—such as customer relationships, proprietary data, distribution channels, and regulatory expertise—constrain the range of viable strategic alternatives (David, 1985; Sydow et al., 2009). In this context, business-model

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

adaptation tends to favor reinforcement rather than full reconfiguration. Firms selectively incorporate open APIs and fintech partnerships—particularly in areas such as credit provision and payment initiation—while maintaining control over customer interfaces and embedding new functionalities into pre-existing architectures (Gawer, 2021; Jacobides et al., 2018).

In open finance environments, these dynamics become particularly salient. Data-sharing mandates do not eliminate incumbents' advantages but rather redefine how they are leveraged (Boot et al., 2021; Zetzsche et al., 2020). Access to standardized data flows enables new entrants to participate, yet incumbents retain superior capacity to appropriate value due to scale, brand trust, entrenched customer relationships, and superior capabilities in areas such as credit risk assessment and underwriting (Berg et al., 2020; Fuster et al., 2022). As a result, OPF often expands the functional scope of services without fundamentally altering underlying intermediation structures. This pattern aligns with classic findings on incumbent inertia: even when new technologies are available, dominant firms tend to reinterpret them through existing cognitive frames and complementary assets (Christensen, 1997; Teece, 2010; Tripsas & Gavetti, 2000).

These patterns reinforce the institutional dynamics discussed earlier, particularly the role of strategic compliance in preserving existing structures (Oliver, 1991).

In summary, open finance creates powerful regulatory and technical preconditions for business-model evolution, yet actual transformation depends on how institutional pressures, strategic responses, and ecosystem dynamics interact. In highly concentrated settings, incumbents tend to accommodate regulatory mandates through path-dependent and reinforcing adaptations, limiting the extent of value redistribution and ecosystem-level reconfiguration. This interplay between regulatory design, institutional dynamics, and strategic behavior underpins the central tension of this study: the persistent gap between regulatory ambition and market reality.

3. Method

Our study adopts a qualitative approach, as the research question demands a processual understanding of how regulatory changes are framed, implemented, and strategically appropriated over time, rather than quantifying incidence or recurrence. Specifically, it employs a single-case research strategy, focusing on OPF to examine a phenomenon in depth– in this case, a regulatory-driven initiative aimed at altering competitive patterns in a highly concentrated market (Yin, 2018).

3.1 Choice of Sector and Firms

The Brazilian financial sector was selected as a particularly suitable case because it offers a valuable opportunity to study the effects of regulatory intervention on competition dynamics. Brazil has a single regulatory authority – the Central Bank of Brazil – which recently introduced the OPF agenda as an explicit attempt to reshape the competitive structure through mandatory data-sharing and interoperability. This context provides a clear empirical setting for the research problem.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

The sector is characterized by one of the highest levels of banking concentration among major economies. Historically, the “big five” institutions – Banco do Brasil, Caixa Econômica Federal, Bradesco, Itaú Unibanco, and Santander Brasil – have controlled approximately 80% of credit, deposits, and assets. Since October 2022, the BCB has adopted the “RC4” classification (excluding Santander for methodological alignment with international standards), but all five remain systemically dominant players with extensive complementary assets, nationwide reach, and proprietary digital infrastructures (IstoÉ, 2022).

The inclusion of Nubank as a primary unit of analysis among new entrants is justified by its position as the leading recipient of data consents within the OPF, making it a revelatory case of how even large-scale digital challengers navigate the tensions between regulatory openness and incumbent dominance.

Despite the rapid growth of fintechs and platform-based services, competitive asymmetries persist, as incumbents retain deep customer relationships and data histories that shape how initiatives such as OPF are strategically interpreted.

3.2 Data Collection Strategy

The reliance on an exclusive archival and documentary approach reflects a methodological choice aligned with the research objective. While public corporate documents are subject to institutional public relations and impression management, they are well suited to address the research question. Unlike retrospective interviews, which are vulnerable to ex-post rationalization and alignment biases, as executives may unconsciously rewrite past intents to match current outcomes (Golden, 1992; Pettigrew, 1990)—archival data provides a frozen, longitudinal record of a firm's declared strategic priorities. In highly regulated and concentrated sectors, incumbents’ strategic positioning can be inferred through discursive emphasis and strategic silence. By analyzing what institutions enthusiastically broadcast versus what they marginalize or omit completely, this method enables the systematic identification of strategic accommodation. The public narrative itself—treating a major regulatory mandate merely as a compliance requirement or an incremental back-office feature—serves as key empirical evidence of how incumbents neutralize transformative agendas without explicitly opposing them (Langley & Abdallah, 2011; Ventresca & Mohr, 2017).

3.3 Corpus Selection and Filtering Strategy

To capture the multidimensional dynamics of the OPF implementation, we constructed a comprehensive initial corpus comprising 15,672 pages of archival data, published between 2019 and 2025. This selection enables the comparison between macro-regulatory ambition and organizational responses. To establish the regulatory baseline, systemic expectations, and aggregate market outcomes, we collected the official Banking Reports and Financial Stability Reports issued by BCB.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Concurrently, to capture the strategic positioning, competitive rhetoric, and business model adaptations of the market players, we gathered a broad spectrum of corporate disclosures from the "big five" traditional incumbents and the leading digital-native entrant (Nubank). This extensive initial pool encompassed Integrated Annual Reports, ESG Reports, mandatory regulatory Reference Forms and specific public-policy disclosures.

To ensure comparability, a methodological filter was subsequently applied to delineate the final analyzed corpus of 6,456 pages. Upon a preliminary review of the collected documents, we opted to systematically exclude the mandatory regulatory Reference Forms from the primary Gioia coding process. This exclusion was determined because these documents do not reflect voluntary strategic orientation. Conversely, we purposefully retained and integrated Banco do Brasil's standalone Annual Letters of Public Policies and Corporate Governance into the final corpus. This inclusion ensures analytical symmetry with the other state-controlled incumbent, Caixa Econômica Federal, which embeds its equivalent public-policy disclosures directly within its Integrated Annual Report.

Documents were selected based on three criteria. First, they had to present relevance to OPF framing or strategic behavior. Second, they needed to be produced between 2019 and 2025. Third, they had to be publicly accessible and verifiable. Marketing materials, press releases, and media commentary were excluded. These sources are publicly available through BCB portals, corporate investor relations websites, and official gazettes, ensuring reproducibility.

Once the final corpus was delimited, the archival data was subjected to a systematic qualitative analysis. The analytical procedures, including the multi-stage iterative coding process aligned with the Gioia methodology, are detailed in the following subsection. The complete data structure resulting from this process, together with the full inventory of documents, is presented in Table 3 in the Appendix.

3.4 Data Analysis Strategy

The analysis followed an archival empirical approach (Langley & Abdallah, 2011; Ventresca & Mohr, 2017), employing a multi-stage iterative coding process aligned with the Gioia methodology (Gioia et al., 2013). To ensure analytical reliability and reduce researcher bias, the entire corpus of documents and the subsequent coding stages were conducted independently by two authors.

To operationalize this approach, the unit of analysis was defined at the level of meaning-bearing text segments, primarily paragraphs and extended statements, rather than entire documents. Each segment was coded based on both explicit references and implicit positioning within broader strategic narratives. Strategic silence was identified through the systematic underrepresentation of OPF relative to other strategic themes, such as proprietary innovation initiatives or platform development. This comparative framing enabled the distinction between simple omission and meaningful strategic deprioritization.

The process began with a keyword-guided entry point combined with full iterative reading for core terminology, including terms such as "Open Finance," "Open Banking," "data sharing," and

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

"API", complemented by an exhaustive full-text review to capture marginal mentions, the broader strategic context, and the framing of proprietary innovation hubs. The authors independently coded strategic silences—the deliberate omission of the open system in specific documents or by specific players. Triangulation with aggregated macroeconomic data from the BCB was also performed to contextualize observed strategic patterns and corroborate claims regarding limited commercial impact. From this raw data, each author selected representative quotations (First-Order Concepts), formulated their own categories (Second-Order Themes), and finally abstracted into phenomenological Aggregate Dimensions, establishing the data structure that subsequently grounded the theoretical framework.

Following this coding phase, the authors convened to compare their analytical structures. While there was substantial convergence in the identification of core empirical patterns, differences emerged in category boundaries, label specificity, and the interpretation of certain marginal cases—particularly regarding the classification of low-intensity references and instances of strategic silence. These discrepancies were systematically discussed and resolved through iterative comparison with the raw data, leading to the refinement and consolidation of second-order themes, with the reconciliation process prioritizing conceptual clarity and empirical grounding over initial agreement.

The coding process involved multiple iterations between data and emerging theoretical constructs, consistent with an abductive logic of theory building. Categories were refined until reaching theoretical saturation, where additional data no longer contributed to new themes or altered the structure of existing dimensions.

