

IEAI

White Paper

Rule of Law, Legitimacy and Effective COVID-19 Control Technologies

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JULY 2022

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Abstract

This White Paper aims to provide an overview over the assessment of the technological applications in terms of their legitimacy and amenability to Rule of Law standards ensuring respect for rights and liberties. This Paper is oriented towards the policymakers who consider introducing surveillance technologies for health purposes and would like to learn more about how to assess this from a Rule of Law perspective. It is organized in a set of questions. Each question is accompanied by information stemming from the findings of a collaborative research project which tests the hypothesis that emergency responses based on the Rule of Law have the potential to contribute to the empowerment of societies to respond to crisis situations.

Bibliographical Information

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ISBN: 978-3-910426-00-9.

DOI: 10.31235/osf.io/pnm9q

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Introduction

States have created, instituted, and maintained various technologies to control the spread of COVID-19. Many of these involve the use of personal data and restrictions on individual liberties, such as: the closing of national borders; quarantining individuals and populations; restricting social association either through ‘lockdown’ regimes or social distancing conventions; restricting attendance at schools, places of worship, entertainment venues etc.; virus screening and testing; manual tracing of association; tracing and tracking through mobile-phone applications and toggle monitoring; and safe-entry regimes through the use of QR-codes.

These intrusions have prompted community reactions ranging from compliance to hostility and resistance. Popular discontent with these potentially intrusive controls (in Europe and Asia) have focused on challenges to personal data protection, questions about compliance with law procedures in the introduction of restrictions, equal application of the measures as well as limitations on the freedom of movement and association.

This White Paper comprises a range of questions and answers, which aim to offer a basis for reflection with the possibility to draw suggestions for further policy considerations. The set of questions and answers in this paper would be of interest to policymakers who consider introducing surveillance technologies for health purposes; the ideas summarized in this Paper, drawn from three orbits of research – (i) meaning and components of the Rule of Law, (ii) empirical research regarding the relationship between the Rule of Law, power, trust and legitimacy in the light of country case studies, and (iii) reinforcing and communicating Rule of Law values through design into the technological architecture – can be adapted and further developed for the purposes of specific circumstances. The White Paper offers an assessment tool for technological applications in terms of their legitimacy and amenability to Rule of Law standards ensuring respect for rights and liberties. It builds on extensive research in the project “Rule of Law, Legitimacy and Effective COVID-19 Control Technologies” jointly conducted between the Professorship for Law, Science and Technology at Technical University of Munich (TUM), the Centre for Artificial Intelligence and Data Governance (CAIDG) at the Singapore Management University and the Bingham Centre for the Rule of Law (BC) at the British Institute for International and Comparative Law (BIICL), ranging from theoretical investigations into the Rule of Law to specific assessments of COVID-19 control technologies. The project was funded by the Institute for Ethics in Artificial Intelligence (IEAI). This White Paper aims to communicate the learnings in an easily comprehensible style using questions and answers.

Each question is accompanied by information stemming from the findings of a collaborative research project, which tests the hypothesis that emergency responses based on the Rule of Law have the potential to contribute to the empowerment of societies to respond to crisis situations. Rule of Law considerations are often given insufficient reflections in the policy discourse and are displaced by ethics and principled design. Thus, this White Paper helps by reflecting on crucial questions from a Rule of Law perspective. It considers how applying a standardized definition of Rule of Law may provide benchmarks for legally acceptable interventions that can also ensure effective pandemic responses and public trust.

Research Objectives of the Project

The project “Rule of Law, Legitimacy and Effective COVID-19 Control Technologies” focuses on crucial questions of control technologies during the pandemic from a Rule of Law Perspective. It consists of core and satellite research investigations by the Professorship for Law, Science and Technology at Technical University of Munich (TUM), the Centre for Artificial Intelligence and Data Governance (CAIDG) at the Singapore Management University and the Bingham Centre for the Rule of Law (BC) at the British Institute for International and Comparative Law (BIICL) and is funded by the Institute for Ethics of Artificial Intelligence. Research streams include: (a) theorizing the need for a Rule of Law analysis in relation to the introduction of control technologies and compliance with the related applications; (b) analysis of the various definitions of the Rule of Law and identification of core elements of consensus; (c) identification of control technologies in selected comparative jurisdictions and the challenges they pose for rights/liberties and State legitimacy in pandemic and post pandemic conditions; (d) comparative examination in selected jurisdictions of community distrust regarding mobile apps and other control technologies, their intrusion into rights/liberties, and the potential impact of distrust on control effectiveness; in addition to (e) comparative examination of specific mobile applications and their compliance with Rule of Law standards.

Questions and Answers

The meaning of the Rule of Law

This section provides an overview of the scope of the different definitions of the Rule of Law across the spectrum of ‘thin’ and ‘thick’ conceptions. It outlines the core elements of a functional definition of the Rule of Law, as developed by the Council of Europe’s Venice Commission in particular, and advocates for a thick conception which considers aspects such as Human Rights, popular consent, and compliance with international legal obligations in law-making and is thus more likely to guarantee legitimacy, confidence, and trust in relation to the introduction of surveillance technologies. This section also highlights the importance of contextualizing the application of the Rule of Law principles, thus introducing the idea of the dynamic nature of the concept. The presence of legal safeguards is important to the Rule of Law, but the proper implementation and enforcement of the law, as it changes and develops in time, is also a crucial aspect and must therefore be taken into consideration.

1. What are the different conceptions of the Rule of Law? (BC)

The principle of Rule of Law “is one of the ideals of our political morality and it refers to the ascendancy of law as such and of the institutions of the legal system in a system of governance.”⁷ The oft quoted definition of Rule of Law as defined by Lord Bingham states

[A]ll persons and authorities within the State, whether public or private, should be bound by and entitled to the benefit of laws publicly made, taking effect (generally) in the future, and publicly administered in the courts.⁸

The different conceptions of Rule of Law can be largely divided into thin (formal) and thick (substantive). ‘Thin’ versions of the Rule of Law, concern how laws are made and applied. The ‘thin’ conception requires that States make clear laws, in a transparent manner, that the law is equally applied, and that States enable fair and impartial dispute resolution and ensure access to justice.

‘Thick’ versions of the Rule of Law move beyond procedural safeguards to also consider the content of the law, namely compliance with international law, and adequate protection of fundamental human rights. Broader understandings of the Rule of Law, such as those expounded by the Council of Europe’s Venice Commission (VC),⁹ the United Nations¹⁰ and Lord Bingham’s definition, proscribe arbitrary behavior by governments and protect human rights, mainly via the principle of non-discrimination, in addition to the formal aspects of the Rule of Law.

