

Digital Governance and Cooperative Federalism: A Comparative Analysis with Reference to India and Germany

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Abstract

The transition towards Digital Era Governance is posing a significant constitutional issue for the existing federal systems. On one hand, digital platforms typically demand uniformity of standards everywhere and centralized control; on the other hand, federalism nurtures the independence of subnational entities and the existence of different varieties among jurisdictions. Actually, technological requirements for a single and strong centre are at odds with the decentralized constitutional arrangements in the same way this is the main challenge for contemporary democratic governments. This article analyzes federalism's 'institutional elasticity,' i. e. the ability of a state to reallocate its powers while at the same time sustaining the constitutional framework, through theoretical and comparative research on India and Germany. India, a 'holding-together' federation, exhibits 'Vertical Elasticity' by offering centralized Digital Public Facilities (DPF) such as Aadhaar and CoWIN. Germany however an 'executive' federation, reveals 'Horizontal Elasticity' through cooperation-based instruments like the Online Access Act (OZG), which are restricted by the 1983 Census Judgment's doctrine of 'informational self-determination. The paper concludes that the future of federal democracy entails recognizing "Informational Federalism", at least in theory - where data autonomy stands as a core constitutional right. Administrative sovereignty shifts and judicial bounds evolve. Creating a legal path to balance tech efficiency with subnational executive discretion in the algorithmic state.

Keywords: Cooperative Federalism, Institutional Elasticity, Informational Sovereignty, Digital Constitutionalism, Comparative Jurisprudence

Introduction

Historically, federalism was conceived as a territorial solution to manage diversity through physical boundaries. Power was split across regions so local needs were balanced against national interests. However, now, digital tools like cloud services and centralized financial systems operate differently. They pull data together, standardizing access and reducing variation. More or less, these platforms favour uniformity over regional variation.

Based on the *Forum of Federations Handbook on Digitalization in Public Administration* (Champagne et al., 2026), building effective cybersecurity protections, setting up interoperable data registries, and rolling out nationwide digital identities call for centralized finances, one set of technical standards, and biggest scales of production. In federal constitutions, this lead of technology is often at odds with the constitutional provision of decentralized, self-governing subnational units. The centralizing drag exerted by the process of digitalization is much more than just an administrative problem; it is a constitutional upheaval. Digital Era Governance (DEG) has evolved from being simply a tool for making services more efficient to a means of redistributing power. If a national government takes the role of the main designed of a country's "Digital Public Infrastructure" (DPI), it will, whether deliberately or not, change the balance of authority between the centre and its constituent units.

This paper looks at India and Germany to compare how their federal systems handle digital change. It defines 'institutional elasticity' as the ability of a

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federal government to expand its reach in response to technological pressures without breaking the constitutional division of authority. It's not just a political choice. Also, it's a legal requirement in the face of the "sovereignty trilemma" posed by borderless data. Comparing both the models allows us to isolate how different constitutional designs absorb the centralizing pull of digital platforms. This paper seeks to find out whether federal systems can withstand the digital centralizing pull, or whether digitalization always results in the disappearance of subnational autonomy.

Theoretical Foundations

The Post-Territorial Paradigm and the Sovereignty Trilemma

Traditionally, federalism is based on the idea of territorial sovereignty -- that is, power is confined within physical borders. Yet, De Hert and Thumfart (2018) in their article on Microsoft Ireland case, show that how digital tech and data movement break that model. Post territorial systems ignore the "marble cake" or "layer cake" models of federalism. They create a digital layer that works above and through subnational boundaries.

De Hert and Thumfart (2018) point to a "cyberspace sovereignty trilemma": States have to decide between anarchy (no regulation), hyper-sovereignty (unilateral central control), or balkanization (fragmented local rules). If the federal government chooses hyper-sovereignty for efficiency and security, it risks breaking the federal spirit. This tension shows up in national ID systems like India's Aadhaar or Germany's centralized registries. Now, the traditional structure of government, the territorial architecture (Tatham et al. (2021) -- being replaced by code-based systems. Now, boundaries aren't just lines on maps. They're access protocols or API endpoints instead.

