

Technology and the Rule of Law

Executive Summary

Technology permeates every major aspect of modern society, from medicine to business to consumer products. These innovations seek to create developments that will lead to efficient outcomes across the board, whether these results take the form of saving time, money, or improving upon human errors. Due to this modern trend, it naturally follows that these technological developments will extend to areas of law and governance in coming decades. Indeed, software developments have already been made within the legal sector to facilitate efficient discovery procedures and provide electronic legal aid at a low cost to citizens.

Given the current trajectories of technology and modern optimism regarding its potential uses, there exists a ripe opportunity for technology to improve upon the rule of law in developed countries. As one of the most prominent global development strategies, the rule of law enjoys a unique position in today's world. Studies show that nations that have implemented a rule of law philosophy into their governance structures enjoy heightened economic performance and status. Many developed nations attempt to promote the rule of law through policy and aid to developing countries. Most international organizations that give financial assistance to developing countries often condition the receipt of this assistance on a nation's willingness to implement the rule of law into their governance structures. Markedly, despite the rule of law's popularity, there appears to be a lack of consensus amongst world leaders and political theorists with regards to its precise definition. As discussed later in this note, the rule of law's lack of a precise definition may prove to be troublesome as technologies develop and greater specificity is required.

The use of technology to promote rule of law efforts raises unique challenges. Although machines and algorithms may prove to be useful in promoting efficient and unbiased administration of law, it is worth noting that these technologies require subjective programming,

which may mean they're not as objective as they seem. Furthermore, these technologies may not be capable of taking into consideration or weighing all of the values embedded in a rule of law system. To prevent unintended consequences, a refined consensus regarding the rule of law's definition is necessary, at the very least requiring the identification of key components that are vital to a rule of law system.

Additionally, we must question how far technology should go in replacing human actors in the rule of law system. The possibilities for technological advances in law and governance are broad, and could range from technology used to predict court case outcomes to algorithms that create law based on what it computes as most efficient and fair for all citizens. At this time, it is unclear where the proper balance between human and machine should rest, and how the rule of law in developed nations may be altered or adapted to allow for technological developments. Perhaps the proper balance lies in the creation of technology used to supplement human behavior rather than replacing it, leading to small increases in efficiency and small decreases in arbitrariness.

Perhaps the rule of law isn't an attainable ideal, and its value lies in its imperfection.

I. Introduction: Defining the Rule of Law

Throughout history, the rule of law has been among the most universally acknowledged theoretical principles, and has achieved extensive global backing.¹ A plethora of international organizations, such as the International Monetary Fund and the World Bank, demonstrate their support of such principles by incorporating them in the organization's core values, and by conditioning financial assistance upon the implementation of rule of law principles.² The rule of law is supported by developed and developing countries, and western and non-western leaders alike. It has gained recognition by leaders in United States, China, Russia, Zimbabwe, Mexico and Japan as a noble public policy, attaining unprecedented unanimity in its support as a global ideal.³ Support for the rule of law turns on studies that have shown a positive correlation between the implementation of the rule of law in a nation and that nation's subsequent economic performance and development.⁴ However, despite its prominence as a global ideal, the rule of law is an elusive concept, having a variety of conflicting definitions and focuses.⁵ Some theorists posit that the rule of law should strive to protect individual rights within a society, others equate rule of law principles with those of a typical democratic system, while others view the rule of law as a mere formality.⁶ This disjunction among definitions makes it difficult to speak about rule of law as a coherent ideal and can lead to difficulties in implementing practical rule of law governance systems or reforming existing systems. It is imperative that rule of law theory moves towards a concise definition that achieves consensus amongst its many proponents.

¹ Brian Z. Tamanaha, *On The Rule of Law: History, Politics, Theory*, 3 (Cambridge University Press, 2012).

² *Id.* at 2; see also <http://www.imf.org/en/About> and www.worldbank.org/.

³ *Id.* at 2-3.

⁴ See Stephan Haggard & Lydia Tiede, *The Rule of Law and Economic Growth: Where are We?*, *World Development*, 39(5), 673-685.