2. What are the core elements of a functional definition of the Rule of Law? (BC)

Beyond the theoretical modulations of the meaning of the Rule of Law, the core elements that constitute the principle, such as stability, predictability, intelligibility of the laws, limitation of discretion and abuse

⁷ Jeremy Waldron (2020), The Rule of Law, The Stanford Encyclopedia of Philosophy.

⁸ Tom Bingham (2010), The Rule of Law 8.

⁹ ‘Rule of Law Checklist’ adopted by the Venice Commission at its 106th Plenary Session (Venice, 11-12 March 2016), http://www.venice.coe.int/images/SITE%20IMAGES/Publications/Rule_of_Law_Check_List.pdf.

¹⁰ Report of the Secretary-General, The Rule of Law and transitional justice in conflict and post-conflict societies, 23 August 2004, S/2004/616, at para 6, <http://undocs.org/en/S/2004/616>.

of power, equality before the law, and access to justice are shared across jurisdictions, leading towards universality of the Rule of Law.

A functional definition of Rule of Law has been developed and proposed in the 2011 Venice Commission ‘Report on the Rule of Law’, which draws on the definition proposed by British Judge, Lord Bingham and identifies a consensus on six necessary elements of the Rule of Law. The core elements of the Rule of Law were further distilled into five, in the Venice Commission’s 2016 ‘Rule of Law Checklist’. The Checklist, which was developed with the help of the Bingham Centre for the Rule of Law, makes clear that respect for human rights informs the other elements: ‘The Rule of Law would just be an empty shell without permitting access to human rights. Vice-versa, the protection and promotion of human rights are realized only through respect for the Rule of Law’.

	Lord Bingham’s definition	VC report definition	VC Checklist definition
(1)	Law not discretion	Legality (transparent, accountable, and democratic process for enacting law)	Legality
(2)	Accessibility of laws	Legal certainty	Legal certainty
(3)	Reasonable exercise of power for the purposes which it was conferred	Prohibition of arbitrariness	Prevention of abuse (misuse) of powers
(4)	Equality before the law	Non-discrimination and equality before the law	Equality before the law and non-discrimination
(5)	Accessible dispute resolution	Access to justice before independent and impartial courts, including judicial review of administrative acts	Access to justice
(6)	Protection of human rights	Respect for human rights	
(7)	Fair trial		
(8)	The Rule of Law in the international legal order		

Figure 1. Comparative table of Rule of Law elements

3. Why opt for a thick definition of the Rule of Law? (BC)

Referring to functional/outcome-oriented definitions, such as that developed by the Venice Commission, is preferable, because they consider aspects such as Human Rights, popular consent, and compliance with international legal obligations in law-making. By contrast, ‘thin’ definitions, based on formal legality, are less likely to temper arbitrary powers and therefore may result in being insufficient in terms of guaranteeing legitimacy, confidence, and trust in relation to the introduction of surveillance technologies.

Nevertheless, even ‘thick’ definitions of the Rule of Law may not capture all elements for ensuring confidence and trust in new surveillance technologies, because the mechanisms that allow measures to be

appreciated as legitimate by data-subjects, and thereby generate trust in the application and ensure efficacy, are complex.

4. Why is it important to contextualize the implementation of the Rule of law elements? (BC)

As both the challenges to the Rule of Law and possible solutions thereof are context-dependent, it is important to contextualise the application of the Rule of Law principles identified and discussed. The presence of legal safeguards is important to the Rule of Law, but the proper implementation and enforcement of the law is also a crucial aspect of the principle and must therefore also be taken into consideration. Implementation is related to social and institutional factors which determine how laws are implemented within the existing context.

5. Is the Rule of Law a dynamic concept? (TUM)

Law, as all other human institutions, is not static. Within the changing pattern of human relations resulting from progressive social and technological advancement, the Rule of Law undergoes an evolutionary and expanding process to meet new and challenging circumstances. This is what we mean by ‘dynamic concept of Rule of Law’. Over time, promoting the thick conception of Rule of Law has become an essential factor in ensuring confidence and trust in technologies. However, there has been a gradual change in the conceptualisation of Rule of Law. The teleological concept seeks to direct attention to the aspirational dimension of Rule of Law, whether it is thick or thin. It can also be said that with changing times and new innovations, Rule of Law has evolved into a dynamic concept, capable of interpretations to enable the successful working of the democracy in the digitalised ecosystem.

The digital revolution has paved way to technological advancement, and simultaneously the development of the Rule of Law. While examining the dynamism of Rule of Law, it is interesting to consider the connection between the Rule of Law and the principle of *habeas corpus*, which describes individual protection against arbitrary actions. While *habeas corpus* is linked to the physical body, a digitized form of it involving a new kind of protection, is referred to as *habeas data*, indicating an extension of that protection to the electronic body of each individual.¹¹ Thus, an automatic *habeas data* may indeed aim to serve the greater good of providing protection to individuals, yet it remains neither feasible nor desirable, due to how it impinges on the individual right to “informational self-determination” – that is, the *informationelle Selbstbestimmung of the BVerfG*, which would be contrary to the Rule of Law principle to protect individual right to self-determination. Therefore, with digitalisation having impacted the Rule of Law and the various stakeholders involved, legal scholars advocate the necessity of imbedding Rule of Law values into technology and machines, what is also described as internalising “moral and legal codices”¹². Thus, it can be said that the Rule of Law is not only perceived through thick or thin conception but is also considered a technical concept or standard, and thus embraces the dynamic aspect of the Rule of Law.

¹¹ Stefano Rodotà (2006), The retention of electronic communication traffic data, in *Revista d’Internet, dret I política* (3), p.53–60.

¹² Eric Hilgendorf (2022), Introduction: Digitization and the Law – a European Perspective, p.13.

The Rule of Law as a regulatory paradigm

This section deals with the question of why the Rule of Law should be used as a regulatory paradigm when introducing (pandemic related) control technologies. It explains the advantages and limits of using a Rule of Law lens as ancillary to ethics and highlights the essential role that the Rule of Law plays in solving the trade-offs between rights, public values, and public interests.

6. Why adopt the Rule of Law as a regulatory paradigm when introducing pandemic related control technologies? (BC)

Responses to public emergencies (including data driven responses in the context of health emergencies) are often introduced and/or implemented through laws and regulations. Rule of Law considerations are often given insufficient consideration in the policy discourse and are displaced by ethics and principled design. We argue that emergency responses based on the Rule of Law have the potential to contribute to the empowerment of societies to respond to crisis situations. The Rule of Law enables an effective pandemic response by promoting transparency, clarity, participation, engagement and representation, equality, accountability, and anti-corruption, and in so doing, it facilitates public trust which is a critical element in responding to health crises.

