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Institutional-Digital Sustainability: Reformulating Sustainability as a Structural Principle of the Digital Rule of Law

Sustentabilidade Institucional-Digital: Reformulando a Sustentabilidade como Princípio Estruturante do Estado de Direito Digital

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ABSTRACT: The concept of sustainability is firmly established in contemporary law and traditionally associated with environmental protection, intergenerational justice, and socio-economic stability. However, this ecological paradigm proves insufficient in the context of the digitalisation of normative infrastructures, where digital platforms and algorithmic systems exercise structural power over public space, information flows, and the exercise of fundamental rights.

This article proposes a conceptual reformulation of sustainability through the introduction of institutional-digital sustainability as a new structural pillar of the rule of law. It argues that preserving the rule of law in the digital age depends not only on environmental and economic protection but also on the integrity, transparency, contestability, and resilience of digital infrastructures shaping social and economic relations.

Adopting a legal-dogmatic and systematic approach, the study connects digital constitutionalism with the European regulatory framework, particularly the Digital Services Act (DSA), Digital Markets Act (DMA), and Artificial Intelligence Act (AI Act). The article concludes that institutional-digital sustainability operates as an autonomous normative parameter requiring enhanced transparency, accountability, and institutional diligence from large digital platforms and algorithmic systems.

KEYWORDS: Sustainability; Rule of Law; Institutional-Digital Sustainability; Digital Platforms; Algorithmic Governance; European Regulation.

RESUMO: O conceito de sustentabilidade encontra-se firmemente consolidado no direito contemporâneo, tradicionalmente associado à proteção ambiental, à justiça intergeracional e à estabilidade socioeconómica. Contudo, este paradigma ecológico revela-se insuficiente perante o atual processo de digitalização das infraestruturas normativas, no qual plataformas digitais e sistemas algorítmicos exercem um poder estrutural sobre a organização do espaço público, a circulação da informação e o exercício de direitos fundamentais.

O presente artigo propõe uma reformulação conceptual da sustentabilidade mediante a introdução da sustentabilidade institucional-digital como novo pilar estruturante do Estado de Direito. Sustenta-se que a preservação do Estado de Direito na era digital depende não

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apenas da proteção dos recursos naturais ou do equilíbrio económico, mas também da integridade, transparência, contestabilidade e resiliência das infraestruturas digitais que estruturam as relações sociais e económicas.

Adotando uma abordagem jurídico-dogmática e sistemática, o estudo articula o constitucionalismo digital com o quadro regulatório europeu, em particular o Digital Services Act (DSA), o Digital Markets Act (DMA) e o Artificial Intelligence Act (AI Act). Conclui-se que a sustentabilidade institucional-digital constitui um parâmetro normativo autónomo, impondo reforçadas exigências de transparência, accountability e diligência institucional às grandes plataformas digitais e sistemas algorítmicos.

PALAVRAS-CHAVE: Sustentabilidade; Estado de Direito; Sustentabilidade Institucional-Digital; Plataformas Digitais; Governação Algorítmica; Regulação Europeia

1. Introduction

In recent decades, sustainability has assumed a central role in contemporary law and has evolved from a merely programmatic orientation into a structuring principle with interpretative and normative relevance. Originally associated with environmental protection and intergenerational justice, the concept has progressively expanded to encompass economic and social dimensions and is commonly conceptualised through the three-pillar model: environmental, economic, and social sustainability⁵.

Despite this expansion, sustainability remains predominantly anchored in the protection of natural resources, economic balance, and social cohesion, while its institutional dimension has received comparatively limited autonomous development. This limitation becomes particularly significant in the context of the digital transformation of regulatory infrastructures.

The digitalisation of social, economic, and communicative relations has shifted significant centres of normative power towards digital platforms and technological infrastructures. The organisation of public space, the circulation of information, and the effective exercise of fundamental rights are increasingly mediated by technological architectures whose scale, opacity, and asymmetry challenge the classical assumptions of the rule of law. Legal scholarship has responded to these developments through diverse analytical approaches.

Digital constitutionalism seeks to conceptualise platform power within constitutional categories⁶: the theory of social constitutionalism proposes the recognition of

⁵ CLUNE, William H.; ZEHNDER, Alexander J. B., *The Three Pillars of Sustainability Framework: Approaches for Laws and Governance*, Journal of Environmental Protection, 2018, vol. 9, pp. 214–220.

⁶ CELESTE, Edoardo; PALLADINO, Nicola; REDEKER, Dennis; YILMA, Kinfe Micheal, *Digital Constitutionalism: In Search of a Content Governance Standard*. In: CELESTE, Edoardo; HELDT, Amélie; KELLER, Clara Iglesias (eds.), *Constitutionalising social media*, Oxford: Hart Publishing, 2022, pp. 45–52.

constitutionalising processes in different social systems⁷, algorithmic governance is analysed from the perspective of accountability and intelligibility of decisions⁸ and the European legislator introduced structural regulatory mechanisms, as provided for in the Digital Services Act (DSA), which focus on the assessment of systemic risks⁹.