⁵ R. George Wright, *The Rule of Law: A Currently Incoherent Idea That Can Be Redeemed Through Virtue*, 43 *Hofstra L. Rev.* 1125, 1125-1126 (2015).

⁶ Tamanaha, *supra* note 1, at 3-4.

There are some key characteristics upon which many theorists find common ground when defining the rule of law; these can serve as a starting point towards a concise, workable definition. A minimalistic definition puts forth the idea that rule of law is “whatever law exists is written down and publicly promulgated by an appropriate authority before the events meant to be regulated by it, and is fairly applied by relevant state institutions including the judiciary.”⁷ Other principles commonly cited include equal application of the law to all citizens, protections against anarchy, and guarantees against official arbitrariness.⁸ Beyond these core principles, which attain some level of consensus among rule of law theorists, any specifics regarding the system’s goals or ideal governance structures are muddled. Some definitions place an emphasis on formal equality – this is achieved by maintaining a legal system that uses procedures to grant rights and obligations to each citizen equally, irrespective of social status or position.⁹ Other definitions provide more detail. Legal scholar Joseph Raz, who posits that the rule of law is made up of eight components, states: “1. All laws should be prospective, open, and clear; 2. Laws should be relatively stable; 3. The making of particular laws... must be guided by open, stable, clear, and general rules; 4. The independence of the judiciary must be guaranteed; 5. The principles of natural justice must be observed (i.e. open and fair hearing and absence of bias); 6. The courts should have review powers... to ensure conformity to the rule of law; 7. The courts should be easily accessible; and 8. The discretion of crime preventing agencies should not be allowed to pervert the law.”¹⁰ Although many of these definitions hold merit within discussions of rule of law theory, a worldwide definition is not yet agreed upon. This lack of clarity has the potential to

⁷ Guillermo O’Donnell, *Why the Rule of Law Matters*, *Journal of Democracy*, 15(4), 33 (2004).

⁸ Richard H. Fallon, Jr., “*The Rule of Law*” *As a Concept in Constitutional Discourse*, 91 *Colum. L. Rev.* 1 (1997).

⁹ O’Donnell, *supra* note 7, at 33.

¹⁰ Joseph Raz, *The Authority of Law: Essays on Law and Morality*, 214-215 (Clarendon Press, 1979).

frustrate efforts of aid organizations when deciding exactly what form of governance system would best promote the rule of law and can lead to issues downstream when implementing technologies in developed countries.¹¹

II. Flaws in the Rule of Law System

The challenges facing implementation of the rule of law in developed countries are radically different from those encountered in developing countries. Reforms in many developing countries tend to focus on a minimalist conception of the rule of law, rather than absolute perfection of the system.¹² As explanation, many scholars point to common challenges that make rule of law implementation in developing countries difficult to achieve. Many developing countries lack the necessary financial, technological or educational resources to implement good institutions to carry out the rule of law. Furthermore, the culture of a developing country may be deeply ingrained in norms, social values, or traditions that may directly contradict core principles of the rule of law. In some instances, the self-interest of current political leaders may impede efforts of legal reform, even if reform would benefit citizens.¹³ Developed countries tend not to face the same impediments; resources are abundant and financial or educational constraints are not typically cited as impediments to rule of law reform in these nations. Democratic and liberal norms, social values, and traditions that are typically found in developed countries align with core rule of law values, leading to a more robust rule of law system. However, although developed countries tend to have more resources and less cultural impediments, their legal systems are not perfect, and developed countries face unique challenges to the rule of law.

¹¹ RJ Daniels, *The Political Economy of Rule of Law Reform in Developing Countries*, 26 Mich. J. Int'l L. 99 (2004).