In democratic nation States, by reducing arbitrary exercise of power, the Rule of Law is an essential precondition for government legitimacy, albeit not the only one. During the period of emergency, when the powers available to government shift to enable them to deal with that emergency, it is essential to reflect on the importance of the Rule of Law. The Rule of Law rejects the use of arbitrary power, fundamentally constraining both individual and institutional behavior. Adherence to Rule of Law safeguards and other international principles, when adopting measures during an emergency, are expected to strengthen public trust in institutions and consolidate the legitimacy of the measures. This should ultimately bolster their effectiveness through increased compliance.

7. What are the advantages and limits of using a Rule of Law lens when assessing the introduction of control technologies? (BC)

When introducing new technologies (including intrusive surveillance technologies) it is essential that governments comply with and apply Rule of Law safeguards. There are at least three main arguments that support this claim.

First, one of the strong reasons for advancing Rule of Law as an ancillary regulatory approach to ethics is that there is now a (quasi) universal consensus on the core meaning of the Rule of Law and on the elements constituting it. As such, a Rule of Law regulatory paradigm presents the advantage of being universally accepted. Secondly, the Rule of Law and its components operate as legitimators of government responses and are thus expected to enhance trust outcomes. The third important reason is that the Rule of Law offers the institutional and process potentials for enforceability, actionability, and remedy if ethics are breached or fail (see above Q.2 on the Rule of Law components).

Adding a Rule of Law frame to the analysis of introduction of COVID-19 related technology demands that governments provide legal justification for any measures that risk encroaching on rights, including privacy, free movement, and assembly, among others. Incorporating a ‘thick’ Rule of Law perspective that encompasses respect for human rights ensures that governments, and third parties can be held to account for decisions that risk circumscribing freedoms. Such approach would consider aspects such as human rights, popular consent, and compliance with international legal obligations in law-making. It creates a space for questioning the rationale and justification for the introduction of technologies with

potentially adverse effects on citizens. Nevertheless, even ‘thick’ definitions of the Rule of Law may not capture all elements for ensuring confidence and trust in new surveillance technologies, because the mechanisms that allow measures to be appreciated as legitimate by data-subjects, and thereby generate trust in the application to ensure efficacy, are complex.

Because both the challenges to the Rule of Law and possible solutions thereof are context-dependent, it is important to contextualize the application of the Rule of Law.

8. What role can the Rule of Law play concerning trade-offs and balance between rights, public values, or public interests? (TUM)

Substantive (i.e., thick) conceptions of the Rule of Law are not only linked to human rights but also to democracy, which seek to protect individuals from arbitrary and excessive interferences with their freedoms and liberties and to secure human dignity; the Rule of Law focuses on limiting and independently reviewing the exercise of public powers. Where there is a conflict between public interest and rights, the Rule of Law, through its core components of legality, legal certainty, proportionality, prohibition of abuse of power, access to justice and non-discrimination, helps in determining the rights and duties of the individuals and in defining the extent to which such rights and duties can be limited. In certain circumstances, there is a requirement for the trade-off between public interests and rights for the greater good; however, such trade-off also needs to be balanced and not arbitrarily infringe citizens’ rights. The notions of trade-off and balance would mean that there needs to be a higher threshold for surpassing the individual rights (proportionality test), and more effective legal safeguards must be implemented (legal certainty). The doctrine of proportionality propounds that a retroactive limitation of the rights of individuals or imposition of new duties may be permissible, but only if such a limitation or imposition is in conformity with the proportionality test (including temporally). Thus, adherence to the Rule of Law values, such as legal certainty and proportionality, among the other core components, helps in balancing the trade-offs between rights, public values, and public interests.

Rule of Law, power, trust, and legitimacy

This section addresses the role and importance of the Rule of Law in enhancing citizens' trust and State legitimacy. This enhancement of both State legitimacy and citizens' trust through Rule of Law compliance has a positive influence on the overall efficacy of COVID control measures leading to more positive health and social outcomes. As indicated in the answers below, COVID-19 control is manifested through the application of authority and power which in turn influences State legitimacy and citizens' trust: how a State exercises its authority and power will influence its legitimacy in the sociological sense and how it is perceived through the eyes of its citizens. As noted in this section, the arbitrary exercise of discretionary State powers is in opposition to legitimacy of all styles of authority.

9. Why is securing public trust important for COVID control? (CAIDG)

Trust can be understood as citizens' confidence in the expertise, technical knowledge, and capacity of the government, and scholars have identified its operation as forming a foundational feature of productive social relations. The public's trust is a legitimator of COVID control measures that are employed, meaning that it would influence citizens' willingness to comply with COVID control measures. Where the efficacy of technology depends on user subscription (such as contact tracing technology), then citizen compliance is central to the effective exercise of these powers. For these powers to be sustainable, citizen permission needs to progress to the approval of the power behind COVID control measures.

Trust is a multi-layered dynamic so that trust, alongside other factors, may work together to influence State legitimacy and approval. Trust is important even for authoritarian countries seeking utilitarian benefits. If there is increasing distrust (as in dissatisfaction) in the utility of control outcomes, citizens' willingness to comply with COVID control measures will come under pressure.

Additionally, trust in political authority when coupled with State legitimacy is important for securing citizens' voluntary cooperation with COVID control measures. Trust is therefore important for democratic States since compliance with COVID control measures cannot be forced. Trust encourages voluntary compliance that do not depend on the force of law. This 'gentle nudging' is useful, especially in situations where COVID measures are controversial and can infringe on personal rights and liberties.

10. What is the link between trust and State legitimacy? (CAIDG)

A legitimate State (or a State that is perceived as legitimate) is one that is recognized as having the authority to rule and exercise powers over their subjects because their authority is accepted as rightful and appropriate. States that are perceived as legitimate are better able to motivate their citizens to comply with the law and its directives. When State powers are exercised arbitrarily (i.e., uncontrolled, unpredictable and/or disrespectful powers), State legitimacy and citizens' trust suffer, particularly where the community has expectations for accountable governance.

CAIDG is interested in the function of legitimacy and the purpose of the legitimation process – as promoting citizens' compliance and effective COVID control. In this sense, legitimation, and legitimacy as they invest in power and authority, are crucial to the uptake of COVID control technology. Where legitimacy is contributed to by Rule of Law compliance, Rule of Law institutions and actionability strengthen overall assurance of positive citizen engagement.

According to Weber's understanding of the progression from authority to legitimacy based on citizen perceptions of the exercise of powers, trust may be a crucial variable in moving popular opinion from permission to acceptance. Communities may permit the exercise of certain powers but not be willing to

approve their reach when authority is exceeded. It is more likely that if trust accompanies the permission for powers to be exercised, then approval will be a more natural progression, and legitimacy will be granted.