This reconciliation resulted in six second-order themes grouped into three aggregate dimensions. The complete data structure is presented in Table 4 in the Appendix. The empirical grounding of these categories is detailed in the findings section, while the dynamic interaction between them—which generates the five core tensions of the STAF—is developed in the discussion.

4. Findings

The qualitative analysis of the archival data revealed a consistent pattern of organizational responses to the OPF mandate. The data structure presented in the Appendix summarizes the six second-order themes identified, which group into three overarching aggregate dimensions. Table 1 outlines the empirical evidence and the contrasting role of OPF within these dimensions. The following subsections detail these findings.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Table 1 – Second-order categories.

Aggregate Dimension	Category (Second-Order Theme)	Documentary Evidence	Role of Open Finance (Regulatory/Market Expectation)
Institutional Compliance Infrastructure	1. Mandatory regulatory obligation and compliance	Explicit adherence to BCB regulation along with references to phased implementation and governance structures in incumbent reports.	Establishes formal compliance and institutional legitimacy requirements.
	2. Incremental technical modernization	Adoption of APIs, cloud migration, and developer platforms alongside high API activity volumes.	Provides technical infrastructure for interoperability and integration.
Decoupled Strategic Engagement	3. Strategic silence or minimal mention	Absence or minimal reference to Open Finance in incumbent reports and limited disclosure by key digital challengers.	Functions as a discursive and strategic positioning mechanism toward regulation.
	4. Marginal or very low commercial impact	Sector-wide omission of financial results, with the sole disclosing bank reporting a marginal 0.14% portfolio impact.	Intended to enable competition and value redistribution through data sharing.
Incumbent-Centric Ecosystem Structuring	5. Rhetorical customer-centricity and convenience	Recurrent emphasis on personalization, customer experience, and financial management tools in corporate disclosures.	Enables data-driven personalization and user interface improvements.
	6. Payment initiation as the primary scalable use case	Pix-based payment initiation across institutions, significant transaction volumes, and cross-institutional payment flows.	Enables real-time interoperability and new transaction capabilities.

Source: Authors' elaboration.

4.1 Institutional Compliance Infrastructure

In their public disclosures, dominant institutions explicitly adopt standardized open-data infrastructures to ensure institutional legitimacy. Itaú, for instance, characterizes OPF as an "enclosed environment, controlled and regulated by the Central Bank" (Itaú, 2022, p.11), while Caixa emphasizes its commitment to implementing the system "according to the phases and cycles defined by the Open Finance governance structure" (Caixa, 2023, p.35). This formal acknowledgment demonstrates strong structural conformity to the regulatory pillar (Category 1). At the same time, documentary evidence

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

reveals that Brazilian banks possessed mature, platform-based digital infrastructures well before OPF became mandatory, which corresponds to an incremental technical modernization in response to the mandate (Category 2). Banco do Brasil launched its Developer Portal in 2017 as "a platform for creating and managing APIs, with fully free access to our customers and non-customers" (Banco do Brasil, 2021, p.135). Although the portal predates OPF implementation, its later repositioning within the open finance discourse illustrates how pre-existing infrastructures were strategically integrated into the new regulatory environment.

Similarly, Itaú highlights extensive platform upgrades, stating that "more than 60% of our entire technological platform has already undergone the modernization process" (Itaú, 2024, p.60). In the Brazilian case, incumbents have deployed a robust technical infrastructure, evidenced by the billions of standardized API calls processed annually.

4.2 Decoupled Strategic Engagement

Despite full technical compliance, a systematic review of the archival corpus reveals that coercive pressure does not necessarily induce a shift in core organizational logic. Strategic silence or minimal mention (Category 3) is recurrently observed across the archival corpus among systemically relevant institutions. Santander Brasil—historically part of the “big five” and fully technically compliant—contains only a marginal and non-strategic reference to OPF across the analyzed period. The sole mention identified frames the initiative in a communicational and educational context, stating that "Before everyone started talking about Open Finance, we invited Gil do Vigor […] to explain the subject in a clear and humorous way" (Santander, 2022, p. 31), rather than as a core element of business strategy. Similarly, Nubank, despite being the largest recipient of data consents in the country, restricts its references to brief mentions in ESG reports, omitting the framework from its core business strategy disclosures.

This asymmetry is further reinforced by institutional positioning. Despite their central role in the financial system, public banks such as Banco do Brasil and Caixa do not frame OPF as a strategic pillar in their public policy or governance disclosures, suggesting that the initiative is absorbed as an operational requirement rather than a transformative agenda. This discursive omission coexists with a marginal or very low commercial impact (Category 4). While the regulatory ambition positioned OPF as a mechanism for systemic financial inclusion and cost reduction, the empirical data points to containment. An exhaustive review of the corporate reports reveals that Banco do Brasil is the only institution in the analyzed reports providing explicit financial disclosure related to OPF outcomes, which reinforces the widespread lack of commercial conversion across the sector. Banco do Brasil reports that loan portability enabled by OPF reached BRL 1.9 billion in 2024 (Banco do Brasil, 2025). While numerically significant, this volume represents a mere 0.14% of the bank’s total expanded loan portfolio of approximately BRL 1.3 trillion. The Central Bank’s Financial Stability Report further qualifies this limitation, noting that "In 2024, one institution reported BRL 2 billion in credit portability

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

transactions using shared Open Finance data. Although the process has not yet leveraged the infrastructure of the open system directly..." (BCB, 2025 *Financial Stability Report*, p.78).

A macro-level indicator further reinforces this interpretation. Despite the expansion of OPF-based personalization tools, the banking spread for individuals in non-earmarked credit did not decline during the implementation period. Data from the Central Bank of Brazil indicate an increase from 40.1 percentage points in January 2020 to 44.8 percentage points in October 2025 (BCB, n.d.).

This outcome becomes even more analytically revealing when contrasted with industry expectations. Despite the limited observable impact of OPF on core financial outcomes, survey evidence indicates that only 6% of banks currently report high value extraction from OPF, while 41% expect to achieve greater value in the coming years (Febraban & Deloitte Brasil, 2025).

4.3 Incumbent-Centric Ecosystem Structuring

Across the analyzed documents, a prominent narrative surrounding OPF heavily emphasizes rhetorical customer-centricity and convenience (Category 5). Bradesco describes its financial manager as a tool that "consolidates shared information... to benefit from a comprehensive view of their financial life in one place" (Bradesco, 2025, p. 48). Similarly, institutions highlight the development of aggregated wallets and super apps which tend to concentrate user interactions within a single ecosystem through the integration of multiple services.

Within this orchestrated ecosystem, payment initiation emerges as the primary scalable use case (Category 6). According to institutional disclosures, this functionality achieved significant operational scale. Banco do Brasil highlights its BB Pay interface, an OPF integrated initiator that earned the bank the position of "first bank to receive payments from other institutions for investment funds and loan repayments" (Banco do Brasil, 2024, p.140). Caixa emphasizes working on "structuring a payment initiator through Open Finance, which will allow CAIXA Pix transactions to use balances from accounts at other participating banks" directly within its digital channel (Caixa, 2023, p.35). However, no major bank in the analyzed disclosures identifies a distinct revenue stream, a novel value proposition, or a standalone business model derived from OPF payment initiation. Instead, the functionality is predominantly framed as an incremental enhancement to existing payment services, heavily focused on retaining the customer within the incumbent interface.

5. Discussion

The observed findings give rise to five cross-cutting strategic tensions that constitute the Strategic Tension Analytical Framework (STAF), detailed in Table 2. Building on institutional theory (Schreieck et al., 2022), the STAF captures how these elements interact as a recursive process in which path-dependent governance conditions the system, technical decoupling structures organizational responses, and value capture emerges asymmetrically.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

The foundation of the observed strategic behavior lies in the antecedent condition of the Brazilian financial market, a highly concentrated and path-dependent market structure (David, 1985; Martins et al., 2014; Sydow et al., 2009), which continuously shapes and constrains how subsequent responses unfold. Incumbents have historically accumulated vast complementary assets, allowing them to assume keystone roles within their proprietary ecosystems (Iansiti & Levien, 2004). The regulatory pressure exercised by the BCB within this environment can be understood through the lens of coercive isomorphism (DiMaggio & Powell, 1983). When confronted with the OPF mandate— representing the initial manifestation of the *Infrastructure vs. Transformation* tension —a systemic trigger is activated.

Consequently, incumbents' responses are structured by the tension of *Openness vs. Centralization*. Structurally enforced through ecosystem control, incumbents standardize access via APIs while keeping the primary customer relationship anchored in proprietary digital interfaces. This limits the extent to which openness translates into competitive reconfiguration. This behavioral duality suggests that incumbents tend to respond defensively, integrating open APIs selectively to reinforce rather than disrupt existing logic (Adner, 2017; Gawer, 2021; Teece, 2010). Furthermore, the hybrid governance structure of OPF allows these keystone players to exert significant influence over technical committees, enabling firms to navigate institutional demands and negotiate compliance without relinquishing control over their internal logic (Oliver, 1991). By securing institutional legitimacy while strategically marginalizing the open narrative, incumbents establish boundaries consistent with the concentration of complementary assets in ecosystems (Jacobides et al., 2018), shaping the technological and commercial responses observed in subsequent dimensions.