¹² *Id.*

¹³ *Id.*

Some scholars have commented on the deterioration of rule of law principles in western civilizations.¹⁴ Others cite the rule of law as an impossible ideal due to inherent deficiencies in the way communities structure their institutions.¹⁵ Regardless, western nations, including the United States, have room for improvement. The 2017 Justice Gap Report by the U.S. Legal Services Corporation shows that “86% of the civil legal problems reported by low-income Americans received inadequate or no legal help” and “71% of low-income households experienced at least one civil legal problem in the last year.”¹⁶ This problem is exacerbated by the fact that courts in the United States are facing resource constraints and becoming backlogged, particularly with matters related to immigration. A recent report by the Government Accountability Office shows that immigration cases pending from previous years has more than doubled since 2005, primarily due to a decline in the amount of cases completed per year.¹⁷ These legal aid deficiencies and overburdened courts prevent low-income and minority groups from obtaining justice when their rights have been violated; these deficiencies contradict rule of law theories that emphasize access. Equal access to a country’s legal system is often cited by international organizations as one of the core components of rule of law and barriers to access (especially when impacting marginalized groups) are seen as fundamentally unfair.¹⁸ Justice Lewis Powell, Jr. stated, “[e]qual justice under law is not merely a caption on the façade of the Supreme Court building; it is perhaps the most inspiring ideal of our society. It is one of the ends

¹⁴ Tamanaha, *supra* note 1, at 4.

¹⁵ TAO Endicott, *The Impossibility of the Rule of Law*, Oxford J. Legal Stud. 19 (1999).

¹⁶ Legal Services Corporation, *2017 Justice Gap Report*, <https://www.lsc.gov/media-center/publications/2017-justice-gap-report>.

¹⁷ Center for Immigration Studies, *The Massive Increase in the Immigration Court Backlog*, <https://cis.org/Report/Massive-Increase-Immigration-Court-Backlog>.

¹⁸ United States Institute of Peace, *Necessary Condition: Access to Justice*, <https://www.usip.org/guiding-principles-stabilization-and-reconstruction-the-web-version/rule-law/access-justice>.

for which our entire legal system exists. It is fundamental that justice should be the same, in substance and availability, without regard to economic status.”¹⁹

Lack of complete judicial independence is often cited as another critique to the current American rule of law system. Research on U.S. Supreme Court opinions has shown that judges base decisions not only on stare decisis, but also an array of extralegal factors, including those of a sociological, psychological or political nature.²⁰ Indeed, judges are not clones, and preconceived notions and personal opinions are bound to affect decision-making, despite best efforts at objectivity. Even if all judges’ ideologies aligned, there would still be methodological divisions and interpretational differences; this is because the body of precedent does not fit nicely into a single theoretical scheme, but rather requires judges to make methodological choices between “maximizing social welfare, respecting original meaning, or upholding ethical theories.”²¹ Furthermore, judges are often called upon to resolve disputes where the law provides little to no guidance or resolution. This vagueness in the law seems to make arbitrary government unavoidable to an extent and makes it increasingly difficult for judges to treat like cases alike.²² Lastly, judges often face public pressures from citizens to rule in accordance with popular belief on controversial issues, and can even face threats of violence for failing to do so.²³ It must be noted that these critiques and issues are not unique to judges. Research has shown that experts may exhibit biases such as optimism bias, anchoring, confirmation bias, illusion of validity, and the frequency illusion; these biases are accentuated when the expert has a monopoly over other

¹⁹ Lewis F. Powell, Jr.

²⁰ See generally Tracey E. George & Lee Epstein, *On the Nature of Supreme Court Decision Making*, 86 Am. Pol. Sci. Rev. 323 (1992).

²¹ Daniel A. Farber, *The Rule of Law and the Law of Precedents*, 90 Minn. L. Rev. 1173 (2005).

²² Endicott, supra note 15.

²³ Jonathan M. Remshak, *Truth, Justice, and the Media: An Analysis of the Public Criminal Trial*, 6 Seton Hall Const. L.J. 1083 (1995-1996).

experts.²⁴ Juries are prone to fallacies as well. As of April 2018, there have been 354 reported cases where jury convictions of serious crimes were later reversed using DNA evidence.²⁵

Although developed countries like the U.S. don't encounter the same rule of law implementation issues as developing nations, it is evident that there is room for improvement to achieve a better system, especially with respect to legal access and fair courts. Perhaps the solution would come from technology or algorithms designed to reduce human errors in the law and improve access to the justice system for marginalized or minority groups.