Despite the theoretical and regulatory advances achieved, digital constitutionalism remains conceptually fragmented. Existing approaches identify problems such as excessive content moderation, opacity, concentration of power, and systemic risk, yet lack a common structural criterion enabling a systematic assessment of the institutional impact of digital infrastructures on the rule of law.

Against this background, this study asks whether sustainability can be reconceptualised to incorporate an institutional-digital dimension capable of preserving the structural conditions of the rule of law in technologically mediated societies. It proceeds from the hypothesis that sustainability should be reformulated as a principle ensuring the long-term preservation of transparency, predictability, contestability, and accountability within technologically mediated normativity. The investigation adopts a legal-dogmatic approach, complemented by systematic interpretation and critical analysis of the contemporary European regulatory framework, particularly the Digital Services Act (DSA), the Digital Markets Act (DMA), and the Artificial Intelligence Act (AI Act). Within this framework, institutional-digital sustainability functions as an interpretative meta-standard capable of ensuring the coherent application of existing EU regulatory instruments. Drawing on the literature on digital constitutionalism and algorithmic governance, the article identifies an existing conceptual gap and proposes a dogmatic definition of institutional-digital sustainability as an integrative category. The article argues that safeguarding the rule of law in the twenty-first century depends not only on environmental protection or economic balance, but also on the integrity and resilience of digital infrastructures structuring social and economic relations. Institutional-digital sustainability thus emerges as a systematic framework providing a comprehensive normative criterion for assessing the institutional impact of technological transformation.

⁷ TEUBNER, Gunther; GOLIA JR., Angelo, *Societal Constitutionalism in the Digital World: An Introduction*, MPIL Research Paper Series, n° 2023-11, 2023, pp. 4–8.

⁸ AERI, Maryam Amir *et al.*, *Promises and Pitfalls of Algorithmic Use by State Authorities*, Philosophy & Technology, 2022, vol. 35, art. 33, pp. 9–14, DOI:10.1007/s13347-022-00528-0.

⁹ EDER, Niklas, *Making Systemic Risk Assessments Work: How the DSA Creates a Virtuous Loop to Address the Societal Harms of Content Moderation*, German Law Journal, 2024, vol. 25, pp. 1197–1218, esp. pp. 1202–1205, DOI: 10.1017/glj.2024.24.

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2. Objective and methodology:

This study adopts a legal-dogmatic approach, complemented by systematic interpretation and critical conceptual analysis of the contemporary European legal framework. Legal dogmatics is understood as a method of rational reconstruction of the normative system aimed at conceptual delimitation, identification of operational categories, and preservation of the internal coherence of the legal order.

The research question: the preservation of the structural conditions of the rule of law in the context of digitally mediated normativity—primarily requires theoretical systematisation and conceptual clarification rather than empirical investigation. Accordingly, the analysis examines the relationship between the structuring principles of the rule of law, digital constitutionalism, and the contemporary expansion of sustainability as a legal principle.

Systematic interpretation enables the integration of dispersed regulatory dimensions—including systemic risk, algorithmic responsibility, and private content governance—under a common structural criterion. The literature review is conducted for reconstructive purposes, identifying conceptual fragmentation and structural gaps within current debates on digital constitutionalism.

On this basis, the article formulates institutional-digital sustainability as an integrative dogmatic category. The study therefore adopts a predominantly normative and reconstructive methodology within the tradition of jurisprudence as systematic legal reasoning.

The article aims to reconceptualise sustainability as a structuring legal principle through the notion of institutional-digital sustainability and to derive regulatory implications for the European framework, particularly the Digital Services Act (DSA), Digital Markets Act (DMA), and Artificial Intelligence Act (AI Act).

3. Literature review:

3.1. Digital Constitutionalism and constitutionalisation beyond the State

Digital constitutionalism has emerged as an attempt to legally address the transfer of regulatory power to private digital infrastructures. The central issue is therefore not merely regulatory but structural: digital platforms increasingly perform functions related to the organisation of public discourse, the mediation of social interactions, and the establishment of admissibility criteria governing online communication spaces.

The theory of social constitutionalism offers a solid starting point for understanding this

change. Teubner and Golia argue that constitutionalisation can occur in functionally differentiated social systems when they develop internal mechanisms of self-restraint and institutionalization of conflicts¹⁰.

Applied to the digital sphere, this perspective allows platforms to be interpreted as partial normative orders in which moderation rules, terms of service, and internal dispute-resolution mechanisms function as elements of a quasi-constitutional architecture.