Roxana Vatanparast and the Elasticity of Sovereignty

Vatanparast's (2020) idea of "elasticity of sovereignty" demonstrates how the power of a state extends through the use of digital systems and is no longer tethered to the notion of physical

borders. shows how state power stretches through digital systems instead of staying fixed on borders. Sovereignty isn't a wall- it flows through data and code. The Central government is the one that runs the code and controls data registries, even reaching into state clinics. Health is a state subject, yet, CoWIN pushes vaccine delivery through central platforms. So, on the one hand, the Union Government authority spills over its legal limits by the way of operations of services. That change makes it difficult to even consider that the power can be transferred from land to digital instruments. As a matter of fact, sovereignty is less related to the physical location and more about who controls data and runs the programs. In spite of that, this adaptability leaves the state governments with little effective control, only empty administrative functions within their constitutional boundaries.

Shared Rule vs. Self-Rule: The Mechanics of Adaptability

Fen and Schnabel (2023) describe federalism as a compromise between self-rule and shared-rule. Without the latter, local governments would not be able to operate within the national digital environment. Therefore, shared-rule is not only a political idea but a technical requirement for inter-operability. Digitalization is such that if a state government's digital system is unable to interact with the national one, the whole system will fail. Digitizing a rigid federal structure can lead to results as different as Germany's consensus deadlock and India's unilateral bypass, as the give-and-take of institutional arrangements are changed when brought to the digital realm. Hassan (2026) points out that only through institutional flexibility can one break free from the stalemate of structural rigidity. Those federations able to change their institutional rules to a greater degree are the ones that will be able to successfully go through post-digital transitions. On the other hand, those that depend on the vertical imposition of policies or laws are in trouble when it comes to keeping up with developments. Besides it is a matter of whether federal systems are capable of being at the same time responsive, just, and stable, through technological changes or not.

The Indian Paradigm: Centripetal Digitalization and the "One Nation" Logic

Stepan (1999) categorized India's federal system as "holding-together" federation. The country's federal structure is characterized by a strong unitary bias, which is meant to ensure the national integration of a subcontinent with a population of 1.4 billion people. The same bias has been used in the digital era to construct population-scale Digital Public Infrastructure (DPI), a matter that Aiyar and Tillin (2020) termed as the "One Nation" project.

Aadhaar represents a fundamental shift toward what scholars call "coded citizenship." Aadhaar's underlying architecture is highly centralised under the Unique Identification Authority of India but its use has been justified as a means of financial inclusion and welfare efficiency. The central government's utilization of Aadhaar for the linking of various welfare schemes run by the state is an extreme example "Vertical Stretch" of federal elasticity. This "stretch" was legally implemented very controversially: the "Money Bill" labelling of the Aadhaar Act, 2016. Since the Union government by this means sidestepped the Rajya Sabha the house set up to represent the interests of the states it indicated that it preferred the technological imposition on one hand to the federal debate on the other. As a result, the Centre was able to build a "single source of truth" for identity, thereby making the states reliant on a central API in order to perform their own constitutional roles, for example, the provision of food grains through the Public Distribution System (PDS). This is data federalism that gives the central government the role of being the gatekeeper of citizenship while at the same time handing the States the task of dealing with errors and grievances. Aadhaar has now become the equivalent of a new "Shared List", only one that is the result of executive and technical fiat rather than a constitutional amendment.

The COVID-19 pandemic was a powerful driver of digital centralization. Singh (2023) draws attention to how the Union government invoked the National Disaster Management Act (NDMA) to centralize pandemic responses. The CoWIN platform became the only portal for vaccine registration, vaccine inventory allocation, and digital certification. Although CoWIN was the enabling tool for a huge distribution of more than 1.6 billion doses (Mandalapu, 2025), it

transformed states into "mere physical executors" (Pritchett). This is a tough scenario for the 'failing state' concept (Pritchett); the Indian state didn't fail in its digital delivery, but it 'failed' in its federal coordination (Pritchett). According to Singh (2023), the lack of state-level autonomy in digital health administration resulted in severe frictions in rural areas where local digital barriers - such as language, digital literacy, and smartphone access - were not taken into account by the central algorithm. CoWIN shows that India's vertical elasticity is great for scaling but it is quite inflexible when it comes to local diversity. It portrays a "centripetal digitalism" where the centre's digital capacity grows at the very cost of the states' executive freedom.