11. How does the Rule of Law cultivate trust? (CAIDG)

In tempering the arbitrary exercises of power, adherence to principles of the Rule of Law will work to ensure the enhancement of positive trust outcomes. The reduction of arbitrariness through Rule of Law adherence leads to an overall reduction of domination, fear, indignity, and confusion.¹³

Adherence to principles of the Rule of Law encourages State transparency and accountability, which help to promote positive trust outcomes. Conversely, the absence of information that is important for showcasing transparency in the State's decision-making will invite speculation, false assumptions, and misperceptions damaging of trust.

The Rule of Law also helps to foster trust through citizens' participation and engagement in pandemic responses. For instance, by emphasizing the need for enforcement and review by the Courts, encouraging law-making processes that are inclusive and equal, and enacting laws that satisfy citizen's legitimate expectations, citizens are more inclined to trust the State.

Trust is also enhanced through Rule of Law compliance since principles of the Rule of Law constrain authorities to act in regulated and fairer ways. When authorities are seen to exercise their powers in ways that are mindful of citizens' rights, trust is cultivated because authorities are seen as acting for the benefit of those, they exercise authority over.

12. How does the exercise of arbitrary powers harm State legitimacy? (CAIDG)

State legitimacy is sensitive to the exercise of discretionary authority and power. State legitimacy comes under attack whenever a State (a) exercises powers to implement measures or laws without an authoritative basis or (b) or abuses its powers – exceeding its authority even if authority was initially located. In both occurrences, it is observed that the State acts arbitrarily, inconsistent with agreed rules and boundaries, and in violation of the elements essential for citizen permission and approval.

Non-arbitrariness is a necessary condition for State legitimacy even if it is not the only condition. In autocratic authority forms, where State legitimacy is less dependent on the participation of citizens in governance and social capital may be generated based on the State's ability to produce utilitarian benefits for their citizens, citizen perception still has influence over legitimacy and authority.

Two questions can be posited to determine whether a State is acting arbitrarily: First, can the authority in question be located? Second, how is authority "designed" and State powers executed?

13. What are some examples of uncontrolled, unpredictable, and disrespectful powers? (CAIDG)

Uncontrolled powers

Power wielders have uncontrolled powers when their powers lack regular control, limit, or accountability. They act in accordance with their own "will" or "pleasure" with limited regard for its subjects and their

¹³ Martin Krygier (2011), Four Puzzles about the Rule of Law: Why, What, Where? And Who Cares?, in *Nomos, Getting to the Rule of Law, American Society for Political and Legal Philosophy* (50), p.81.

well-being.¹⁴ Uncontrolled powers may not always involve outright physical abuse. Uncontrolled powers are also powers that appear unlimited or unrestrained in scope.

In other variations, uncontrolled powers may take the form of disproportionate and unwarranted surveillance, such as policing tactics involving warnings of undue inspections and the use of drones to spot potential violators of social distancing rules.

Unpredictable powers

This refers to States exercising their powers in ways that are unclear and based on regulations that are not publicly accessible or intelligible – and so lacking in legal certainty. For instance, occasions of indecisive authority, lack of coordination, and back-flipping of decisions are examples of how the State acts in an unpredictable and legally uncertain manner. In such cases, subjects are unable to know, predict, understand, or comply with the rules that purport to govern them because the grounds for exercising such powers are secret, retroactive, too variable, vague, impossible to perform, or exercised in ways unrelated to the rules that govern them.

Disrespectful powers

Disrespectful powers stand in opposition to Rule of Law principles of equality, non-discrimination, respect for human rights, and access to justice. Powers are exercised arbitrarily and disrespectfully in cases when those wielding power introduce unequal and burdensome measures that only apply to specific categories of people.

Powers are also disrespectful when they infringe on the principle of equality. This happens when members in a particular community are accorded preferential treatment over others or when authorities operate with impunity and act above the law or as though the laws and measures in place do not apply to them.

In another instance of disrespectful powers, powers exercised are disrespectful to and oppose the Rule of Law when a State is ignorant or deliberately careless with the plight of its vulnerable population(s).

14. Why is it important to trace citizens' disquiet and non-compliance? (CAIDG)

State legitimacy in the sociological sense refers to citizens' perception and approval of the legitimacy of the State, whereas normative legitimacy is more interested in whether a State has fulfilled a formal set of determined criteria. Identifying and measuring State legitimacy in the social or applied setting is crucial because it says something about the approval of State powers, citizens' perception, reaction, or disquiet to the State's governing of the pandemic, and their overall willingness to comply with COVID control measures.

While adherence to the Rule of Law promotes the normative legitimacy of a State upon satisfaction of certain formal characteristics, it cannot strictly be said to contribute directly to its legitimacy in the sociological sense unless the application of Rule of Law principles positively generates citizen trust and approval. Trust is the force for legitimacy when citizen approval anticipates actions that respect the Rule of Law.

To this end, there is a need to trace evidence of citizens' trust and distrust to measure the extent to which the Rule of Law can positively contribute to a State's social legitimacy. Unless trust is traced, the Rule of Law can only remain a legitimator in the normative sense.

¹⁴ Martin Krygier (2016), The Rule of Law: Pasts, Presents, and Two Possible Futures, in *Annual Review of Law and Social Science* 199 (12), p.5.

15. What are the different types of legitimacy? (CAIDG)

Popular legitimacy

States that enjoy popular legitimacy rely heavily on social capital and public buy-ins. Popular legitimacy cannot be cultivated using force or coercion. It is lost when the State continually retains and exercises powers that are arbitrary and without an authoritative basis in democratic States or when it fails to satisfy utility expectations in more authoritarian climates.

Democratic (Representative) legitimacy

As with popular legitimacy, the securing of citizens' trust is an important feature for this style of governance and an erosion of trust is likely to compromise this form of legitimacy. The Rule of Law and the adherence to its principles have the strongest influence on whether a State is perceived as democratically legitimate. States seeking to retain their democratic legitimacy need to be seen as transparent, accountable, and fair to their citizens. There are also important restrictions on how a State is permitted to act and citizens' rights must be secured as the priority. To the extent that procedural justice and democratic principles are compromised, the State will lose its legitimacy.

Situational legitimacy

As the dominant institution dealing with the pandemic and the “first and necessary line of defense”, the State possesses high levels of situational legitimacy to implement extraordinary measures at its discretion. This “legitimacy windfall” grants the State sweeping powers over its citizens justifying infringements on personal rights and liberties that are ordinarily impermissible. When situational legitimacy operates, institutional checks and balances are typically absent features and so is the lack of separation of powers and accumulation of powers in the executive.