III. Technology as a Solution

Technological developments and determinism have pervaded western culture for years and culture has depicted technological innovation in many fields as inevitable, even when those innovations are new or undeveloped.²⁶ Additionally, technological developments have been viewed as gateways to promote efficiency and cost-savings. The “cost savings of a brick-and-mortar-less practice alone practically assure the embrace of digital lawyers and data-based legal practice.”²⁷ In other words, the cost savings of transitioning to a digital practice make such transitions inevitable. Based on the prevalence, cultural optimism and economic realities surrounding technology, it is worth considering technology's potential impact on rule of law revisions in western developed nations.

²⁴ Roger Koppl, *The Rule of Experts*, in *The Oxford Handbook of Austrian Economics* 344-46 (Petter Boettke & Christopher Coyne eds. 2015).

²⁵ Innocence Project, <https://www.innocenceproject.org/all-cases/#exonerated-by-dna> (last visited April 2, 2018).

²⁶ Michael G. Bennett, *A Critical Embracing of the Digital Lawyer*, in *Educating the Digital Lawyer*, § 12-01 (Oliver Goodenough & Marc Lauritsen, eds., 2012)

<https://repository.library.northeastern.edu/files/neu:332782/fulltext.pdf>.

²⁷ *Id.*

Indeed, software technologies have led to the creation of online legal service providers (such as Legal Zoom) that have allowed for cheap availability of legal resources to individuals lacking legal expertise; this has led to a systematic reduction in transaction costs.²⁸ This legal service software has increased the pool of individuals that have access to the justice system and has helped remove cost barriers to such access. These technologies have also been introduced into law firms to improve legal efficiency and manage caseloads. Computationally based services such as eDiscovery have been introduced into such firms as replacements for manual document review, and have allowed attorneys to meet the previously unfulfilled legal needs of small businesses and middle-class citizens.²⁹ The growth of automation in the legal system has begun to reach highly specialized fields such as modern finance.³⁰ Algorithmic programs known as “RegTech” are used in combination with human expertise to regulate the behavior of large financial institutions, so that experts can both focus on what really matters in regulation and keep up with “FinTech,” advanced financial technologies used by these institutions during their regular course of business.³¹ All of these technologies can aid the implementation of a refined rule of law system that combats human bias, inefficiency, and access concerns.

The use of technological innovation to combat inefficiencies in the rule of law is promising and has the potential to take many different forms, each implicating different levels of invasiveness and human control. Firstly, algorithms and machine learning can be used to streamline legal administration, especially in areas where judges and administrators face resource

²⁸ Caryn Devins et al., *The Law and Big Data*, Cornell J.L. & Pub. Pol’y 357 (2017).

²⁹ John O. McGinnis & Russell G. Pearce, *The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services*, 82 Fordham L. Rev. 3041 (2014).

³⁰ Lawrence G. Baxter, *Adaptive Financial Regulation and RegTech: A Concept Article on Realistic Protection for Victims of Bank Failures*, 66 Duke L.J. 567, 598 (2016).

³¹ *Id.*

constraints and scarcity of human capital.³² Technologies of this type would lead to lowered transaction costs for legal services and greater overall efficiencies in the justice system, allowing individuals of lower-income and minority status to attain legal remedies for their claims. These technologies would also alleviate the court system’s backlogging dilemma and current frustrations imposed by judicial resource constraints.³³ Secondly, machine learning and algorithms could be applied towards a goal of predicting outcomes of court cases, helping citizens attain more legal clarity and promoting compliance with the established societal laws. Machine learning algorithms have already been shown to outperform humans in the task of correctly predicting court outcomes.³⁴ According to Justice Oliver Wendell Holmes, “prophecies of what the courts will do in fact... are what I mean by the law.”³⁵ These mechanized predictions would allow for faster advice and rulings to citizens, and would eliminate many human errors, thus allowing for a more streamlined pathway to justice and consistent legal outcomes.

Finally, in the most invasive and risky situation, machines and algorithms could become the law.³⁶ Rather than interpreting and analyzing existing laws, machines could be used to refine and improve inconsistencies, vagueness, and unfair outcomes currently ingrained in laws promulgated by legislators. Since machine algorithms can predict human behavior and efficient outcomes, they could reasonably facilitate the development of laws that take into account all parties, circumstances, and contexts to create the most “fair” and efficient regulations.³⁷ In this way, gaps and inconsistencies in the law can be filled in ways that humans may not be able to

³² Benjamin Alarie et al., *Regulation by Machine*, Dec. 1. 2016, <http://www.mlandthelaw.org/papers/alarie.pdf>.