The Goods and Services Tax (GST) reform, implemented through the 101st Constitutional Amendment, is probably the boldest move to the alignment of a federal market through a digital spine. The GSTN serves as the main hub for millions of tax transactions. Bansal (2022) refers to this achievement as a great example of "collaborative federalism". On the other hand, the use of the digital platform for the finances has brought about certain conflicts. Because the Centre is the master of the digital infrastructure, it can carry out "real-time auditing" of states' earnings.

Judicial Landmarks

K.S. Puttaswamy (2017) and Informational Privacy

The decision in *K.S. Puttaswamy v. Union of India* (2017) set a key on how much data can the central government collect. The nine-judge bench ruled that privacy is a part of the right to life under Article 21 of the Constitution. The Court also affirmed that informational privacy and self-determination are necessary for human dignity. In a federal system, this means that the central government can't just pull all data into one place without letting states keep their own records. Justice Chandrachud stressed that digital efficiency must not override constitutional morality. Nevertheless, the state's digital infrastructure has to be compatible with the individual's rights and this results in state-level

registries being protected against full transparency. The citizens' right to not sharing their data should not be violated and this means that the centre cannot simply override state databases.

Union of India v. Mohit Minerals (2022): The Manifesto of Federal Contestation

The Supreme Court's ruling in this case represents the most important progress towards "Digital Federalism" in India so far. The Court in this case scrutinized Article 246A, which empowers both the Union and States to make laws relating to GST. The Union Government contended that as the GST Council had recommended the levy, the states were therefore compelled by that recommendation to ensure 'One Nation, One Tax' digital harmony. However, the Court rejected this opinion and introduced the concept of "uncooperative federalism." Justice Chandrachud remarked that "the framework of federalism values 'contestation' as much as cooperation." The Court held that states are not bound by the recommendations of the GST Council.

The Court noted:

"The argument that if the recommendations of the GST Council are not binding, then the entire structure of GST would crumble does not hold water\... such a reading diminishes the role of the Council as a constitutional body formed for collaboration and contestation of ideas." (Union of India v. Mohit Minerals, 2022)

This case serves as a landmark for judicial elasticity; it ensures that states maintain their legislative autonomy to disagree with the shared digital fiscal framework (GSTN). And the digital expansion is not going to lead to a lasting constitutional divide as dissent is now a federal value. This uncooperative federalism ensures that building democracy through information does not mean building a unitary state through code. It reinforces the "Law of Information" as a site of negotiation rather than command.

The German Paradigm: Horizontal Elasticity and Networked Coordination

The Online Access Act (OZG) and "Consensus Inertia"

The OZG (2017) mandated the digitization of 575 service bundles by 2022. However, the German federal government (*Bund*) lacks the constitutional authority to build a centralized platform and compel the *Länder* to use it. Under Article 91c of the Basic Law (*Grundgesetz*), IT collaboration is a matter of joint negotiation.

As Nam et al. (2023) observe, Germany's "consensus inertia"---the need for 16 states to harmonize disparate legal standards---led to significant delays. Rackwitz et al. (2021) describe this as the challenge of "procedural accountability" in a siloed culture. Unlike India's rapid top-down deployment, Germany's digital transformation is a "networked" process. It relies on "Horizontal Elasticity," where states stretch their cooperation laterally rather than vertically.

The "One for All" (EfA) Principle and OZG 2.0 (2024)

To break inertia, Germany invented the EfA principle. This is the best example of horizontal elasticity: a single state spearheading the development of a digital solution (e. g. Hamburg for marriage registration), while other states are free to follow the lead on their own accord. OZG Amendment Act (2024) (OZG 2. 0), aware of the weaknesses of solely voluntary coordination, has introduced a more central approach through mandates. It creates the "DeutschlandID" as the central user account for all citizens. This is the first time that German federal elasticity is altered: in fact, OZG 2. 0 makes the identity "single source of truth," like India's Aadhaar, but enclosed in a strict legal framework, which originates from the 1983 Census Judgment. However, OZG 2. 0 is a kind of "strengthened" horizontal elasticity whereby the federal government offers the platform but the states keep the data.