However, this analytical transfer raises significant difficulties. Costello warns that the use of constitutional language in the digital context may create an illusion of normative coherence, questioning whether private structures lacking functional separation, transparency, and accountability comparable to that of the State can genuinely be considered constitutional.

The central problem is therefore structural: constitutionalisation in the digital sphere risks becoming merely rhetorical. This critique reveals a persistent gap in the literature, namely the absence of an external criterion capable of assessing whether digital infrastructures preserve or undermine the rule of law.

Recent scholarship highlights a broader shift in the locus of normativity, as automated public decision-making, platform-based governance, and European regulation of artificial intelligence collectively reconfigure the structural conditions of the rule of law within a polycentric technological environment.

At the level of public administration, scholarship on automated decision-making highlights a qualitative transformation of state authority resulting from the integration of algorithmic systems into core administrative functions. Automation operates not merely as an efficiency tool but reshapes the epistemic foundations of decision-making, as outcomes increasingly depend on statistical models whose internal logic may remain inaccessible to affected individuals and judicial review. Algorithmic opacity weakens justification requirements and generates structural asymmetries between public authorities and citizens, while responsibility becomes fragmented across complex technological and organisational chains involving public institutions and private developers, thereby challenging traditional mechanisms of accountability.

Digital constitutionalism thus emerges as an attempt to reintroduce structural guarantees such as logical foundation, meaningful human supervision and impact

¹⁰ TEUBNER, Gunther; GOLIA JR., Angelo, *Societal Constitutionalism in the Digital World: An Introduction*, MPIL Research Paper Series, n° 2023-11, 2023, pp. 4–8.

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assessments on the technological infrastructures themselves¹¹.

However, the proposal continues to focus on protecting fundamental rights against the automated power of the state.

The emphasis is placed mainly on guarantees and procedures, the structural transformation of institutional architecture is recognized, but not fully systematized as a problem of the sustainability of the rule of law itself.

At a different but complementary level, Larry Catá Backer moves the debate to the domain of digitalized corporate governance, digitalisation is presented as a transformation of the ontology of trust in corporate and regulatory structures¹².

Trust, traditionally understood as a relational and qualitative attribute, becomes a measurable variable generated by metrics, indicators and platforms of continuous evaluation.

Corporate governance now takes place through digital infrastructures that generate, monitor and quantify trust as a normative result.

Backer describes the emergence of “trust platforms” as polycentric spaces for normative production, in which digital audits, ESG metrics, automated compliance systems, and continuous reporting structure economic behaviour at a transnational level¹³.

These platforms not only assess compliance but also produce regulatory standards that guide investment expectations and decisions.

Normativity is no longer based exclusively on the text of the law, but it arises from the digital architecture that measures and classifies behaviour.

Backer’s contribution reveals a structural phenomenon: Institutional trust is increasingly being outsourced to digital systems, which simultaneously act as governance instruments and spaces for normative production.

Digitalisation transforms trust into calculation; however, the analysis focuses mainly on corporate governance and the polycentric logic of transnational regulation without fully developing the constitutional implications of this transformation for the rule of law as an institutional structure.

¹¹ Id., pp. 62–64. The authors propose the adoption of algorithmic impact assessments, meaningful human oversight mechanisms, and permanent institutional structures dedicated to monitoring, auditing and supervising automated decision-making systems.

¹² BACKER, Larry Catá, *Trust Platforms: The Digitalisation of Corporate Governance and the Transformation of Trust in Polycentric Space*, Regulation & Governance, 2024, pp. 1–23.

¹³ Id., pp. 13–18.

The third dimension proposes a reformulation of European artificial intelligence regulation beyond the formal limits of the AI Act¹⁴. Although the AI Act is ambitious it remains anchored in a risk-based, sectoral regulatory logic and requires a more robust constitutional framework.

According to the authors, AI governance requires a disruptive model capable of integrating structural principles of legitimacy, democratic oversight and transnational responsibility.

The term «Constitutionalism 2.0» implies going beyond technical regulation to integrate structural principles into European regulatory architecture¹⁵. The European Union is presented as a normative actor capable of designing extraterritorial regulatory standards and thus influencing the global governance of AI, however, the authors recognize that the effectiveness of this effort depends on the ability to institutionalize supervisory mechanisms and regulatory coherence that go beyond mere formal compliance with technical requirements¹⁶.

A comparative analysis of the examined scholarship reveals a common structural diagnosis: regulatory authority is progressively transferred to digital infrastructures and transnational technological networks, while traditional constitutional frameworks remain fragmented and predominantly reactive. Across debates on automated administration, platform governance, and artificial intelligence regulation, scholars emphasise the growing importance of legitimacy grounded in transparency, accountability, and institutional oversight. Nevertheless, these approaches remain conceptually dispersed and lack an integrative principle capable of assessing whether digitally mediated normativity preserves the structural conditions of the rule of law. This persistent gap highlights the need for a systematic framework able to connect private normativity, algorithmic governance, and transnational regulation under a unified logic of institutional sustainability.