Building on these institutionally defined boundaries, dominant institutions translate the mandatory regulatory obligation into operational reality through a process of structural decoupling (Machado-da-Silva et al., 2006; Meyer & Rowan, 1977). This dynamic manifests through the intertwined tensions of *Infrastructure vs. Transformation* and *Compliance vs. Real Innovation*. Empirically, these tensions are sustained by the interplay between formal compliance, incremental technical modernization, and the emergence of payment initiation as the primary scalable use case. When the Central Bank imposed standardized APIs, the incumbents' strategic response was not one of systemic reconfiguration, but of functional adaptation within an existing ecosystem structure (Adner, 2017). By engaging in strategic silence, these firms effectively decouple the regulatory mandate from their market-facing narratives. This represents an active manifestation of institutional work (Lawrence & Suddaby, 2006), where compliance is managed as a peripheral necessity rather than a central value driver.

This behavior empirically exemplifies the decoupling mechanism described by Meyer and Rowan (1977). To maintain institutional legitimacy, organizations create formal, highly visible structures that satisfy external regulatory demands, while deliberately isolating these structures from their core operational activities. In the Brazilian case, incumbents successfully delivered a robust technical infrastructure, yet this infrastructure functions largely as a ceremonial compliance layer. It

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

codifies heterogeneous proprietary systems into a unified regulatory standard, but as Zachariadis and Ozcan (2017) observe, standardizing the technical backbone is insufficient to foster new service development if the underlying business architecture remains heavily guarded. This outcome reflects what Christensen (1997) defines as infrastructure readiness without value innovation. By restricting interoperability to peripheral transactional efficiencies rather than core revenue drivers, they systematically limit the observable impact of the mandate on real innovation.

The observable manifestation and continuous interaction of path-dependent governance and technical decoupling materialize in the visible interface of the financial ecosystem. What consumers ultimately experience is the visible expression of this strategic accommodation. This outcome is defined by the tensions of *Personalization vs. Co-creation* and *Social Potential vs. Commercial Use*. It reflects the coexistence of customer-centric narratives with limited evidence of structural redistribution. When analyzed through the lens of ecosystem theory, these tools reveal a structural asymmetry. As Ramaswamy and Ozcan (2014) argue, genuine value co-creation requires active user participation, shared problem definition, and collaborative value generation. In the OPF implementations reported by the incumbents, these elements are not substantively observed, as the customer's role is restricted to providing consent. Personalization operates as a unilateral commercial strategy designed to reinforce engagement and retention within proprietary boundaries.

In summary, the empirical evidence demonstrates that these final tensions tend to resolve in favor of the incumbents. By combining centralized governance with decoupled technical compliance, dominant institutions successfully navigate regulatory pressure, utilizing the shared data primarily to reinforce their pre-existing market dominance as ecosystem orchestrators (Iansiti & Levien, 2004). Taken together, the findings suggest a structured causal pattern in which path-dependent governance conditions the scope of technical implementation, which in turn enables decoupling between compliance and core strategy, ultimately resulting in asymmetric value capture.

Building on this interdependent structure, the STAF systematizes the recursive tensions through which regulatory openness is strategically absorbed within concentrated ecosystems. Rather than producing fully transformative effects, regulatory mandates are translated through existing institutional arrangements and ecosystem structures. Table 2 summarizes the framework’s core tensions, theoretical anchors, and systemic interactions.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Table 2 – Strategic Tension Analytical Framework (STAF)

Tension	Theoretical Construct	Key Literature	Anchored Categories	Systemic Role	Interaction with Other Tensions
Infrastructure vs. Transformation	Coercive Isomorphism; Decoupling; Sustaining Innovation.	DiMaggio & Powell (1983); Meyer & Rowan (1977); Christensen (1997).	1, 2	Establishes the operational boundary of change, enabling technical interoperability while limiting structural reconfiguration.	Reinforces *Compliance vs. Real Innovation* by enabling formal technical delivery without substantive reconfiguration; supports *Openness vs. Centralization* by embedding standardized APIs within controlled architectures.
Compliance vs. Real Innovation	Institutional Work; Innovation Ecosystem.	Lawrence & Suddaby (2006); Adner (2017); Zachariadis & Ozcan (2017).	1, 6	Functions as a selective adaptation mechanism, allowing firms to meet regulatory expectations while preserving core value logics.	Conditioned by *Infrastructure vs. Transformation* through technical readiness and selective implementation; feeds into *Social Potential vs. Commercial Use* by restricting transformation to peripheral transactional efficiencies.
Openness vs. Centralization	Path Dependence; Business Ecosystem; Platform Governance;	Jacobides et al. (2018); Gawer (2021); Oliver (1991); Sydow et al. (2009).	2, 3, 5, 6	Acts as a central organizing tension, mediating how openness is selectively	Shapes all other tensions by selectively internalizing openness within incumbent-

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Tension	Theoretical Construct	Key Literature	Anchored Categories	Systemic Role	Interaction with Other Tensions
	Complementary Assets.			absorbed into incumbent-controlled structures.	controlled structures; constrains participatory ecosystem dynamics through retention of customer interfaces and strategic marginalization of OPF narratives.
Personalization vs. Co-creation	Value Co-creation.	Ramaswamy & Ozcan (2014).	5	Defines the mode of value delivery, privileging unilateral personalization over collaborative value creation.	Reinforced by *Openness vs. Centralization* through unilateral aggregation and personalization mechanisms; contributes to *Social Potential vs. Commercial Use* by limiting collaborative value generation.
Social Potential vs. Commercial Use	Value Capture; Keystone Role; Business Model.	Iansiti & Levien (2004); Teece (2010).	4, 5	Captures the outcome-level tension, where system-wide ambitions are filtered through firm-level incentives.	Emerges from the cumulative configuration of upstream tensions, particularly selective compliance and centralized ecosystem control, resulting in limited

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Tension	Theoretical Construct	Key Literature	Anchored Categories	Systemic Role	Interaction with Other Tensions
					commercial conversion despite broad technical implementation.

Source: Authors' elaboration.

The STAF does not introduce new constructs but reconfigures established theoretical lenses—particularly institutional theory and ecosystem dynamics—into a relational explanatory mechanism. By conceptualizing these dynamics as an interdependent system, the framework moves beyond isolated observations of compliance, innovation, and governance. Although derived from the Brazilian case—a revelatory setting where advanced regulatory architecture coexists with strong market concentration—the STAF identifies underlying mechanisms that may operate in other regulatory environments characterized by mandated data sharing and concentrated market structures, a proposition that warrants future empirical testing.

Although the STAF identifies mechanisms associated with concentrated and incumbent-dominated ecosystems, these dynamics may not emerge uniformly across all regulated open-data environments. The mechanisms described in the framework are likely to vary according to differences in regulatory design, market structure, governance arrangements, and temporal evolution. Regulatory architectures that couple mandatory enforcement with immediate, high-visibility user value (such as direct transactional utility) may reduce the extent of strategic decoupling. Likewise, environments characterized by lower concentration of complementary assets and reduced dependence on proprietary customer interfaces may weaken incumbents' capacity to internalize openness within existing value-capture structures. Governance configurations with lower asymmetry in standard-setting processes may also constrain the selective absorption of regulatory mandates by dominant actors. Finally, the patterns identified in our study may reflect an initial accommodation phase, as longer-term technological maturation and ecosystem evolution could alter the redistributive effects of open-data infrastructures over time.

Building on this interpretation, four propositions are derived.

Proposition 1 – Decoupling under Mandatory Open Data

In highly concentrated market environments, mandatory open-data regulations are likely to induce decoupling between technical compliance and strategic reconfiguration, whereby incumbents implement required infrastructures to maintain regulatory legitimacy.

This proposition reflects the interaction between *Infrastructure vs. Transformation* and *Compliance vs. Real Innovation* tensions. Compliance is not only achieved but appears to be

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

strategically prioritized, while its transformative potential remains limited, consistent with interpretations of decoupling as a structured organizational response. By limiting their integration into core business models, incumbents successfully preserve existing value-capture logics.

Proposition 2 – Governance Influence in Hybrid Regulatory Models

In hybrid governance arrangements that combine regulatory mandates with industry participation, incumbents are likely to exert disproportionate influence over standard-setting processes, shaping data sharing infrastructures in alignment with existing competitive positions.

Governance arenas function as sites of strategic agency, consistent with the role of *Openness vs. Centralization* in mediating how openness is selectively internalized.