Performance/Operational legitimacy

States are operationally legitimate if they satisfy their own internal operational determinants. This includes considerations of what governments count as achieving success in pandemic control and citizens' perception of its performance and handling of the crisis according to the same internal determinants. When citizens accept and receive the benefits that are produced through such utilitarian strategies, the State is perceived as operationally legitimate in the eyes of its citizens and can claim operational legitimacy.

16. What is the value of the Rule of Law in the different types of legitimacy? (CAIDG)

The Rule of Law performs a dual role as a legitimator (although more obvious in democratic legitimacy styles) and as a trust-enabler where trust itself functions as a legitimator on its own. Thus, even in cases where the Rule of Law does not appear to function as a legitimator due to adherence/non-adherence to its principles not directly influencing State legitimacy (especially for States that do not adopt a democratic/representative legitimacy model), still the Rule of Law enhances State legitimacy indirectly – in the popular, situational or performance sense – because of its connection to trust and its trust-producing capacities.

A trust analysis reveals how compliance with the Rule of Law also contains utilitarian-type enjoyments beneficial to State legitimacy, even for regimes that are less democratic. To this end, adherence to the Rule of Law not only enhances State legitimacy because the Rule of Law operates as a legitimator on its own accord, but conformity with principles of the Rule of Law also produces positive trust outcomes that independently and additionally add to State legitimacy.

Additionally, in styles of authority dependent on citizen trust, legitimacy is more likely achieved through Rule of Law compliance.

17. How does the Rule of Law promote State legitimacy? (CAIDG)

The Rule of Law functions as an institution of constraint in checking when the location and design of State authority and powers are illegitimate or unjustified. Accepting then that the teleos (purpose) of the Rule of Law is to curb the arbitrary exercise of power, it follows that adherence to the model will have positive outcomes for State legitimacy.

While the use cases confirm the positive influence of Rule of Law for authority and legitimacy, it was neither uniform nor consistent when it came to the authority claimed in exercising all powers in all contexts. The importance of Rule of Law as a legitimator depended on the extent to which the permission and approval of citizens depended on compliance with that normative framework. If permission (authority) and approval (legitimacy) were more commonly dependent on the consequential utility of the exercise of power, then Rule of Law normative (or actual) compliance had less if any influence on the progression from authority to legitimacy.

18. What is the link between citizens' perception of State legitimacy and positive containment outcomes? (CAIDG)

Immaterial of what style of legitimacy operates, we posit that States that are more legitimate or perceived as more legitimate (whether owing to Rule of Law adherence or utility) can guarantee better COVID control outcomes—citizens' endorsement of State authority and powers will enhance permission and approval of its rule.

However, other factors may operate – whether in tandem or separately – to motivate citizens' compliance with COVID control independent of State legitimacy. Some of these factors, like citizens' trust in the State or whether the State adheres to principles of the Rule of Law are directly influential to citizens' perceptions of State legitimacy. Yet, other factors, like community capacity or civic memory, do not directly influence citizens' perception of the legitimacy of the State. In turn, when thinking about how more positive COVID control outcomes can be achieved, securing State legitimacy as a prerogative should only be one of many variables that authorities ought to take into consideration to effect compliance.

The relevance of the Rule of Law in the design of technologies

This section deals with the question of how the Rule of Law can, in actuality, be put to practice in constellations of technology developments and rolling out technologies in society. This situation is quite different from traditional Rule of Law settings and actions of public administration. However, the Rule of Law can play a distinctive role in situations where the trade-offs in certain situations are properly analyzed, and the respective values are translated into the software-lifecycle. In order to achieve this, it is necessary to embed the principles and values of Rule of Law into major features of the respective digital ecosystem taking note of the way in which it is designed and the affordances there are such as app reviews. A dynamic conception of the Rule of Law can help mitigating risks and realizing potentials of these technologies.

19. What role can the Rule of Law play in the context of digitization? (TUM)

Rule of Law helps us to determine what we want out of Rule of Law in the context of digitization i.e., its inherent purpose or objective or ‘raison d’être’. This is in line with Krygier’s writing where he emphasizes on the “telos” of the Rule of Law, rather than on sociological factors such as economic growth or enhancing democracy¹⁵. For example, one of the purposes of Rule of Law is to prohibit arbitrary exercise of power; to achieve this in digital platforms, regulators designed the ‘Terms of Service for platforms’ which abided by the Rule of Law values such as consent, predictability, and procedural fairness. Therefore, while the Rule of Law has been seen as important to help ward off tyrannical governance, the same can be applied in the digital age, where the technology arguably holds just as much power as governments due to its capacity as a central role in public communication. Such framework can aid in identifying deeply problematic arbitrary powers for technology governance.

Moreover, in the age of digitization, Rule of Law plays a role to determine the importance of ‘legal certainty’ to promote trustworthiness in the system, in addition to the quality and the prospectivity of the law. For instance, in Opinion 5/2014 and the Dutch Data Protection Authority in its wake, it states that due to ‘new techniques’, which cannot be influenced by the holder of the data, one can never be certain whether anonymous data might become personal data again in some way. Given the importance of legal certainty as an essential aspect of the Rule of Law as ascribed by Krygier¹⁶, such approach, which erodes legal certainty, creates a lack of alignment. A solution for achieving legal certainty, when discussing anonymized data, can be seen in the form of ‘Soft Law’, which is a common phenomenon in the regulatory State, in addition to in the European Union, and essentially is composed of “opinions, recommendations and the like of administrative agencies”. With its non-binding nature, Soft Law paves way for legal certainty as the regulator is enabled to clarify how to interpret legislation.

¹⁵ Martin Krygier (2008), The Rule of Law: Legality, Teleology, Sociology, in *Gianluigi Palombella, Neil Walker (eds), Re-locating the Rule of Law, Hart Publishers, Oxford, UNSW Law Research Paper No. 2007, p.65.*

¹⁶ Martin Krygier (2012), Rule of Law, in *Michel Rosenfeld, András Sajó (eds), The Oxford Handbook of Comparative Constitutional Law, Oxford University Press, p.233-250.*

20. What role does Rule of Law entail in balancing the trade-off between right to privacy and surveillance when introducing technologies? (TUM)

In the context of the trade-off and balance between individuals' right to privacy and security surveillance, the doctrine of proportionality envisaged as part of the Rule of Law, plays a very important role, and has been laid down in Article 8 of the European Convention of Human Rights that requires a triple test for security measures that infringe privacy. This test provides an interesting framework based on the Rule of Law when considering balancing technologies with fundamental rights; it has the advantage of consolidating decennia of case law, in which weighing the demands of safety and security against the requirements of fundamental rights within the framework of Rule of Law and constitutional democracy can be justified to a certain extent. After attributing a right to privacy in the first paragraph of Art. 8 of the Convention, the second paragraph articulates the following three cumulative conditions for a justified, permitted infringement: the infringement must be in accordance with the law, necessary in a democratic society and have a legitimate aim. It is important to note that second paragraph of Art. 8 thereby acknowledges the idea of a trade-off. It only applies if the right to privacy is indeed infringed and stipulates that this is only allowed if the infringing measure is necessary and proportional to achieve the good of public safety or the protection of public order, health or morals or the protection of the rights and freedom of others. The necessity is understood as a requirement of proportionality between infringing measure and legitimate aim, but ultimately implies that surveillance technologies that cannot be expected to achieve the goal of public safety or one of the other legitimate aims, cannot be justified.