The literature identifies risks, proposes protection measures and broadens normative horizons but remains fragmented in terms of systematization of a structuring principle capable of uniting digital trust, algorithmic governance and transnational regulation

¹⁴ BENSEGHIR, Jadoua, *Digital Constitutionalism 2.0: A Disruptive Governance Framework for European Artificial-Intelligence Regulation Beyond the European Union Artificial Intelligence Act*, International Journal of Applied Management and Economics, 2025, vol. 2, n° 14, pp. 301–334, DOI: 10.5281/zenodo.15807966.

¹⁵ Id., pp. 310–314.

¹⁶ Id., pp. 318–320.

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under a single logic of institutional sustainability.

It is precisely in this interface that the need for a more comprehensive dogmatic reformulation becomes evident.

3.2. Online Discourse Governance and the demand for standards

A second aspect of the literature focuses on the development of norms for regulating online discourse.

Celeste, Palladino and Redeker try to establish common standards that can be used to translate fundamental rights into operational criteria for large-scale moderation¹⁷.

This approach is based on the observation that platforms perform structuring functions in the organisation of the digital public sphere, however, the operationalization of fundamental rights in automated environments faces considerable limitations.

Huang shows that, in the context of moderation by linguistic models, legitimacy cannot be reduced to technical accuracy¹⁸, acceptance of the decision depends on the possibility of justification and contestation, especially in so-called “difficult cases”.

According to this author, procedural legitimacy becomes a prerequisite for normative stability, however this literature continues to focus on moderation as a sectoral problem, it is not explicitly linked to the structural preservation of the institutional conditions of the rule of law.

3.3. Systemic Risk, DSA and Power Architecture

The Digital Services Act introduces the concept of systemic risk as a central regulatory approach.

Eder argues that risk assessments can create a positive cycle of institutional learning, involving authorities and civil society in mitigating structural damage¹⁹.

Citino argues that the power of large-scale online platforms requires a robust constitutional framework, since these companies have a structural influence on opinion formation and the exercise of fundamental rights²⁰.

The literature thus recognizes that the problem no longer lies in the responsibility for

¹⁷ CELESTE, Edoardo; PALLADINO, Nicola; REDEKER, Dennis; YILMA, Kinfé Micheal, *Digital Constitutionalism: In Search of a Content Governance Standard*. In: CELESTE, Edoardo; HELDT, Amélie; KELLER, Clara Iglesias (eds.), *Constitutionalising Social Media*, Oxford: Hart Publishing, 2022, pp. 45–52.

¹⁸ HUANG, Tao, *Content Moderation by LLM: From Accuracy to Legitimation*, arXiv preprint, arXiv:2409.03219v2, 2025, pp. 12–18.

¹⁹ EDER, Niklas, *Making Systemic Risk Assessments Work: How the DSA Creates a Virtuous Loop to Address the Societal Harms of Content Moderation*, German Law Journal, 2024, vol. 25, pp. 1197–1218, esp. pp. 1202–1205.

²⁰ CITINO, Ylenia Maria, *Constitutional Avenues to Curbing Unrestricted Power of Very Large Online Platforms*, RE:CONSTITUTION Working Paper, nº 32/2024, pp. 14–20.

individual actions, but in the structural architecture of power.

However, the category that is mobilized remains that of risk, the problem is described in terms of regulatory mitigation and not in terms of structural preservation of the conditions of the rule of law over time.

3.4. Technology as normative architecture

In relation to Article 17 of the CDSM Directive, Geiger and Jütte show that automated filtering can lead to excessive blocking effects that are incompatible with the proportionality required by European legislation²¹.

At the same time, studies on the use of algorithms by public authorities show that decisions on the design of algorithms are normative decisions that must be explicit and subject to democratic control²².

RAZMETAeva warns that the algorithmisation of justice may undermine legal understanding and shift institutional trust towards technological artefacts perceived as neutral²³.

A similar concern emerges across contemporary scholarship: technological infrastructures increasingly shape the conditions of institutional legitimacy in both public and private spheres, reflecting a structural transfer of normative authority beyond the State.

Analyses by Bloch-Wehba, as well as Beaumier and Newman, illustrate how digital platforms increasingly perform governance functions traditionally associated with public authority. Platforms operate not merely as intermediaries but as private bureaucracies establishing internal rules, resolving disputes, and enforcing behavioural standards within transnational digital environments, thereby contributing to the production and stabilisation of normative expectations governing fundamental rights, market access, and public communication²⁴.

This phenomenon is conceived as “private power in the shadow of the state”: Private governance does not occur in a normative vacuum but in an environment characterized by incentives, threats and externalization by the state, whether at the legislative,

²¹ GEIGER, Christophe; JÜTTE, Bernd Justin, *Platform Liability under Article 17 of the Copyright in the Digital Single Market Directive*, Joint PIJIP/TLS Research Paper Series, 2021, pp. 48–57.