Proposition 3 – Reinforcement of Value Capture Structures

Under conditions of mandatory data sharing, incumbents are more likely to reinforce existing value-capture structures than to transition toward fully collaborative ecosystems, prioritizing unilateral value appropriation over multi-sided value co-creation.

This reinforcement occurs through the selective materialization of innovation, concentrated in domains compatible with incumbents' existing architectures, while areas requiring structural reconfiguration remain largely unaffected.

This reflects a cumulative pattern in which governance control and selective compliance limit the conditions for value redistribution and ecosystem-level transformation.

Proposition 4 – Contained User-Centricity

In incumbent-dominated open data ecosystems, customer-centricity tends to manifest as unilateral personalization rather than genuine co-creation, limiting the redistributive and participatory potential of open finance systems.

This proposition connects system-level dynamics to user-facing outcomes, indicating how structural constraints shape value delivery at the interface.

5.1 Regulatory Designs and Convergent Ecosystem Outcomes

International evidence reinforces the systemic interpretation advanced by the STAF. Despite variation in regulatory architectures, open finance evidence from key jurisdictions suggests that tend to produce partial and asymmetric transformations rather than full structural reconfiguration of financial intermediation. This suggests that regulatory design alone is insufficient to redistribute orchestration power within financial ecosystems, as incumbents retain the capacity to absorb and reshape imposed infrastructures (OECD, 2023; Cambridge Centre for Alternative Finance, 2024).

In the United Kingdom, the highly prescriptive and centrally coordinated framework established under the CMA Order enabled rapid technical standardization and the scaling of third-party services. Institutional reports document significant operational growth, with the open banking framework processing over 2 billion API calls in a single month and reaching 15 million active users (Open Banking Limited, 2025). However, consistent with the tensions identified in the STAF—particularly

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Infrastructure vs. Transformation and *Openness vs. Centralization*— as well as broader discussions on the limits of regulatory openness in concentrated financial systems (Zetzsche et al., 2020; Cambridge Centre for Alternative Finance, 2024), this technical maturity has not translated into a fundamental redistribution of control. Incumbent banks continue to dominate customer interfaces and core revenue streams, with the largest banking groups maintaining over 70% market share in personal current accounts (Mintel, 2024; OECD, 2023). This suggests the persistence of incumbent market structures despite high levels of infrastructural adoption.

A similar dynamic emerges in Australia under the Consumer Data Right (CDR), which extended data portability beyond banking into a broader cross-sectoral framework, including the national energy market (ACCC, 2022). While the initiative represents an expansive regulatory approach to data sharing, empirical assessments indicate that its competitive impact has remained gradual and more limited than initially anticipated. Despite a well-developed regulatory infrastructure, customer engagement in banking remained relatively low, with only 0.31% of bank customers maintaining active data-sharing arrangements by the end of 2023. A similar pattern extended beyond financial services as portability mechanisms expanded into energy markets. At the structural level, the four dominant financial institutions continued to concentrate more than 75% of the national housing loan and deposit markets, while Tier 1 energy retailers retained over 60% of overall market share despite the expansion of portability mechanisms (AER, 2025; ABA, 2024). Consistent with broader international assessments (OECD, 2023; Cambridge Centre for Alternative Finance, 2024), these outcomes suggest that, although the regulatory infrastructure is technically robust, its translation into market-level reconfiguration remains constrained. This pattern aligns with the STAF's emphasis on *Compliance vs. Real Innovation*, suggesting that the selective accommodation of regulatory openness by dominant actors may extend beyond financial services into other open data environments. Taken together, these cases—spanning centralized regulatory coordination in the United Kingdom and expansive cross-sectoral data rights in Australia—demonstrate a striking convergence in outcomes despite institutional diversity. Rather than redistributing value creation and control, the evidence suggests that open finance initiatives tend to produce layered adaptations that preserve incumbent dominance while enabling incremental innovation. This cross-country evidence is consistent with the mechanisms identified by the STAF, indicating that constraints on ecosystem transformation lie not only in regulatory architecture, but in incumbents' structural capacity to internalize, reinterpret, and strategically deploy open finance infrastructures.

These international experiences also suggest that infrastructural adoption metrics—such as API calls, active consents, or user registrations—may not be sufficient proxies for ecosystem transformation, as high levels of technical implementation can coexist with persistent concentration patterns and limited redistribution of ecosystem orchestration power.

This interpretation requires a conceptual distinction regarding ecosystems. Rather than fostering a genuine "innovation ecosystem"—where multi-sided complementarities generate new value propositions—the findings suggest that OPF operates as a top-down data platform.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Aligning with ecosystem theory (Gomes et al., 2018; Jacobides et al., 2018), dominant institutions extract shared data from this regulated infrastructure to reinforce their proprietary "business ecosystems". In this dynamic, the regulatory mandate is strategically mobilized to maximize unilateral value capture, while limiting co-creation within incumbent-controlled domains.

The Brazilian case provides additional nuance to this interpretation. On the one hand, the country has developed one of the most advanced open finance infrastructures, combining mandatory participation, standardized APIs, and hybrid governance. On the other hand, parallel innovations—such as the Pix instant payment system—demonstrate that transformative change can occur outside the OPF framework itself. Specifically, while Pix achieved immediate success as a mandatory transactional shock driven by massive public acceptance (Lorenzo et al., 2026), OPF remains a structurally constrained data ecosystem.

This divergence reflects important differences in the nature of the underlying infrastructures and the mechanisms through which value is generated and perceived by users. Pix operated as a transactional infrastructure with immediate and highly visible utility, allowing individuals and firms to experience direct benefits through instantaneous, low-cost payments with limited dependence on incumbent-controlled intermediation. Its adoption was reinforced by strong network effects and widespread public engagement, making the transactional layer itself the central source of value creation. In contrast, OPF operates primarily as an informational infrastructure whose benefits depend on the strategic integration of shared data into incumbent-controlled products, interfaces, and business models. As a result, the transformative potential of OPF remains mediated by dominant institutions that retain control over customer relationships, complementary assets, and the practical conditions under which openness is translated into market offerings.

The prominence of payment initiation within OPF confirms this defensive posture. Since Pix's widespread adoption is irreversible, this pattern suggests a strategic co-optation of this functionality to prevent user migration, transforming mandated openness into a retention tool.

Taken together, these findings suggest that, while data sharing has enhanced targeting and user convenience, it has not yet clearly translated into measurable economic benefits for consumers. From a systemic perspective, this outcome is consistent with the *Social Potential vs. Commercial Use* and *Openness vs. Centralization* tensions identified in the STAF, reinforcing that redistributive ambitions remain constrained by incumbent-controlled value appropriation mechanisms.

5.2 Contributions

Our study advances a theoretical explanation of why open data initiatives tend to produce incremental rather than transformative outcomes. Existing literature has primarily approached open data through enabling conditions such as technological infrastructure, regulatory design, and ecosystem architecture. Yet, these dimensions alone remain insufficient to explain observed market outcomes in concentrated systems.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Existing perspectives have often examined regulatory compliance, ecosystem orchestration, and technological interoperability as analytically separable dynamics. However, this fragmentation limits the ability to explain how dominant actors simultaneously comply with regulatory mandates, reinterpret openness, and preserve incumbent-centered forms of value appropriation within regulated open-data environments. The core theoretical contribution of our study lies in shifting the analytical focus from whether open data architectures enable change to how regulatory mandates are selectively absorbed within incumbent-dominated ecosystems. By adopting institutional theory as the primary explanatory backbone, we argue that ceremonial compliance is not merely an administrative response, but part of a broader mechanism through which incumbents preserve strategic control over customer interfaces, complementary assets, and ecosystem orchestration.

Rather than proposing isolated variables, the STAF integrates institutional regulation, ecosystem dynamics, and value appropriation into a unified explanatory mechanism.

By introducing the STAF, our study provides a relational explanation of how these elements interact. The framework shows that tensions such as *Openness vs. Centralization* and *Compliance vs. Real Innovation* are not independent phenomena, but expressions of a deeper structural condition *represented by* the persistence of incumbent control over value appropriation in regulated ecosystems.

The study contributes to ecosystem theory, institutional theory, and business model literature by showing that regulatory interventions aimed at fostering openness may reinforce existing structures under concentrated market conditions. This highlights that transformation in open ecosystems depends not only on enabling conditions, but on the distribution of power and the strategic agency of dominant actors.

Policymakers should not assume that technical standardization and data portability alone will produce competitive or redistributive outcomes. Without mechanisms addressing incumbents' control over complementary assets and governance processes, open data initiatives are likely to be absorbed into existing market structures. For practitioners, strategic positioning within the ecosystem—rather than technological adoption—remains the key determinant of value capture.

This reframes open data initiatives as a structurally mediated process of value appropriation, rather than a purely technical or regulatory interventions.