21. How does Rule of Law play its part in balancing the right to privacy, public health safety, and digital security in pandemic? (TUM)

Where circumstances that require that the right to privacy be restricted for the sake of public interest and public health safety exist, mechanisms must be put in place in consonance with the right-duty equilibrium as envisaged in the Rule of Law principles—for instance, provisions for the restrictions to be reasonable, time-specific, and exceedingly necessary in the circumstance. There can also be the implementation of regulations such as the Seattle Surveillance Ordinance¹⁷, which allows for transparency, accountability, and public trust; by ensuring that “the public has the opportunity to weigh the costs and benefits of new surveillance technology—including the impact on civil liberties—before the city obtains it”¹⁸. Implementing such regulations would mandate government agencies to consider the impact of surveillance technology, build public trust and prevent the abuse of such technology. It is also proposed that big tech ought to be regulated as public utility such that “contact tracing response, for instance, could be managed—from data collection to analysis to implementation—by democratically accountable public health authorities, for the sake of public health alone, and be shielded from both market and policing pressures”¹⁹.

Relating this to the incidences of trade-off in a pandemic, the benefits which the contact tracing apps offer in the containment of COVID can be balanced with the need to ensure that there is no threat to the personal information and the right to privacy and digital security of users. This balance can be maintained by ensuring that the data collected during the period is used strictly to ensure containment of the virus; through lawful, fair, and transparent use of the data; and controlled access to the data, as indicated in the

¹⁷ Seattle City Council, Seattle Surveillance Ordinance (2018),

https://library.municode.com/wa/seattle/ordinances/municipal_code?nodeId=917005.

¹⁸ ACLU of Washington (2017), Seattle Adopts Nation's Strongest Regulations for Surveillance Technology, <https://www.aclu-wa.org/news/seattle-adopts-nation%E2%80%99s-strongest-regulations-surveillance-technology>.

¹⁹ J Goldenfein, B Green and S Viljoen (2020), Privacy versus Health is a False Tradeoff, Berkman Klein Centre, <https://cyber.harvard.edu/story/2020-04/privacy-versus-health-false-trade>.

GDPR which reflects the right-duty framework of a social contract. Further, the Rule of Law values emphasize on “a social consensus on the acceptable level of conditional data collection for public health safety and the appropriate methods for collection must be addressed head-on in preparation for the next pandemic”²⁰.

22. How can the Rule of Law be furthered through digitization taking app reviews as an example? (TUM)

Public participation is considered as one of the core procedural principles of the Rule of Law: ‘no one should be subject to a penalty or to a serious loss resulting from a unilateral public action without being given the opportunity to put forth their views on the facts adduced and legal norms relevant to the case’. It does not translate merely into the right to be heard in adjudicatory procedures, but arguably, it stresses more broadly “the value we place on government treating ordinary citizens with respect as active centres of intelligence,”²¹ irrespective of the form taken by a public authority’s action. The Rule of Law “requires that public institutions sponsor and facilitate reasoned deliberation and participation in public affairs.” The Rule of Law protects “the freedom to participate actively and argumentatively in the way one is governed.”

In the context of digitization, it can be noted that this principle of Rule of Law is extended in the use of mobile applications. Through mobile applications, citizens can directly provide opinions, feedback, or voice concerns within the community. The app review feedback can be viewed as an act of engagement or as an act of participation by users. Through social media and open source software, citizens can share useful information with each other in real time format, and this potentially presents a substitute for traditional government responsibilities to protect and help citizens. Examples of such collective action include self-monitoring, whereby citizens help each other by reviewing applications, hotels, restaurants, or government services. Such app reviews and experiences by users can be evaluated to improve the app implementation for the benefit of such users or citizens.

For our project, we chose to examine the interaction between the user and State implemented technology stakeholders by conducting the Walkthrough Method²² to provide a bottom-up perspective. The public participate as both citizens and users in legitimation and credibility of implementing these policies, which thereby furthers the Rule of Law values namely, legitimacy, credibility and trust on the State and State implemented policies and laws.

23. How can we reinforce the Rule of Law values through design into the technological architecture? (TUM)

Digital technologies are so advanced that they can influence and steer human behavior. The proverbial expression that “code is law” has become a tritheism in the age of AI and DLT. The fact digital technologies are designable also means that they embed values such as the Rule of Law. It is possible to aim at those values through technology. In recent years, there have been great advances to reinforce the inclusion of persons with disabilities through digital technologies. It is also possible to progressively

²⁰ J Park (2021), Striking a Balance between Data Privacy and Public Health Safety: A South Korean Perspective, The National Bureau of Asian Research, <https://www.nbr.org/publication/striking-a-balance-between-data-privacy-and-public-health-safety-a-south-korean-perspective/>.

²¹ Jeremy Waldron (2011), The Rule of Law and the Importance of Procedure, in *James E. Fleming ed., Getting to the Rule of Law (3)*, p.7–12.

²² Ben Light, Jean Burgess, and Stefanie Duguay (2018), The walkthrough method: An approach to the study of apps, in *New media & society (20.3)*, p.881-900.

realize Rule of Law values by being mindful of them when designing technologies. Mireille Hildebrandt advocates for “legal protection by design,” thereby suggesting that fundamental values ought to be factored into the way we design technologies, particularly in the context of the transparency and contestability of design features.²³ Methodologically embedding values in design practice begins with identifying the relevant values, stakeholders, and method of choice among values. The feasibility of embedding values in design is then explored through technical investigations. This method does not guarantee that values will be embedded into a design, but rather provides a framework to highlight the values and implications of design choices.