²² AERI, Maryam Amir *et al.*, *Promises and Pitfalls of Algorithmic Use by State Authorities*, Philosophy & Technology, 2022, vol. 35, art. 33, pp. 9–14.

²³ RAZMETAeva, Yuliya, *Algorithms in the Courts: Is There Any Room for a Rule of Law?* Access to Justice in Eastern Europe, 2022, vol. 5, n° 1, pp. 92–95.

²⁴ BLOCH-WEHBA, Hannah, *Global Platform Governance: Private Power in the Shadow of the State*, SMU Law Review, 2019, vol. 72, pp. 27–80.

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judicial or regulatory level²⁵.

The analysis of the notification and removal system and the DMCA reveals a structural problem: When the application of fundamental rights is delegated to private intermediaries, the prevailing logic tends to focus on risk management and minimizing responsibility, rather than comprehensive constitutional considerations²⁶.

Consequently, we face a potential erosion of the classic guarantees of the rule of law, publicity, contradictory process, justification and equality that end up being replaced by internal procedures whose legitimacy continues to depend on the institutional design of the platform itself.

While Bloch-Wehba offers an institutional and quasi-administrative reading of digital governance, Beaumier & Newman shift focus to the political economy of infrastructure power. The authors reject both the explanation of the “shadow of the hierarchy” (the threat of state regulation) and the benign functionalism, according to which companies regulate to correct market failures²⁷. Instead, they propose that private governance on digital platforms be understood as an expression of corporate power structured by bilateral markets.

On platforms that bring users and advertisers together, regulatory decisions taken on one side of the market can produce strategic and distributive effects on the other.

The Apple/iOS 14.5 case shows that strengthening data protection by restricting advertising tracking has simultaneously resulted in a public good (better data protection) and a competitive restructuring of the advertising ecosystem with potential private gains for Apple²⁸. Thus, private governance can simultaneously produce normative goods and gains in infrastructural power.

This argument introduces a crucial insight: convergence between public and private interests remains contingent and may be strategically exploited²⁹, meaning that the protection of constitutional values does not necessarily result from stable regulatory alignment but may instead reflect competitive and distributive dynamics. Such

²⁵ BLOCH-WEHBA, Hannah, *op. cit.*, pp. 33–40. The expression “shadow of the state” refers to the structuring influence exercised by public authority over private regulatory decisions, even where the State does not directly perform executive or enforcement functions.

²⁶ BLOCH-WEHBA, Hannah, *op. cit.*, pp. 40–50.

²⁷ BEAUMIER, Guillaume; NEWMAN, Abraham, When Serving the Public Interest Generates Private Gains: Private Actor Governance and Two-Sided Digital Markets, *Perspectives on Politics*, 2025, vol. 23, n.º 3, pp. 979–984, DOI: 10.1017/S1537592724001099.

²⁸ BEAUMIER, Guillaume; NEWMAN, Abraham, *op. cit.*, pp. 986–990.

²⁹ BEAUMIER, Guillaume; HEERING, Jonas; NEWMAN, Abraham, *Running out the Digital Clock: Transatlantic Privacy Politics and Veto Points in Time*, *Journal of European Integration*, 2024, vol. 46, n.º 7, pp. 993–1013, DOI: 10.1080/07036337.2024.2398434.

instability challenges the predictability and resilience of institutional guarantees.

A comparative reading of the literature reveals complementary concerns. While Bloch-Wehba highlights procedural deficits arising from the absence of public guarantees in global private governance, Beaumier and Newman emphasise structural legitimacy risks, demonstrating how pro-rights regulatory choices may simultaneously reinforce economic concentration and asymmetric dependencies.

Platform governance therefore cannot be understood solely in terms of regulatory efficiency or episodic rights protection. The central issue concerns the structural sustainability of constitutional conditions within an ecosystem where normativity increasingly depends on private infrastructures subject to strategic and economic fluctuations. The persistent gap lies in the absence of a conceptual category capable of linking platforms' quasi-administrative functions, infrastructural market power, and the long-term preservation of institutional legitimacy.

3.5. Sustainability and Institutional Legitimacy

In the area of sustainability, Clune and Zehnder propose an integrated model that combines technology, governance and economics as structural pillars³⁰. Stupak and colleagues show that legitimacy and trust are prerequisites for the effectiveness of sustainable systems³¹.

However, sustainability remains predominantly associated with environmental and socio-economic protection.

The institutional architecture of the rule of law is rarely treated as a subject of sustainable protection measures, and it is precisely here that lies the crucial gap in the current literature.