6. Conclusion

To evaluate the transformative impact of OPF, it is necessary to establish a counterfactual benchmark of "success." From an ecosystem perspective, a genuinely successful open data regime is characterized by structural interdependence, cross-sectoral business models beyond simple account aggregation, active customer co-creation, and a measurable reduction in the costs associated with information symmetry. Launched in 2021 as a world-class regulatory experiment, OPF was designed to pursue these objectives. Yet, this ambition reveals a structural paradox, despite a highly advanced

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

technical infrastructure and strong adoption indicators, OPF has produced limited ecosystemic and redistributive transformation.

Our findings reinforce that infrastructural adoption metrics alone are insufficient proxies for systemic change, as technical implementation may coexist with persistent concentration and incumbent-controlled value appropriation. The contrast between Pix and OPF further suggests that transactional infrastructures generating immediate and visible user value may diffuse differently than informational infrastructures whose benefits remain mediated by incumbent-controlled interfaces, complementary assets, and incumbent business models.

Theoretically, this study advances ecosystem and platform literature by demonstrating that regulatory-driven openness does not automatically produce collaborative innovation when incumbents possess superior complementary assets and governance influence. The proposed STAF offers a diagnostic tool for understanding this dynamic, highlighting that technical infrastructure, while necessary, is insufficient.

To unlock transformative outcomes, open finance regimes require complementary mechanisms. These include governance reforms limiting incumbent capture, incentives for third-party co-creation, and financial education policies transforming passive consent into active user agency. Without such measures, open finance risks consolidating into a sophisticated compliance layer that reinforces, rather than challenges, oligopolistic concentration. This is particularly relevant in contexts where expectations regarding future value creation remain uncertain and unevenly distributed across actors, reinforcing the need to distinguish between anticipated and realized transformation.

These practical implications extend beyond financial regulation itself. Strengthening these complementary mechanisms is also essential for allowing open finance initiatives to fulfill their broader public policy ambitions associated with financial inclusion, innovation, resilient digital infrastructures, and more inclusive financial systems, objectives closely aligned with the United Nations Sustainable Development Goals (SDGs). If the transformative potential originally envisioned for OPF is eventually achieved, it may also contribute to broader sustainable development outcomes, particularly by expanding access to financial services and reducing information barriers for underserved populations, thereby reinforcing the objectives of SDG 1 while advancing the broader aspirations of SDGs 8, 9, 10, and 17.

Methodologically, the exclusive reliance on archival documentary analysis successfully mitigated the alignment bias inherent in executive interviews within concentrated sectors, enabling a longitudinal reconstruction of strategic behavior. However, it is imperative to acknowledge the boundaries of this study. Temporally, the analyzed period (2019–2025) captures the initial implementation phases of OPF; thus, the observed strategic accommodation may represent a transitional phase rather than a permanent equilibrium. Furthermore, the study adopts a supply-side perspective focused on systemically relevant incumbents, leaving the empirical reactions of smaller challengers and

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

end users outside its scope. Additionally, the mechanisms identified by the STAF may vary under different governance architectures, market structures, and forms of regulatory intervention.

These limitations outline a rich agenda for future research. First, as the Central Bank mandates new use cases such as payroll-deductible credit portability, longitudinal research is required to determine if regulatory persistence can eventually overcome structural inertia. Second, scholars should test the STAF in cross-sectoral open-data environments—such as Open Energy or Open Healthcare—to verify if incumbent containment persists outside financial services. Third, the theoretical propositions derived from the STAF invite deductive quantitative testing to measure correlations between governance centralization and the suppression of value co-creation. Fourth, future research must develop new metrics for ecosystem success that move beyond infrastructural vanity metrics (e.g., API calls) to accurately measure genuine value co-creation and market redistribution. Finally, longitudinal studies are needed to investigate how third-party entrants (e.g., fintechs) adapt their business models when operating within infrastructures strategically accommodated by dominant incumbents.

Most importantly, the utility of STAF extends beyond the Brazilian context. It offers a powerful diagnostic framework for comparative analyses across international open finance regimes and entirely different industries undergoing mandated interoperability, such as the healthcare and energy sectors. Applying the STAF to these domains will help identify when regulatory-driven openness is genuinely transformative and when it is merely absorbed.

In sum, the OPF experience illustrates a broader lesson that ecosystems are ultimately shaped by the strategic agency of organizations, not solely by regulatory design. The Brazilian case demonstrates that even the most advanced mandatory data-sharing regime can be accommodated when incumbents retain control over complementary assets and governance arenas.

Declaração de conflito de interesse

Os autores declaram que não há conflito de interesse.

Declaração de contribuição dos autores

Luiz Fernando Fogaça Vieira

conceitualização (igual), curadoria de dados (igual), análise formal (igual), investigação (igual), administração do projeto (igual), redação - rascunho original (igual), redação - revisão e edição (igual).

Walter Bataglia

conceituação (igual), curadoria de dados (igual), análise formal (igual), investigação (igual), administração do projeto (igual), redação - rascunho original (igual), redação - revisão e edição (igual).

Declaração de disponibilidade de dados da pesquisa

Todo o conjunto de dados de apoio aos resultados deste estudo foi publicado no próprio artigo.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Declaração de uso de IA

Os autores declaram que as ferramentas de inteligência artificial ChatGPT, Gemini e Grok, foram utilizadas como recurso auxiliar na revisão técnico-gramatical do texto e na normalização de referências bibliográficas.

References

Adner, R. (2017). Ecosystem as structure: An actionable construct for strategy. *Journal of Management*, *43*(1), 39–58. https://doi.org/10.1177/0149206316678451

Australian Banking Association. (2024). Consumer Data Right Strategic Review July 2024. https://www.ausbanking.org.au/wp-content/uploads/2024/07/CDR-Strategic-Review_July-2024.pdf

Australian Energy Regulator. (2025). Annual retail markets report 2024–25. https://www.aer.gov.au/system/files/2025-12/Annual%20Retail%20Market%20Report%202024%E2%80%9325%20-%2030%20November%202025_0.pdf

Baron, D. P. (1995). Integrated strategy: Market and nonmarket components. *California Management Review*, *37*(2), 47–65. https://doi.org/10.2307/41165788

Bataglia, W., Gallouj, F., Braga, A. C. S., & Hoelz, J. C. (2025). Institutions and co-creation of value in the service ecosystem of clinical trials for the development of new medicines. In *Impacts of innovation and cognition in management* (pp. 323–351). IGI Global. https://doi.org/10.4018/979-8-3693-5777-4.ch013

Berg, T., Burg, V., Gombović, A., & Puri, M. (2020). On the rise of fintechs: Credit scoring using digital footprints. *The Review of Financial Studies*, *33*(7), 2845–2897. https://doi.org/10.1093/rfs/hhz099

Bonomo, M., Brito, R. D., & Martins, B. (2015). The after crisis government-driven credit expansion in Brazil: A firm level analysis. *Journal of International Money and Finance*, *55*, 111–134. https://doi.org/10.1016/j.jimonfin.2015.02.017

Boot, A., Hoffmann, P., Laeven, L., & Ratnovski, L. (2021). Fintech: What's old, what's new? *Journal of Financial Stability*, *53*, 100836. https://doi.org/10.1016/j.jfs.2020.100836

Cambridge Centre for Alternative Finance. (2024). *The global state of open banking and open finance*. Cambridge Judge Business School, University of Cambridge. https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/the-global-state-of-open-banking-and-open-finance-report/.

Capeleti, P., Garcia, M., & Miessi Sanches, F. (2022). Countercyclical credit policies and banking concentration: Evidence from Brazil. *Journal of Banking & Finance*, *143*, 106589. https://doi.org/10.1016/j.jbankfin.2022.106589

Christensen, C. M. (1997). *The innovator's dilemma: When new technologies cause great firms to fail*. Harvard Business School Press.

Crubellate, J. M. (2007). Três contribuições conceituais neofuncionalistas à teoria institucional em organizações. *Revista de Administração Contemporânea*, *11*(spe1), 199–222. https://doi.org/10.1590/S1415-65552007000500010

David, P. A. (1985). Clio and the economics of QWERTY. *The American Economic Review*, *75*(2), 332–337.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, *48*(2), 147–160.

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Duarte, A., Frost, J., Gambacorta, L., Koo Wilkens, P., & Shin, H. S. (2022). Central banks, the monetary system and public payment infrastructures: Lessons from Brazil's Pix. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4064528

Exame (2025) *Open Finance representa "mudança natural" e crescimento é "inevitável", diz ex-diretor do BC* | Exame. https://exame.com/future-of- money/open-finance- representa-mudanca-natural-e-crescimento-e-inevitavel- diz-ex-diretor-do-bc/. Accessed 9 november 2025

Febraban & Deloitte Brasil (2025) *Pesquisa Febraban de tecnologia bancária 2025*. https://pesquisas.lp.deloittecomunicacao.com.br/pesquisa-febraban-tecnologia- bancaria-2025. Accessed 5 november 2025.