³³ *Id.*

³⁴ D.M. Katz et al., *Predicting the Behavior of the United States Supreme Court: Toward a General Approach* (2014).

³⁵ Oliver Wendell Holmes, Jr., *The Path of the Law*, Harv. L. Rev. 10 (1897).

³⁶ Alarie, *supra* note 32.

³⁷ *Id.*

contemplate. “In this vision of the future, law will exist in a catalogue of precisely tailored directives, specifying exactly what is permissible in every unique situation. A citizen simply follows a directive optimized for her situation.”³⁸ This system would be drastically different from the one that is presently contemplated in developed nations but is worth noting as a potential outcome. Regardless of whether the level of control of machines and algorithms manifests itself as an improvement in the efficiency of legal administration, predicting court outcomes, or replacing the role of human regulation, these technologies could lead to the types of improvements to the rule of law system that developed nations are presently lacking. If done properly, legal technologies could (1) alleviate resource constraints, thereby improving access of the justice system to all parties, (2) remedy the shortcomings of human reasoning and decision-making by developing transparent predictive models, and (3) eliminate vagueness in the law that “seems to make arbitrary government, to some extent, unavoidable.”³⁹

IV. Potential Problems and the Need for a Precise Definition

There are a number of potential issues that may arise with the use of technologies to improve the rule of law in developed nations. One issue is philosophical in nature. Justice Oliver Wendell Holmes stated, “the law embodies the story of a nation’s development through many centuries, and it cannot be dealt with as if it contained only the axioms and corollaries of a book of mathematics.”⁴⁰ This emphasis on human reasoning and decision-making stems from the idea that these ideals are important in the fair administration of justice, in that they give judges the flexibility to adapt to changing constitutional values and unavoidable nuances in the law itself.⁴¹

³⁸ *Id.*

³⁹ Endicott, *supra* note 15.

⁴⁰ Oliver Wendell Holmes, Jr., *Nolo’s Plain English Law Dictionary* (Hill, 2009).

⁴¹ Daniel A. Farber, *The Rule of Law and the Law of Precedents*, 90 Minn. L. Rev. 1173 (2005).

Perhaps the system that arrives closest to the perfect rule of law relies on these intangibles, things that cannot be quantified and inputted into a machine for analysis. Perhaps vagueness in regulation is not a deficiency in the rule of law, as it is entirely possible that replacing vague laws with precise ones would not necessarily bring a community closer to the ideal rule of law system.⁴²

Another issue resulting from the combination of technology and the rule of law arises from the current inherent limitations of technology. Although algorithmic technologies are often cited for their objectivity and ability to make unbiased predictions, perhaps these qualities are overstated. Data always requires interpretation, both in its initial programming stages and upon generation of results.⁴³ Creations of algorithm and machine systems require a human programmer to make subjective judgment calls in order to specify what data should be mined and how the acquired data should be interpreted. Thus, it is possible that the asserted objectivity surrounding technology is a myth, and that the theories with which it is programmed could lead to subjective outcomes.⁴⁴ Challenges could arise with regards to software that could predict case outcomes – for example, how would a system balance the competing interests of maximization of social welfare, respecting original meaning among caselaw, or giving weight to alternative ethical theories? These concerns are augmented when contemplating a machine that could create and refine legislation to remove ambiguity and create efficiency in the legal system. With such a complex and intricate legal system, society would need to move towards a single unified, conceptual framework for addressing issues of complexity. Scholars cite that “big data needs a

⁴² Endicott, *supra* note 15.

⁴³ Devins, *supra* note 28.