3.6. The structural deficiency of digital constitutionalism: The lack of a comprehensive organisational principle

The literature review reveals a structural trend: digital constitutionalism developed into relatively autonomous thematic layers.

A school of thought emphasizes constitutionalisation beyond the state and suggests that functionally differentiated social systems can develop mechanisms of structural

³⁰ CLUNE, William H.; ZEHNDER, Alexander J. B., *The Three Pillars of Sustainability Framework: Approaches for Laws and Governance*, Journal of Environmental Protection, 2018, vol. 9, pp. 211–240.

³¹ STUPAK, Inge *et al.*, *Conceptual Framework for Increasing Legitimacy and Trust of Sustainability Governance*, Energy, Sustainability and Society, 2021, vol. 11, art. 5.

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self-restraint³², a second school focuses on creating standards to regulate online discourse³³, a third favours the concept of systemic risk as a regulatory axis³⁴ and the others analyse technological proportionality and automated filtering³⁵, state algorithmic governance³⁶ or procedural legitimacy in automated moderation³⁷.

Each of these approaches identifies relevant dimensions of the digital phenomenon, however, none of these approaches combine these dimensions under a common organisational principle.

While classical constitutionalism had a structuring axis that was the limitation of power and the preservation of the conditions of the rule of law, digital constitutionalism presents itself as a regulatory mosaic.

The consequence is clear: Specific symptoms are treated (excessive blocking, algorithmic opacity, systemic risk), but comprehensive criteria are not formulated to allow an evaluation of the structural preservation of the system.

3.7. From risk reduction to structural preservation

Much of the contemporary regulatory approach is grounded in a logic of risk reduction. The Digital Services Act relies on systemic risk assessments and differentiated obligations imposed on large online platforms; however, while risk mitigation addresses potential harm, structural preservation concerns the long-term sustainability of institutional systems.

The debate on automated filtering under Article 17 of the CDSM Directive illustrates this distinction. Regulatory attention focuses on proportionality and the avoidance of excessive content removal, yet the underlying issue is whether technological architectures ensure transparency, contestability, and predictability—core requirements of the rule of law. Scholarship on algorithmic governance similarly

³² TEUBNER, Gunther; GOLIA JR., Angelo, *Societal Constitutionalism in the Digital World: An Introduction*, MPIL Research Paper Series, n° 2023-11, 2023, pp. 4–8.

³³ CELESTE, Edoardo; PALLADINO, Nicola; REDEKER, Dennis; YILMA, Kinfe Micheal, *Digital Constitutionalism: In Search of a Content Governance Standard*. In: CELESTE, Edoardo; HELDT, Amélie; KELLER, Clara Iglesias (eds.), *Constitutionalising social media*, Oxford: Hart Publishing, 2022, pp. 45–52.

³⁴ EDER, Niklas, *Making Systemic Risk Assessments Work: How the DSA Creates a Virtuous Loop to Address the Societal Harms of Content Moderation*, German Law Journal, 2024, vol. 25, pp. 1197–1218, esp. pp. 1202–1205; CITINO, Ylenia Maria, *Constitutional Avenues to Curbing Unrestricted Power of Very Large Online Platforms*, RE:CONSTITUTION Working Paper, n.º 32/2024, pp. 14–20.

³⁵ GEIGER, Christophe; JÜTTE, Bernd Justin, *Platform Liability under Article 17 of the Copyright in the Digital Single Market Directive*, Joint PIJIP/TLS Research Paper Series, n° 3/2021, pp. 48–57.

³⁶ AERI, Maryam Amir et al., *Promises and Pitfalls of Algorithmic Use by State Authorities*, Philosophy & Technology, 2022, vol. 35, art. 33, pp. 9–14.

³⁷ HUANG, Tao, *Content Moderation by LLM: From Accuracy to Legitimation*, arXiv preprint, arXiv:2409.03219v2, 2025, pp. 12–18.

highlights accountability and explainability concerns. As Razmetaeva observes, the algorithmisation of justice may undermine legal understanding and shift institutional trust towards technological artefacts, revealing that the central risk lies not merely in erroneous decisions but in the structural erosion of legitimacy.

3.8. Sustainability as an incomplete structural principle

Sustainability as a legal principle has traditionally been invoked in ecological and socio-economic contexts. Although the three-pillar model seeks to integrate environmental, economic, and social dimensions, the institutional sphere is rarely treated as an object of sustainable protection.

If sustainability is understood as the preservation of the conditions enabling the legitimate continuity of a normative system, digital institutional erosion must also be recognised as a sustainability problem. Digitalisation not only affects ecological and economic balance but may also compromise regulatory transparency, predictability of decision-making, structural equality, access to remedies, and public trust.

The absence of an organising principle within digital constitutionalism indicates that this institutional dimension has not yet been incorporated into the sustainability framework. The diagnosis may therefore be summarised in three propositions: digital regulatory power is structural; existing scholarship remains fragmented; and the lack of an integrative principle risks reducing digital constitutionalism to a collection of isolated regulatory responses.