Foss, N. J., & Saebi, T. (2017). Fifteen years of research on business model innovation: How far have we come, and where should we go? *Journal of Management*, *43*(1), 200–227. https://doi.org/10.1177/0149206316675927

Fuster, A., Goldsmith-Pinkham, P., Ramadorai, T., & Walther, A. (2022). Predictably unequal? The effects of machine learning on credit markets. *The Journal of Finance*, *77*(1), 5–47. https://doi.org/10.1111/jofi.13090

Gawer, A. (2021). Digital platforms' boundaries: The interplay of firm scope, platform sides, and digital interfaces. *Long Range Planning*, *54*(5), 102045. https://doi.org/10.1016/j.lrp.2020.102045

Gawer, A., & Cusumano, M. A. (2014). Industry platforms and ecosystem innovation. *Journal of Product Innovation Management*, *31*(3), 417–433. https://doi.org/10.1111/jpim.12105

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, *16*(1), 15–31. https://doi.org/10.1177/1094428112452151

Golden, B. R. (1992). The past is the past-or is it? The use of retrospective accounts as indicators of past strategy. *Academy of Management Journal*, *35*(4), 848–860. https://doi.org/10.2307/256318

Gomes, L. A. de V., Facin, A. L. F., Salerno, M. S., & Ikenami, R. K. (2018). Unpacking the innovation ecosystem construct: Evolution, gaps and trends. *Technological Forecasting and Social Change*, *136*, 30–48. https://doi.org/10.1016/j.techfore.2016.11.009

Gonçalves, A. V, & de Araujo, F. O. (2022). The implementation of open banking in Brazil: an overview from the perspectives of professionals from large retail banks. *Brazilian Journal of Operations and Production Management*, *19*(4). https://doi.org/10.14488/BJOPM.1661.2022

Grassi, L., Figini, N., & Fedeli, L. (2022). How does a data strategy enable customer value? The case of FinTechs and traditional banks under the open finance framework. *Financial Innovation*, *8*(1). https://doi.org/10.1186/s40854-022-00378-x

Iansiti, M., & Levien, R. (2004). *The keystone advantage: What the new dynamics of business ecosystems mean for strategy, innovation, and sustainability*. Harvard Business School Press.

IstoÉ Dinheiro. (2022). *Nova metodologia do BC para concentração bancária considera 4 maiores*. https://istoedinheiro.com.br/nova-metodologia-do-bc-para- concentracao-bancaria-considera-4-maiores. Accessed 15 November 2025.

Jacobides, M. G. (2022). How to compete when industries digitize and collide: An ecosystem development framework. *California Management Review*, *64*(3), 99–123. https://doi.org/10.1177/00081256221083352

Jacobides, M. G., Cennamo, C., & Gawer, A. (2018). Towards a theory of ecosystems. *Strategic Management Journal*, *39*(8), 2255–2276. https://doi.org/10.1002/smj.2904

Joaquim, G., Van Doornik, B., Renato, J., & Ornelas, H. (2023). *BIS Working Papers No 1134 Bank competition, cost of credit and economic activity: evidence from Brazil*. https://www.bis.org/publ/work1134.pdf

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Kim, K. K., & Prabhakar, B. (2004). Initial trust and the adoption of B2C e-commerce. *ACM SIGMIS Database: The DATABASE for Advances in Information Systems*, *35*(2), 50–64. https://doi.org/10.1145/1007965.1007970

Langley, A., & Abdallah, C. (2011). *Templates and turns in qualitative studies of strategy and management* (Vol. 6, pp. 201–235). Research Methodology in Strategy and Management. https://doi.org/10.1108/S1479-8387(2011)0000006007

Lawrence, T. B., & Suddaby, R. (2006). Institutions and institutional work. In *The Sage Handbook of Organization Studies* (pp. 215–254). Sage Publications Ltd. https://doi.org/10.4135/9781848608030.n7

Lorenzo, M. F., Joia, L. A., & Stoll, F. C. (2026). Mobile instant payment systems and financial inclusion: A delphi-based analysis of Brazil's pix. *Electronic Journal of Information Systems in Developing Countries*, *92*(3). https://doi.org/10.1002/isd2.70064

Machado-da-Silva, C. L., Guarido Filho, E. R., & Rossoni, L. (2006). Campos organizacionais: Seis diferentes leituras e a perspectiva de estruturação. *Revista de Administração Contemporânea*, *10*(spe), 159–196. https://doi.org/10.1590/S1415-65552006000500009

Mancuso, I., Petruzzelli, A. M., Panniello, U., & Vaia, G. (2025). Business model innovation in the banking sector: How digital technologies transform innovation drivers in value mechanisms innovations. *Journal of Engineering and Technology Management*, *75*, 101858. https://doi.org/10.1016/J.JENGTECMAN.2024.101858

Martins, T. S., Bortoluzzo, A. B., & Lazzarini, S. G. (2014). Competição bancária: comparação dos comportamentos de bancos públicos e privados. *Revista de Administração Contemporânea*, *18*(spe), 86–108. https://doi.org/10.1590/1982-7849rac20141876

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, *83*(2), 340–363. https://doi.org/10.1086/226550

Mintel. (2024). UK current accounts market report 2024. Retrieved May 24, 2026, from https://store.mintel.com/report/uk-current-accounts-market-report-2024

Moore, J. F. (1993). *Predators and Prey: A New Ecology of Competition Harvard Business Review*

Niemand, T., Rigtering, J. P. C., Kallmünzer, A., Kraus, S., & Maalaoui, A. (2021). Digitalization in the financial industry: A contingency approach of entrepreneurial orientation and strategic vision on digitalization. *European Management Journal*, *39*(3), 317–326. https://doi.org/10.1016/J.EMJ.2020.04.008

Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review*, *16*(1), 145–179. https://doi.org/10.2307/258610

OECD. (2023). *Open finance policy considerations*. OECD Publishing. https://doi.org/10.1787/19ef3608-en

Open Banking Limited. (2025). Behind the Numbers: Open banking APIs and the Infrastructure of Financial Innovation. Retrieved May 24, 2026, from https://www.openbanking.org.uk/insights/behind-the-numbers-open-banking-apis-and-the-infrastructure-of-financial-innovation/

Paula, L. F. de, Oreiro, J. L., & Basilio, F. A. C. (2013). Estrutura do setor bancário e o ciclo recente de expansão do crédito: O papel dos bancos públicos federais. *Nova Economia*, *23*(3), 473–520. https://doi.org/10.1590/S0103-63512013000300001

Pettigrew, A. M. (1990). Longitudinal field research on change: Theory and practice. *Organization Science*, *1*(3), 267–292. https://doi.org/10.1287/orsc.1.3.267

Ramaswamy, V., & Ozcan, K. (2014). *The co-creation paradigm*. Stanford University Press. https://doi.org/https://doi.org/10.1515/9780804790758

Ramdani, B., Binsaif, A., Boukrami, E., & Guermat, C. (2022). Business models innovation in investment banks: A resilience perspective. *Asia Pacific Journal of Management*, *39*, 51–78. https://doi.org/10.1007/s10490-020-09723-z

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Schapiro, M. G., Mouallem, P. S. B., & Dantas, E. G. (2023). Pix: explaining a state-owned fintech. *Brazilian Journal of Political Economy*, *43*(4), 874–892. https://doi.org/10.1590/0101-31572023-3470

Schreieck, M., Wiesche, M., & Krcmar, H. (2022). From product platform ecosystem to innovation platform ecosystem: An institutional perspective on the governance of ecosystem transformations. *Journal of the Association for Information Systems*, *23*(6), 1354–1385. https://doi.org/10.17705/1jais.00764

Sydow, J., Schreyögg, G., & Koch, J. (2009). Organizational path dependence: Opening the black box. *Academy of Management Review*, *34*(4), 689–709. https://doi.org/10.5465/amr.34.4.zok689

Teece, D. J. (2010). Business models, business strategy and innovation. *Long Range Planning*, *43*(2–3), 172–194. https://doi.org/10.1016/j.lrp.2009.07.003

Tolentino, M., & Cataldo, B. (2023). Resultados preliminares do open finance brasil: Uma análise descritiva do perfil de acesso ao ecossistema. *Revista Estudos Institucionais*, *9*(2), 320–342. https://doi.org/10.21783/rei.v9i2.765

Tripsas, M., & Gavetti, G. (2000). Capabilities, cognition, and inertia: Evidence from digital imaging. *Strategic Management Journal*, *21*(10), 1147–1161. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1147::AID-SMJ128>3.0.CO;2-R

Ventresca, M. J., & Mohr, J. W. (2017). Archival research methods. In *The Blackwell Companion to Organizations* (pp. 805–828). Wiley. https://doi.org/10.1002/9781405164061.ch35

Yin, R. K. . (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.