⁴⁴ *Id.*

big theory to go with it,” so that we know what kind of data to collect, how to program the machines to meet certain specified goals, and how to prevent unintended consequences.⁴⁵ To create a technology with such a high level of control over the legal system would necessitate clear theories that could be followed by the algorithm or machine, and would require a consensus within society regarding which values should be advanced to move towards the rule of law.⁴⁶ Some scholars strongly warn against the difficulty of implementing such precise definitions and values, citing that “[b]ig data would impose an algorithm-based methodology that could introduce well-intentioned but highly problematic behavioral uniformity, and a disturbing lack of transparency and accountability to the legal system as a whole.”⁴⁷

There are two lessons to be learned from this. First, to prevent the unintended consequences of legal technologies, society should strive for a precise definition of the rule of law that encompasses all common values and objectives. At the very least, there should be consensus regarding a few key values that form a core of rule of law theory. As discussed earlier, it appears as if there are some broad commonalities amongst rule of law definitions, mostly relating to the need for a system of government that is non-arbitrary and allows for fair treatment of all citizens under the law. However, the theory of the rule of law blurs once a certain level of detail is sought, making it difficult and even dangerous to incorporate into legal technologies. Without a clear definition, technology intended to promote efficiency and overall fairness under a rule of law system could end up promoting only one aspect of the rule of law while simultaneously ignoring other important aspects. For example, a machine programmed to value specificity in the law above all could lead to unfair outcomes, if these outcomes are not

⁴⁵ Geoffrey West, *Big Data Needs a Big Theory to Go with It*, *Sci. Am.*, May 1, 2013, <https://www.scientificamerican.com/article/big-data-needs-big-theory/>.

⁴⁶ *Id.*

⁴⁷ Devins, *supra* note 28.

accounted for in the code. This proved to be true when revisions to the Federal Sentencing Guidelines in 1988 provided an algorithmic and deterministic approach to criminal sentencing that judges were required to follow.⁴⁸ Many judges found this data-based sentencing policy to be fundamentally unjust, as it required certain mandatory sentences to align with certain fact patterns in criminal cases and did not consider mitigating or unique circumstances.⁴⁹ In Booker, the Supreme Court held that the Federal Sentencing Guidelines should be advisory rather than dispositive, thus allowing the judge to consider other important factors when deciding upon a sentence.⁵⁰ A technology that considers only some factors of justice while ignoring others will similarly prove to be ineffective.

Secondly, it is imperative to consider the reach that technological innovations should be allowed to extend to rule of law reforms. Growth in reliance upon technology in the United States is undisputed; technological optimism and cost-savings benefits predict that this growth will continue well into the future. This can be a good thing -- as seen in current developments, legal software and algorithms have had positive impacts on many areas of law often cited as critical to the rule of law, including equal access to legal resources and forums and improvements upon judicial independence. However, many caution against the potential reach of such technologies, especially when the rule of law that societies aim to promote consists of vague and inconsistent principles. It is worth considering the extent to which the rule of law can be improved upon with technology, and conversely how much the rule of law can accommodate

⁴⁸ Stephen F. Breyer, *The Federal Sentencing Guidelines and the Key Compromises on Which They Rest*, 17 Hofstra L. Rev. 1, 8-25 (1988).

⁴⁹ *Id.*

⁵⁰ *Booker*, 543 U.S. at 245-46.

such technology. Perhaps the ideal balance is to be struck by allowing technology to supplement human judgment in the legal system, but not supersede such judgment.

V. Conclusion

Rule of law in developed countries is not perfect, as there exist many deficiencies in the legal system that lead to impaired access, inefficiencies, and imperfect human judgment. The use of technology appears promising when applied towards correcting these deficiencies and moving closer to our ideal system. This can be done in a variety of ways, ranging from small efficiency improvements in access to legal aid to complete autonomous regulation and replacement of human judgment. The extent to which these developments may penetrate our rule of law system should be given forethought, as we run the risk of unintended consequences.

It appears as if the problems that arise when using technology to improve upon the rule of law do not lie with issues in the technology itself, but rather our lack of agreement in defining the core values that make up the rule of law system. To fully enjoy the benefits that machines and algorithms offer, we would need a concise definition for the rule of law, something that hasn't yet reached a level of consensus. Maybe the focus in promoting the rule of law shouldn't be towards achieving perfection in this way, but rather constantly and incrementally improving towards an unattainable but noble ideal.

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