Register Modernization and the 1983 Census Judgment

Botta (2022) points out that the 1983 Census Judgment (BVerfGE 65, 1) is still considered the benchmark for German data law. It

was the first to recognize the right to "informational self-determination," which prohibits the formation of a "centralized super-registry." Therefore, Germany is not allowed to create a single biometric database. Rather, it has to upgrade thousands of independently maintained local registries interconnected with complicated interoperability interfaces under the management of FITKO (Federal IT Cooperation). This maintains a "federal balance" albeit at the cost of technological speed, thus demonstrating the "Horizontal Elasticity" of a consensus-driven state. The Registermodernisierungsgesetz (Register Modernization Act) represents the highest level of state negotiating power at present, as they try to reconcile the implementation of the "Once-Only" principle with the constitutional requirement that data be decentralised.

Suggestions

The Right to Data Autonomy

Just like states have legislative and executive powers, they should also possess "Digital Sovereignty" - the authority over their own administrative data registers. A digital state therefore should be a multi-level state. Interoperability ought to be implemented through "negotiated standards" (Horizontal Elasticity) instead of "unilateral mandates" (Vertical Elasticity). It's a way of making sure subnational democracy is not only preserved but also becomes stronger through the flow of information.

Institutional Modularity and Judicial Elasticity

Mohit Minerals judgement serves as a blueprint to this new federalism. By securing the "autonomy of dissent," the Court is safeguarding that digital integration will not result in political homogenization. Enhancing democracy with information is to understand that the digital state is a multi-layered ecosystem rather than a single entity.

The Rise of Boundary-Spanning Parastatals

India depends on UIDAI and the GST Council. Germany uses the IT-Planungsrat and

FITKO. These boundary-spanning parastatals operate beyond the old constitutional text. Plus, they handle the biggest digital-era compromises. It seems hard to ignore how much power they now hold. The Forum of federations Handbook (Champagne et al. 2026) calls them the places where the actual constitution is being drafted now. For democracy to survive, these groups need better oversight. They must answer to both national and subnational legislatures directly.

Conclusion

Digital transformation is an "independent constitutional variable" that reallocates power. To make federalism survive the digital age, its institutions have to stay elastic enough to allow innovation without breaking the threads of subnational autonomy. The Indian case with DPI shows that the "Vertical Elasticity" is capable of doing a huge success in service delivery at the same time it needs the continuous judicial oversight (e. g. Mohit Minerals, Puttaswamy). So that the "One Nation" logic doesn't end up completely doing away with the states. Germany's story with the OZG is a proof that the "Horizontal Elasticity" is a way to keep the democratic spirit of federalism alive. However, it needs new mechanisms of "networked leadership" and central mandates in the style of 2024 (OZG 2. 0) in order to get over the inertia. The way forward is "informational federalism" a federal system where the power of information is equalized by the wisdom of the federal compact. As we are making democracy in the 21st century, the "elasticity" of our cooperative institutions will be the net that decides if we will have a future of "centralized surveillance" or "decentralized empowerment." The federal state of the future won't be decided by its boundaries on a map but by the elasticity of its digital code.

References

- Aiyar, Y., & Tillin, L. (2020). *"One nation," BJP, and the future of Indian federalism*. India Review, 19(2), 117--135.
- Bansal, A. (2022). *GST and co-operative federalism*. GST Council Secretariat Report.