3.9. Institutional-Digital Sustainability: Foundations, Structure and Dogmatic Demarcation

The preceding analysis demonstrates that contemporary digital constitutionalism has largely developed as a reactive response to phenomena such as automated moderation, systemic risk regulation, administrative algorithms, and platform power concentration³⁸. Although these debates have produced important normative advances, they remain fragmented, as the central challenge concerns structural coherence rather than regulatory density.

Digital transformation introduces a decisive structural shift: technological architecture itself has become a mediator of normative power, shaping the exercise of fundamental

³⁸ CELESTE, Edoardo; PALLADINO, Nicola; REDEKER, Dennis; YILMA, Kinfe Micheal, *Digital Constitutionalism: In Search of a Content Governance Standard*. In: CELESTE, Edoardo; HELDT, Amélie; KELLER, Clara Iglesias (eds.), *Constitutionalising Social Media*, Oxford: Hart Publishing, 2022, pp. 45–52.

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rights and the interpretation of law beyond traditional institutional boundaries. While social constitutionalism recognises that constitutional processes may emerge within autonomous social systems³⁹, it does not provide a criterion for assessing whether such normative orders preserve the structural conditions of the rule of law.

Institutional-digital sustainability is proposed to address this conceptual gap. If sustainability is understood as the preservation of the conditions ensuring the legitimate continuity of a system over time⁴⁰, this logic must extend to the institutional architecture of technologically mediated societies. Digitalisation may compromise not only ecological or economic balance but also transparency, predictability, contestability, and accountability—the structural guarantees of legality itself⁴¹.

Accordingly, institutional-digital sustainability may be defined as a legal principle requiring digital infrastructures with structural regulatory effects to continuously preserve the institutional conditions of the rule of law. This principle may operate as an interpretative benchmark guiding proportionality assessments and institutional review of digitally mediated decision-making.

The concept applies where technological systems significantly affect fundamental rights or the organisation of public space⁴² and introduces a temporal dimension focused on long-term institutional preservation rather than isolated legality assessments.

The proposed category transcends the traditional distinction between public and private actors by adopting a functional criterion based on structural impact. Whereas ecological, economic, and social sustainability address environmental protection, material viability, and social cohesion, institutional-digital sustainability safeguards the conditions that render law intelligible, contestable, and enforceable within digitally mediated environments. Without such preservation, formally recognised rights risk becoming structurally weakened, institutional accountability deteriorates, and the rule of law becomes dependent on opaque technological infrastructures.

³⁹ TEUBNER, Gunther; GOLIA JR., Angelo, *Societal Constitutionalism in the Digital World: An Introduction*, MPIL Research Paper Series, n.º 2023-11, 2023, pp. 4–8.

⁴⁰ CLUNE, William H.; ZEHNDER, Alexander J. B., *The Three Pillars of Sustainability Framework: Approaches for Laws and Governance*, *Journal of Environmental Protection*, 2018, vol. 9, pp. 214–220.

⁴¹ AERI, Maryam Amir et al., *Promises and Pitfalls of Algorithmic Use by State Authorities*, *Philosophy & Technology*, 2022, vol. 35, art. 33, pp. 11–14; RAZMETAIEVA, Yuliya, *Algorithms in the Courts: Is There Any Room for a Rule of Law?*, *Access to Justice in Eastern Europe*, 2022, vol. 5, n.º 1, pp. 92–95.

⁴² CITINO, Ylenia Maria, *Constitutional Avenues to Curbing Unrestricted Power of Very Large Online Platforms*, RE:CONSTITUTION Working Paper, n.º 32/2024, pp. 17–20.

3.10. Regulatory Implications of Institutional-Digital Sustainability

The first consequence of the proposed category is the need to classify certain platforms as critical regulatory infrastructures.

The criterion is not the isolated economic size, but the structural impact on: Information flow, opinion formation, exercise of fundamental rights and access to essential goods and services.

The current literature on large-scale online platforms recognizes that these companies exert a structural influence comparable to traditional public functions⁴³, however, the regulatory response focuses on specific obligations (e.g. risk assessment) without subjecting this power to the logic of structural preservation of the rule of law.

Classifying digital systems as critical normative infrastructures implies recognising that algorithmic design possesses material constitutional significance: automated decision-making may directly affect fundamental rights, while digital architectures shape the intelligibility of the public sphere.

This perspective shifts the debate from individual content liability towards structural responsibility.

Where digital infrastructures produce structural regulatory effects, corresponding due diligence obligations should arise. Such obligations extend beyond technical compliance and must include prior assessment of institutional impacts, evaluation of effects on transparency and contestability, identification of systemic opacity risks, and regular independent review mechanisms.