Zachariadis, M., & Ozcan, P. (2017). The api economy and digital transformation in financial services: the case of open banking. *SSRN Electronic Journal*, Art. Swift Institute Working Paper 2016-001. https://doi.org/http://dx.doi.org/10.2139/ssrn.2975199

Zetzsche, D. A., Arner, D. W., & Buckley, R. P. (2020). Decentralized finance. *Journal Of Financial Regulation*, *6*(2), 172–203. https://doi.org/10.1093/jfr/fjaa010

Corporate disclosures

Australian Competition and Consumer Commission (2022) *Consumer Data Right: Annual report 2021–22*. https://www.transparency.gov.au/publications/treasury/australian-competition-and-consumer-commission-accc/australian-competition-and-consumer-commission-annual-report-2021-22

Banco Central do Brasil (2020-2024) *Banking Reports – 2019-2023*. https://www.bcb.gov.br/en/publications/bankingreport

Banco Central do Brasil (2020-2025) *Financial Stability Reports – 2019-2025*.
https://www.bcb.gov.br/en/publications/financialstabilityreport

Banco do Brasil. (2021-2025). *Annual reports –2020-2024*. https://ri.bb.com.br/en/investor-services/downloads/

Bradesco. (2021-2025). *Integrated reports – 2020-2024*. https://www.bradescori.com.br/en/market-information/reports-and-spreadsheets/reports/

Caixa Econômica Federal. (2021-2025). *Integrated reports - 2020-2024*. https://ri.caixa.gov.br/informacoes-financeiras/central-de-resultados/

Itaú Unibanco. (2021-2025). *Integrated annual reports – 2020 - 2024*. https://www.itau.com.br/relacoes-com-investidores/relatorio-anual-integrado/

Nu Holdings Ltd. (2021–2025). *ESG reports - 2021–2024*. https://www.investidores.nu/reports-2/

Nu Holdings Ltd. (2023–2025). *Relatórios de Riscos e Oportunidades Sociais, Ambientais e Climáticas (GRSAC) – 2022–2024*. https://nubank.com.br/transparencia/relatorios-financeiros

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

Open Finance Brasil Dashboard do Cidadão (n.d.) In: https://openfinancebrasil.org.br/dashboard-do-cidadao/

Santander (Brasil) (2021-2025). *Annual reports – 2020-2024*. https://www.santander.com.br/ri/en/results-and-reports/reports-and-presentations/

Appendix

Table 3 - Analytical procedures.

Institution	Document Type	Period	Pages	Status in Analysis
Banco Central do Brasil	Banking Report & Financial Stability Report	2019–2025	1,714	Final Corpus (Macro-regulatory baseline)
Banco do Brasil	Annual Report & Letter of Public Policies	2020–2024	1,468	Final Corpus (Primary strategic narrative & CEF symmetry)
Bradesco	Integrated Report	2020–2024	1,039	Final Corpus (Primary strategic narrative)
Caixa Econômica Federal	Integrated Report	2020–2024	1,025	Final Corpus (Primary strategic narrative)
Itaú Unibanco	Integrated Annual Report	2020–2024	645	Final Corpus (Primary strategic narrative)
Santander Brasil	Integrated Annual Report	2020–2024	386	Final Corpus (Primary strategic narrative)
Nubank	ESG Report & GRSAC	2021–2024	179	Final Corpus (Primary strategic narrative)
Incumbent Banks *(BB, Bradesco, Itaú, Santander)*	CVM Reference Forms	2020–2025	9,216	Excluded (Compliance-driven filing)
Corpus Refinement				
Initial pool before filtering	Standard corporate and regulatory reports		15,476	

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

(+) Documents Included	BB Public Policy Letters for CEF symmetry	196
(–) Documents Excluded	CVM Reference Forms	–9,216
Final analyzed pool	Analyzed Corpus	6,456

Source: Authors' elaboration.

Table 4 - Gioia Data Structure: First-Order Concepts, Second-Order Themes, and Aggregate Dimensions.

First-Order Concepts (Representative quotations – translated)	**Second-Order Themes**	**Aggregate Dimensions**
Banco Central do Brasil: "The Joint Resolution 1, of the BCB and the National Monetary Council (CMN), and the BCB Circular 4,015, both dated May 4, 2020, established the fundamental rules for the implementation of the Open Banking System in Brazil which aims to increase competitiveness in the SFN and the development of new business models focused on offering products that are better suited to the clients' profiles." (BCB, *Banking Report,* 2021, p.140)	1. Mandatory regulatory obligation and compliance	Institutional Compliance Infrastructure
"Based on the proposals formulated by the governance structure, the BCB issued normative acts containing the technical requirements for sharing data and services in Open Finance in the four phases of the project." (BCB, *Banking Report,* 2022, p.102)		
Itaú: "Open Finance, presented above, follows a series of rules laid down by the Central Bank, precisely to ensure the transparent, secure data sharing. Its APIs operate in an enclosed environment, controlled and regulated by the Central Bank and the National Monetary Council..." (Itaú, 2022, p.11)		
Caixa Econômica Federal: "We are responsible for ensuring that the Open Financial System is implemented according to the phases and cycles defined by the Open Finance governance structure and in compliance with the guidelines regulated by the Central Bank." (Caixa, 2023, p.35).		
Banco do Brasil: "One of the material issues we have today is the Open Banking - OpB. We have carried out actions for both regulatory compliance and our own related initiatives. The Regulatory Open Banking scheme is defined by the Central Bank and will be implemented in Brazil in 2021." (Banco do Brasil, 2021, p.135)		
Bradesco: "Open banking, whose remaining phases will be implemented over the course of the year, poses challenges for financial institutions (such as the creation of an infrastructure for Application Programming Interface [APIs] to operationalize the sharing of client data and payment authorization, consumer data protection, etc.)." (Bradesco, 2021, p.105).		

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

First-Order Concepts (Representative quotations – translated)	Second-Order Themes	Aggregate Dimensions
Banco Central do Brasil: "This system is based on the sharing of data and services between institutions authorized by BCB, by means of specialized technological platforms (Application Programming Interfaces − APIs), upon consent by individuals and firms." (BCB, *Banking Report,* 2021, p.140-141).	2. Incremental technical modernization	
"[Open Banking] allows the contracting of financial services in an electronic environment of third parties and not only through the bank's app or homepage, in a safe, agile, and convenient way." (BCB, *Banking Report,* 2021, p.141).		
Itaú: "The goal of Open Finance is the openness and the consented sharing of data and registration and transactional information of people and companies, using APIs (Application Programming Interface) that allow different institutions that make up the financial ecosystem to consume this data...". (Itaú, 2022, p.10).		
"Our business model was built to enable clients to find all their financial products in a single place, through the channel that is most convenient for them. This is the operating concept we call 'full bank'." (Itaú, 2021, p.56).		
"This transformation process involves modernizing our technological platforms: beyond just migrating them to the cloud, a more agile, flexible infrastructure, we have been rewriting the underlying code to make it ready for continuous evolution... Nowadays, more than 60% of our entire technological platform has already undergone the modernization process..." (Itaú, 2024, p.60).		
Banco do Brasil: "We launched the New Developer Portal... a platform for creating and managing APIs, with fully free access to our customers and non-customers... In this portal, you can access the APIs developed for... Open Banking – Open Data." (Banco do Brasil, 2021, p.135)		
"With a robust and permanently modernized IT architecture, and that efficiently meets the business needs, Banco do Brasil continues to invest in cloud solutions. These investments translate into greater flexibility and speed in delivering solutions to our customers..."		
(Banco do Brasil, 2023, p.109).		
"In December 2023, Banco do Brasil had 29.6 million active customers on digital platforms. Transactions through these channels represented 93% of BB customer transactions." (Banco do Brasil, 2024, p.134).		