- Botta, J. (2022). *Federalism, legal fragmentation and register modernisation: Challenges for the digital transformation in Germany*. CERIDAP, 1(2022).
- Champagne, E., et al. (Eds.). (2026). *The Forum of Federations handbook on digitalization in public administration*. Springer.
- De Hert, P., & Thumfart, J. (2018). *The Microsoft Ireland case and the cyberspace sovereignty trilemma*. Brussels Privacy Hub, 4(11).
- Dhanda, A., & Mustafa, F. (2022). *Annual survey of state laws in India*. NALSAR University of Law.
- Federal Constitutional Court of Germany. (1983). *BVerfGE 65, 1 (Census Judgment)*.
- Fenna, A., & Schnabel, J. (2023). *What is federalism? Some definitional clarification*. Publius: The Journal of Federalism.
- Govindarajan, R. (2021). *Fiscal federalism and GST Council's institutional design*. International Journal of Constitutional Studies.
- Hassan, H. K. (2026). *The mechanics of federalism through balancing power between national and local governments*. Sarcouncil Journal.
- Hundal, S. (2024). *Digital public infrastructure as a public good*. PIB Press Release.
- Ishkhanyan, A. (2025). *The sovereignty-internationalism paradox in AI governance*. Discover AI.
- IT-Planungsrat. (2021). *Strategy for strengthening the digital sovereignty of public administration IT*. FITKO Publication.
- Kaufman, R. R., Kelemen, R. D., & Kolcak, B. (2023). *Federalism and democratic backsliding in comparative perspective*. Perspectives on Politics.
- KPMG Germany. (2024). *The Online Access Act (OZG) 2.0: Improving digital administration*.
- Kumar, S. (2022). *Excessive data collection as anti-competitive conduct: Germany and India*. SSRN / NYU Law.
- Mandalapu, S. V. (2025). *Lessons learned: Preparing India for the next pandemic wave*. International Journal of Health and Technology Innovation.
- Manoharan, A., et al. (2011). *Global trends in digital governance*. International Journal of Technology and Design.
- Mathur, N., & Singh, S. (2017). *Aadhaar: A tool for efficient governance*. Journal of Governance.
- Maurya, K. (2024). *From pixels to policies: Understanding digital governance in India*. SSRN.
- Mukherjee, S. (2019). *Digital villages: A case study of digital governance*. Journal of Rural Development.
- Nam, C. W., Bartholomae, F., & Steinhoff, P. (2023). *Does federalism affect e-government in Germany?* CESifo Working Paper.
- NIPFP. (2020). *Impact of GST on fiscal federalism*. Working Papers.
- NITI Aayog. (2025). *Annual Report 2024-25: 'NITI For States' Platform*.
- Pritchett, L. (2009). *Is India a Flailing State?* Harvard Kennedy School Research Working Paper.
- Rackwitz, M., Hustedt, T., & Hammerschmid, G. (2021). *Digital transformation: From hierarchy to network-based collaboration?* dms -- der moderne staat.
- Schweitzer, E., et al. (2024). *Smart cities in India and Germany*. BBSR-Online.
- Singh, N. (2023). *Federal dimensions of India's response to the Covid pandemic*. Indian Public Policy Review.
- Singh, R. K., & Jaiswal, H. (2022). *The GST Council as a quasi-federal institution: Constitutional design and judicial interpretation*. International Journal of Law and Legal Research.
- Srikrishna, B. N. (2018). *A free and fair digital economy: Report on data protection*.
- Srivastava, M., & Mishra, H. (2012). *Digital media and e-governance in India*. Dynamics of Public Administration.
- Stepan, A. (1999). *Federalism and democracy: Beyond the U.S. model*. Journal of Democracy.
- Supreme Court of India. (2017). *K.S. Puttaswamy v. Union of India (Privacy Judgment)*.
- Supreme Court of India. (2022). *Union of India v. Mohit Minerals Pvt. Ltd.*, (2022) 10 SCC 700.
- Tatham, M., et al. (2021). *The territorial architecture of government*. Governance.
- Thomas, J. M., et al. (2026). *Doing digital differently?* Forum of Federations.

- Vatanparast, R. (2020). *Data governance and the elasticity of sovereignty*. Brooklyn Journal of International Law.
- Vitt, K. (2019). *Die Digitalisierung der Verwaltung braucht effiziente föderale Kooperation*. dms -- der moderne staat.
- Watts, R. L. (2008). *Comparing federal systems*. McGill-Queen's University Press.
- Wheare, K. C. (1946). *Federal government*. Oxford University Press.