Surveillance technologies that aim to detect and counter online security threats, vulnerabilities and various types of cybercrime may infringe privacy. Building on the triple test of European human rights law, such infringements should be justifiable in terms of a proportionality test that instigates a threshold before the employment of such technologies is allowed. If that threshold is reached, the requirement of proportionality demands the implementation of counter infringement technologies that reduce potential infringements to what is reasonable in relation to expected benefits. In that case, the notion of proportionality becomes contingent upon the technical and economic state of the art in counter infringement technologies. Next to that the employment of surveillance technologies should be conditioned by the implementation of a set of safeguards that are proportional in relation to the expected scope of potential infringements (the more substantial the infringement, the more substantial the safeguards). These safeguards will require human intervention, for instance to judge whether the threshold for a justifiable trade-off or balance is reached—while in an automated environment some of the safeguards should be automated, for instance by flagging potential abuse of surveillance technologies based on certain indicators. To assess this, we need freedom infringement impact assessments for surveillance technologies, resulting in evidence-based technologies instead of a fact free security policy. The issue of balance requires that the more serious the infringement may be, the more substantial the required counter infringement technologies should be. This can be achieved, for instance, by developing privacy by design – as imposed by the GDPR.

24. How can we communicate the Rule of Law values through design? (TUM)

Rule of Law values must be communicated through design through simplified language and visualization. In order to promote Rule of Law values, there needs to be a collaborative process to identify and design solutions that not only includes expert views but also perspectives of those affected, i.e., the “justice users”. The aim is to make complex rules and systems both comprehensible and actionable. Done well, this type of complex design has the author presenting the rules of a system in their complexity but empowers the end-user to navigate this complexity — giving them an understanding of the rules and the ability to apply them to the user’s specific situation and decisions. It is about helping people understand the situation that they are in, what rules apply to them, what the consequences of these rules will be, and what kind of behavior to take in response to these rules. This type of communication design is a legal design challenge.

The application of the “by/through design” concepts to the Rule of Law is not simple. However, features related to the Rule of Law can be designed in, such as requiring that a decision-making algorithm output is not only a decision but also a human-readable explanation for that decision²⁴. A design requirement like this might limit the techniques that can be used (for example, limiting machine learning to so-called “explainable AI”), but it would improve decision making transparency. Design involves choices such as

²³ Mireille Hildebrandt (2015), *Smart Technologies and the End(S) Of Law*, Edward Elgar Publishing, p.218-219.

²⁴ Henrik Palmer Olsen et al. (2019), *What’s in the Box? The Legal Requirement of Explainability in Computationally Aided Decision-Making in Public Administration 5*, in *iCourts Working Paper Series, Working Paper No.162*.

increasing transparency in this manner which will eliminate options that may outperform other criteria. By linking design to values makes such choices visible and explicit. Understanding the impact of design choices on the Rule of Law thus necessitates first an explicit statement of the values associated with the Rule of Law, which could be technically implemented to some extent. This may allow for aspects of the Rule of Law to be improved “by/through design” as part of a larger socio-techno-legal framework.

25. How is the Rule of Law analysis relevant through the APP lifecycle? (BC)

Public trust is critical to the successful adoption and implementation of a contact tracing programme. Public trust can be fostered by adherence to the Rule of Law in the development and deployment of a contact tracing APP. For instance, the principle of legality, which is a key tenet of Rule of Law when put into practice vis-à-vis tech development would result in transparency in data collection and processing practices. The principle of legal certainty along with prohibition of arbitrariness introduces constraints on the discretionary power over collected data and prevents function creep. Access to justice would require effective grievance redress within the APP ecosystem as well as institutional access to formal judicial recourse. The principle of equality and respect for human rights would prevent discriminatory treatment based on collected data and would safeguard the right to privacy.

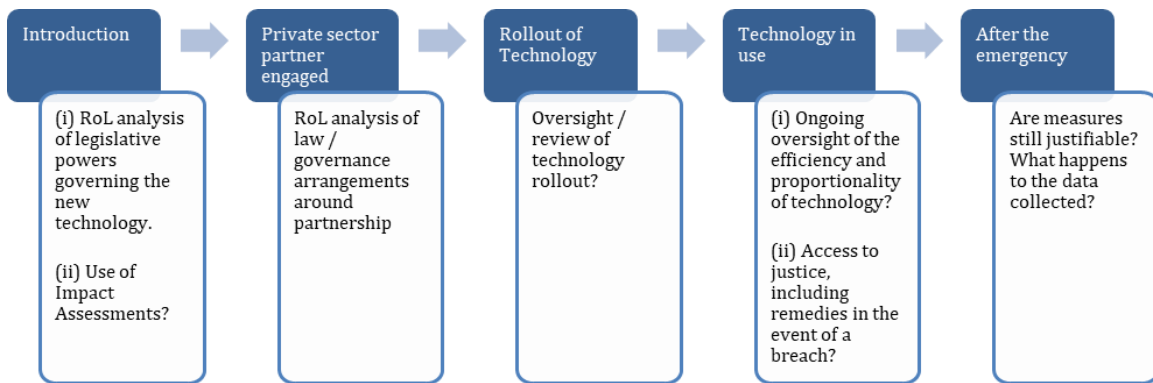


Figure 2. Summary of Rule of Law relevance through the APP lifecycle

Moreover, a Rule of Law analysis is also relevant for the technology ecosystem because pandemic technologies are embedded in wider digital architectures. Indeed, analysis of threats to the Rule of Law should go beyond looking at the specific technology – to consider all levels of activity: data collection and use, sharing, and the design, development, and deployment of automated systems for analysis.

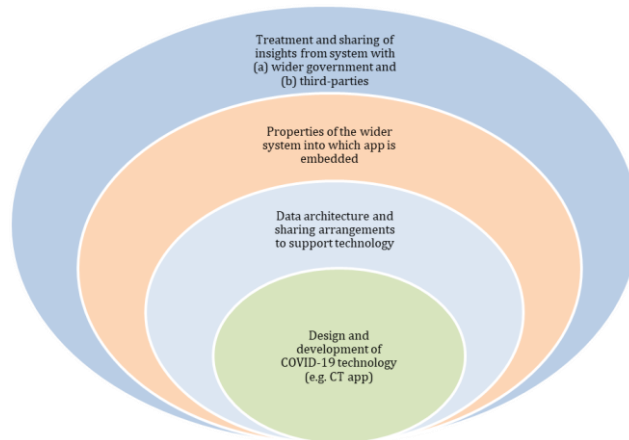


Figure 3. Rule of Law relevance for the technology ecosystem

26. What is the right timing for technology assessments from a Rule of Law perspective? (TUM)

The introduction of new technologies in society always produces unforeseen effects, sometimes socially desirable (as when the telephone turned out to support social interaction and community building) and sometimes less so. Because most of these effects become manifest during and after introduction of a new technology into more general use, the possibilities for correcting them (if necessary) by adjusting the technology are limited. By the time the negative social impacts are recognized, technology is already firmly embedded in sectors, institutions, and practices. Thus, a dilemma between control and entrenchment. To overcome this dilemma, constructive technology assessment provides a way out²⁵.