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

First-Order Concepts (Representative quotations – translated)	Second-Order Themes	Aggregate Dimensions
Caixa Econômica Federal: "We continue to direct our efforts in making digital businesses feasible, giving continuity to the largest social, digital, and financial inclusion movement in Brazil with the creation of new services and digital businesses, in which personal data and loans can be updated and granted in a 100% digital environment." (Caixa, 2023, p.35)		
"Investments in IT services were fundamental to modernizing our technological infrastructure and improving cybersecurity... We carried out significant technological upgrades, resulting in a 10.7% increase in total banking transactions, with notable growth of 18.7% in Internet Banking..." (Caixa, 2025, p.93).		
Bradesco: "Nearly 98% of transactions performed by our clients were done through Bradesco digital channels, particularly on the Bradesco App (Individuals and Companies), which posted a 57% growth in financial transactions compared to the previous year." (Bradesco, 2023, p.67).		
"Cloud computing is an essential enabler in digital transformation. It adopts modern accelerators and structures that allow us to be much more dynamic and agile when delivering solutions... This is why we have made consistent progress on adopting this structure, maintaining a 'multicloud' strategy..." (Bradesco, 2023, p.98).		
Santander: [translated from PT to EN] "Before everyone started talking about Open Finance, we invited Gil do Vigor [a Brazilian influencer] to explain the subject in a clear and humorous way." (Santander, 2022, p.31).	3. Strategic silence or minimal mention	Decoupled Strategic Engagement
Complete absence of the terms "Open Finance" and "Open Banking" in the provided corporate reports for the years 2020, 2022, 2023, and 2024. The strategic focus highlights proprietary digital ecosystems without linking them to the regulatory Open Finance mandate.		
(Satander, 2021; 2023-2025).		
Nubank: Almost complete absence of the term 'Open Finance' in the strategic discourse of its ESG Reports (2021-2024). The only mention of the system is restricted to a mere figurative bullet point in a historical timeline of product launches in 2022, with absolute silence regarding metrics, business models, or strategic relevance throughout the rest of these documents and other corporate reports. In contrast, the institution's strategic narrative revolves entirely around proprietary financial inclusion models, massive internal data collection—explicitly stating, 'we collect over 30,000 data points per active customer on a monthly basis'		

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

First-Order Concepts (Representative quotations – translated)	Second-Order Themes	Aggregate Dimensions
—and independent product expansion driven by their proprietary 'low and grow' credit strategy. In their Reports on Social, Environmental, and Climate Risks and Opportunities (GRSAC), Open Finance is not even mentioned. (Nubank, *ESG Reports,* 2021-2024; *GRSAC Reports,* 2022-2024).		
Banco Central do Brasil: "Since its implementation, BRL18 billion in credit operations has been reported, originating from analyses of shared Open Finance data. Mapping indicates that fintechs benefited 4.3 million clients by offering credit through shared data analysis, generating BRL3.2 billion in new credits during the period." (BCB, *Financial Stability Report*, 2025a, p.78).	4. Marginal or very low commercial impact	
"In 2024, one institution reported BRL2 billion in credit portability transactions using shared Open Finance data. Although the process has not yet leveraged the infrastructure of the open system directly..." (BCB, *Financial Stability Report*, 2025a, p.78).		
Banco do Brasil: "Loan Portability: reached R$ 1.9 billion in contracted volume in 2024, benefiting more than 55,000 customers with more advantageous conditions." (Banco do Brasil, 2025, p.146).		
(Methodological note: This value represents about 0.14% of the bank's expanded loan portfolio, which totaled R$ 1.3 trillion in the same year, evidencing the marginal impact).		
"Those who had a debt balance at another institution were able to take out credit at lower rates at BB. From July to December 2023, more than R$ 136 million were disbursed to more than 5 thousand customers." (Banco do Brasil, 2024, p.136).		
Empirical Evidence (Sector-wide): *Despite other incumbents explicitly declaring their strategic intentions to leverage Open Finance for commercial purposes—such as prospecting and retention—an exhaustive review of the corporate reports reveals that Banco do Brasil is the sole institution to present materialized financial results. This widespread absence of conversion data reinforces the marginal commercial impact of the system)*		
Bradesco: "The arrival of Open Finance in Brazil has transformed the financial market. The sharing of data gives clients more autonomy over their financial lives, while also presenting institutions with new business opportunities through the development of personalized products and services, resulting in even more innovative experiences." (Bradesco, 2025, p.48).	5. Rhetorical customer-centricity and convenience	Incumbent-Centric Ecosystem Structuring

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

First-Order Concepts (Representative quotations – translated)	Second-Order Themes	Aggregate Dimensions
"To simplify the customer experience and offer a seamless service, we developed a financial manager that consolidates shared information – from Bradesco accounts and other institutions – in the Bradesco app and Net Empresa. This allows the customer to benefit from a comprehensive view of their financial life in one place." (Bradesco, 2025, p.48).		
"Through continual investments in our digital channels focused on improving our customer experience, we provide a unique account access app for individual clients that recognizes their profile and automatically adjusts to their segment." (Bradesco, 2021, p.177).		
Banco do Brasil: "Minhas Finanças Multibanco... This tool enables customers to centralize their financial life in Banco do Brasil, with an integrated overview of their commitments, entries in accounts and cards, balances and consumption habits. The full solution includes tools, such as Multibank Statement, Financial Agenda, Consumer Profile and Financial Planning." (Banco do Brasil, 2023, p.114).		
Caixa Econômica Federal: "A new service is being implemented to combine financial information of CAIXA's customers and non-customers... Users will be able to gain unified control of their finances online, thus managing transactions, in a simple way to improve their financial planning and education." (Caixa, 2023, p.35).		
Itaú: "The Brazilian financial sector as a whole has become increasingly		
client-centered by fast-tracking the digitalization of financial		
services and relevant amendments to regulations in recent		
years, such as Pix and Open Finance, which open up a range of		
opportunities for us to better serve our clients." (Itaú, 2022, p.6).		
"We accelerated our business transformation plans, assuming a more agile posture and redoubling our commitment to improving our clients' experience. We were able to accelerate our digitalization trajectory, reaping benefits far more significant than simply the financial results."		
(Itaú, 2022, p.2).		
Banco Central do Brasil: "Throughout 2024, the volume of Pix transactions initiated through Open Finance payment systems increased significantly, accelerating in the second half with a 131% rise compared to the first six months. By the end of 2024, these transactions totaled BRL3.2 billion, more than five times the BRL624 million recorded the previous year." (BCB, *Financial Stability Report*, 2025a, p.79).	6. Payment initiation as the primary scalable use case	

SciELO Preprints - This document is a preprint and its current status is available at: https://doi.org/10.1590/1982-7849rac2027260025.en

First-Order Concepts (Representative quotations – translated)	Second-Order Themes	Aggregate Dimensions
"Customers will be able to link their accounts to a specific digital wallet to make contactless Pix payments in physical stores. This same journey will allow Pix payments in e-commerce through a pre linked account, eliminating the need for QR Code scans or the Copy and Paste process." (BCB, *Financial Stability Report*, 2025a, p.77).		
Banco do Brasil: "In April 2022, Banco do Brasil was the first large bank admitted to operate as a payment initiation service provider by the Central Bank of Brazil. As from the second half of the year, we were pioneers in launching several solutions using this structure: Pix Open Finance transfers on BB App and BB WhatsApp, payment of personal loans installments (CDC product) and investment in funds using balances from other banks." (Banco do Brasil, 2023, p.110).		
"Furthermore, BB Pay is integrated with Open Finance, providing a BB White Label API as an initiator of payment transactions. This performance earned BB the position of first bank to receive payments from other institutions for investment funds and loan repayments..." (Banco do Brasil, 2024, p.140).		
Bradesco: "We were pioneers in allowing our clients to perform transactions via Pix on the Bradesco App, using the balance of their Bradesco accounts and/or those of other financial institutions. This solution, which is made possible by sharing information via Open Finance... allowing them to perform transactions in a single place." (Bradesco, 2023, p.72).		
Caixa Econômica Federal: "We are working on structuring a payment initiator through Open Finance, which will allow CAIXA Pix transactions to use balances from accounts at other participating banks, a process that will be carried out from start to finish on our digital channel." (Caixa, 2023, p.35)		

Source: Authors' elaboration.

This preprint was submitted under the following conditions:

- The authors declare that the necessary Terms of Free and Informed Consent of participants or patients in the research were obtained and are described in the manuscript, when applicable.
- The authors declare that the preparation of the manuscript followed the ethical norms of scientific communication.
- The authors declare that they are aware that they are solely responsible for the content of the preprint and that the deposit in SciELO Preprints does not mean any commitment on the part of SciELO, except its preservation and dissemination.
- The authors declare that the data, applications, and other content underlying the manuscript are referenced.
- The deposited manuscript is in PDF format.
- The authors declare that the research that originated the manuscript followed good ethical practices and that the necessary approvals from research ethics committees, when applicable, are described in the manuscript.
- The authors declare that once a manuscript is posted on the SciELO Preprints server, it can only be taken down on request to the SciELO Preprints server Editorial Secretariat, who will post a retraction notice in its place.
- The authors agree that the approved manuscript will be made available under a Creative Commons CC-BY license.
- The submitting author declares that the contributions of all authors and conflict of interest statement are included explicitly and in specific sections of the manuscript.
- The authors declare that the manuscript was not deposited and/or previously made available on another preprint server or published by a journal.
- If the manuscript is being reviewed or being prepared for publishing but not yet published by a journal, the authors declare that they have received authorization from the journal to make this deposit.
- The submitting author declares that all authors of the manuscript agree with the submission to SciELO Preprints.