The Digital Services Act introduces systemic risk assessments, but these remain primarily focused on mitigating specific social damage⁴⁴. Institutional and digital sustainability requires an additional step: to evaluate the maintenance of the structural conditions of the rule of law and the operationalization of this category requires measurable indicators.

The literature on sustainability shows that sustainable systems depend on metrics and continuous monitoring.⁴⁵ When this approach is applied to the institutional-digital sphere, indicators such as the following can be identified: degree of algorithmic transparency; existence of effective complaint mechanisms; average time for human

⁴³ CITINO, Ylenia Maria, *Constitutional Avenues to Curbing Unrestricted Power of Very Large Online Platforms*, RE:CONSTITUTION Working Paper, n° 32/2024, pp. 17–20.

⁴⁴ EDER, Niklas, *Making Systemic Risk Assessments Work*, *cit.*, pp. 6–9.

⁴⁵ STUPAK, Inge *et al.*, *Conceptual Framework for Increasing Legitimacy and Trust of Sustainability Governance*, Energy, Sustainability and Society, 2021, vol. 11, art. 5.

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review; regulatory clarity of the terms of use; and independent verifiability.

These indicators allow us to assess not only formal compliance, but also structural sustainability.

Institutional-digital sustainability cannot be guaranteed by a single level of regulation.

Digital architecture is transnational and the normative power of the platforms extends beyond national borders.

A multilevel governance model is therefore necessary: European level (structural regulation and common standards); national level (contextual monitoring and adaptation); internal institutional level of platforms (structured self-control).

This model dialogues with the overcoming of statism, as proposed by the theory of social constitutionalism, but introduces an additional criterion: The structural preservation of the rule of law as a common parameter⁴⁶.

Institutional and digital sustainability requires permanent control mechanisms; selective transparency is not sufficient structural verifiability is necessary.

The literature on the use of algorithms by public authorities shows that decisions on the design of algorithms involve normative decisions that must be explained⁴⁷ and this requires regular independent audits, the publication of structural criteria, the publication of the obligation to justify decisions and external review mechanisms because without verifiability there cannot be sustainability.

Finally, institutional and digital sustainability should serve as a comprehensive criterion for interpretation.

When applying regulatory frameworks concerning platform liability, automated filtering, content moderation, or the use of artificial intelligence in the public sector, interpreters should address a central question: does the adopted solution preserve the structural conditions of the rule of law?

This criterion enables the integration of debates on technological proportionality, procedural legitimacy, and systemic risk within a common logic of structural preservation. Institutional-digital sustainability thus moves beyond abstraction and operates as a normative framework capable of guiding legal interpretation and regulatory assessment.

⁴⁶ TEUBNER, Gunther; GOLIA JR., Angelo, *Societal Constitutionalism in the Digital World: An Introduction*, cit., pp. 6–8.

⁴⁷ AERI, Maryam Amir et al., *Promises and Pitfalls of Algorithmic Use by State Authorities*, Philosophy & Technology, 2022, vol. 35, art. 33, pp. 11–14.

By linking digital constitutionalism with sustainability, the concept provides an overarching organisational criterion that enables structural evaluation, reconnects public and private exercises of power, and reinforces the rule of law within digitally mediated environments.

4. Conclusion:

Digital transformation represents not merely technological change but a structural reformulation of the conditions governing the exercise of regulatory power. Digital infrastructures increasingly organise and influence the application of fundamental rights, the formation of public opinion, and economic dynamics, thereby challenging traditional categories of the rule of law and exposing the limits of fragmented regulatory responses.

The analysis undertaken in this study identifies a central conceptual gap: despite the theoretical development of digital constitutionalism and the growing robustness of the European regulatory framework, no integrative principle adequately connects private normativity, algorithmic governance, and the preservation of the structural conditions of legality.

Sustainability, as traditionally conceived, has proven insufficient to address this transformation. While consolidated within environmental and socio-economic contexts, its institutional dimension has remained underdeveloped. The concept of institutional-digital sustainability is proposed to address this gap by defining a legal principle aimed at the continuous preservation of the institutional conditions ensuring the legitimacy and intelligibility of technologically mediated normativity.

This category does not replace fundamental rights or existing regulatory regimes but operates as a comprehensive interpretative standard capable of integrating systemic risk, technological proportionality, and algorithmic accountability within a common logic of structural preservation. Its practical implications include the recognition of certain platforms as critical regulatory infrastructures and the development of enhanced due diligence, audit mechanisms, and institutional sustainability indicators.

In digitally mediated societies, safeguarding the rule of law depends not only on environmental or economic sustainability but also on preserving the institutional conditions that render law understandable, contestable, and legitimate. Sustainability thus extends beyond its traditional ecological orientation, emerging as an institutional requirement for preserving the structural conditions of the rule of law in digitally

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mediated societies.

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