Moreover, at each stage of the lifecycle of a new technology, analysis from a Rule of Law perspective is relevant to maintain the public trustworthiness of the system, and therefore, constructive technology assessment is recommended to be conducted from a Rule of Law perspective. Constructive Technology Assessments requires that it should already be in the design and development phase of new technology²⁶. One implication of such practice would be that actors other than governmental actors would play decisive roles, for example consumers and producers themselves. Such technology assessment aims to involve users in the early design stages of technological innovation. The key point is that the impacts of technology are prepared and shaped all along the process of development, implementation, and use, which requires modified assessment strategies. To begin with, one can observe a marked shift in emphasis on Technology Assessment from general political decision-making processes to technological development, implementation, and use. To minimize the socially undesirable impacts while maximizing the desirable ones, constructive technology assessment includes activities to modulate a decentralized, multi-actor process of development of technology. Constructive Technology Assessment therefore can be seen as a design practice in which the assessment of impacts is being fed back into the development of technology in an iterative way and which contains an element of societal learning.

²⁵ David Collingridge (1980), *The Social Control of Technology*, London: Frances Pinter (Publishers).

²⁶ Stefan Kuhlmann (2012), Technology assessment as constructive design and governance, in A. Reinders, J. C. Diehl, & H. Brezet (Eds.), *The Power of Design. Product Innovation in Sustainable Energy Technologies*, Wiley, p. 100-110.

Appendix

Overview of activities

The project Rule of Law, Legitimacy and Effective COVID-19 Control Technologies was funded by the Institute for Ethics in Artificial Intelligence (IEAI) and conducted by three project partners.

To date, CAIDG has produced four outputs for the project:

- A blog post titled “[Examining Community Disquiet In The Age Of COVID-19](#)“
- A working paper titled “[AI and Data Use: Surveillance Technology and Community Disquiet in the Age of COVID-19](#)“
- A working paper titled “[Digital Contact Tracing – An examination of uptake in UK and Germany](#)”
- A presentation on “[State Authority, Power, Legitimacy and Citizens Trust during COVID-19](#)”
- A roundtable and workshop hosted on 26 November 2021, with several invited guests.
- A working paper titled “[Rule of Law, Legitimacy and Effective COVID-19 Control Technologies: Arbitrary Powers and its Influence on Citizens’ Compliance](#)” (forthcoming).

To date, TUM has produced the following outputs:

- Acceptance to publish an article on contact tracing technologies for the second edition of the renowned “[Handbuch Digitalisierung in Staat und Verwaltung](#)”. Christian Djefal Apps zur Kontaktnachverfolgung (Contact Tracing Apps) in Klenk, Tanja; Nullmeier, Frank; Wewer, Götrik (Hg.) (2nd ed. 2022): Handbuch Digitalisierung in Staat und Verwaltung. Wiesbaden: Springer.
- A research article on analyzing app reviews as an interdisciplinary collaboration that has been submitted for peer review.
- A master thesis project on app walkthroughs that has been accepted as for presentation at the [EASST conference](#).
- Conceptualized and coordinated this White Paper.

To date, the BC has produced the following outputs:

- Joelle Grogan, Julinda Beqiraj, ‘[The Rule of Law as the Perimeter of Legitimacy for COVID-19 Responses](#)’, in Joelle Grogan, Alice Donald, ‘[Routledge Handbook of Law and the COVID-19 Pandemic](#)’, 2022.
- Julinda Beqiraj, Rowan Stennett, Nyasha Weinberg, ‘[The Rule of Law and COVID-19 related technologies](#)’, Bingham Centre for the Rule of Law working paper, May 2021.
- Online event on ‘[The Rule of Law in the technological age](#)’, BIICL, London, 28 October 2020, sponsored by Re:constitution and RECONNECT.
- Julinda Beqiraj, Jean-Pierre Gauci, ‘[Rule of Law Safeguards in Times of Health Crises: A Decalogue](#)’, RECONNECT Blog, 17 July 2020.

Additional resources

- Alan F. Westin (1968): Privacy and freedom. In: *Washington and Lee Law Review*, 25 (1).
- A. E. Cawkell (1982): Privacy, security, and freedom in the information society. In: *Journal of Information Science* 4 (1).
- Batya Friedman et al. (2008): Value Sensitive Design and Information Systems. In: *The Handbook of Information and Computer Ethics* (Kenneth Einar Himma & Herman T. Tavani (eds)).
- C. Daey Ouwens et al. (1987): Constructief Technologisch Aspectenonderzoek, Een Verkenning.
- David Collingridge (1980): *The Social Control of Technology*, Frances Pinter.
- Eberhard Schmidt-Aßmann (2004): Rechtsstaat. In: Josef Isensee und Paul Kirchhof (Hg.): *Handbuch des Staatsrechts. Volume II: Verfassungsstaat*. 3d edition C. F. Müller, (542).
- Gertjan Fonk (1994): Een constructieve rol van de consument in technologie-ontwikkeling. Constructief Technologisch Aspectenonderzoek vanuit consumentenoptiek.
- Jerry Mashaw (1981): Administrative Due Process: The Quest for a Dignitary Theory. In: *Bul Rev.*, 61, 889.
- Johan Schot/ Arie Rip (1997): The Past and Future of Constructive Technology Assessment. In: *Technological Forecasting and Social Change*, 54 (2-3).
- Joseph Raz (2019): The Law's Own Virtue. In: *Oxford Journal of Legal Studies*, 39 (1).
- Hans Kelsen (1945): *Peace through Law*. Van Rees Press.
- Leysia Palen/ Sophia B. Liu (2007): Citizen Communications in crisis: anticipating a future of ICT-supported public participation. Proceedings of the SIGCHI conference on Human factors in computing systems.
- Nicolas Suzor (2018): Digital Constitutionalism: Using the Rule of Law to Evaluate the Legitimacy of Governance by Platforms. In: *Social Media + Society*, 4 (3).
- Reza Banakar (2015): *Normativity in Legal Sociology: Methodological Reflections on Law and Regulation in Late Modernity*, Springer.
- Sarah-Kristin Thiel/ Ulrich Lehner (2015): Exploring the effects of game elements in m-participation. Proceedings of the 2015 British HCI conference.
- Stefan Höffken/ Bernd Streich (2013): Mobile participation: Citizen engagement in urban planning via smartphones. In: *Citizen E-participation in urban governance: Crowdsourcing and collaborative creativity*, IGI Global.
- Stefan Kuhlmann (2012): Technology assessment as constructive design and governance. In: *The Power of Design*, Wiley.
- Svend-Erik Skaaning (2010): Measuring the Rule of Law. In: *Political Research Quarterly*, 63 (2).