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Legal Design and Effectiveness: The Quest for a Theoretical Grounding for Legal Innovation

Ana Sofia Roa-Chica*
Juan Pablo Carbonell-Muñoz**

Abstract

In contemporary discourse, legal design is one of the most talked about concepts in the legal world. Its innovative design tools and methods are emerging as a feasible alternative to transform the legal world and make it more humane. However, very few discussions have been held on how this new discipline is integrated into legal theory and what its theoretical and practical effects are for modern legal systems and states. This paper aims to bridge this gap by exploring the intersection of legal design and an overlooked concept in legal theory: the effectiveness of law and its sources. It posits that legal design provides a methodological framework for evaluating effectiveness, from individual legal sources (e.g. statutes, rulings) to broader structures such as legal systems, public policies, and state programs. By incorporating empirical and participatory approaches, the article summarizes the prospective influence of this methodology in attaining the purposes of the law and promoting effectiveness. Ultimately, it asserts that legal design not only finds a solid theoretical foundation in traditional legal scholarship but also holds significant potential - albeit not without limitations - for enhancing the utility and humanity of law in contemporary societies.

Keywords:

Legal Design, Legal Effectiveness, Law's Purpose, Legal Theory, Human-Centered Design

1. Introduction

Throughout history, debates about the purpose of law and its impact on society have remained contentious. The diversity of currents and perspectives of legal theory, the philosophy of law and their implications, have shaped how we conceive of laws, their effectiveness, and how we organize ourselves as a society. Among contemporary debates, the realist perspective has gained particular prominence, especially in discussions about how laws and public policies are

* Legal Service Consultant at Háptica Design, anasofiaroachica@hotmail.com
** Legal designer, researcher and MPA candidate at the Institute of Innovation and Public Purpose at University College London, juanpacarbonell@gmail.com

designed. These are associated with the need to guarantee human rights, provide goods and services to meet citizens' needs, and optimize resources to maximize potential positive outcomes.

Within the new perspectives emerging from legal realism, legal design can be situated as a methodology that applies design thinking and strategies to the legal world. As noted by scholars such as Hagan and Perry-Kessaris, this discipline has developed not only as a practical movement but also as a novel way of studying, evaluating, and engaging with law empirically (Hagan, 2020; Perry-Kessaris, 2019). Because these discussions occur in the realm of reality, they arise from and connect with traditional legal concepts and debates linked to the purposes that the law should serve. Here, the studies of traditional dogmatists - such as Kelsen and Hart - take on special relevance, as they introduced essential categories of analysis such as validity and effectiveness.

Yet, despite its growing practice and popularity, legal design remains conceptually underdefined, particularly in relation to these theoretical traditions. This gap opens the question of how legal design can be connected with contemporary legal theory, particularly through categories such as effectiveness. This notion is especially relevant because it examines how legal objectives are achieved in practice. It enables a dual perspective: on the one hand, it frames law in terms of the broader objectives it pursues at a systemic level; on the other, it makes it possible to assess how particular legal sources (laws, decrees, judicial decisions, and others) seek to achieve specific purposes. In this sense, *effectiveness* operates as a conceptual entry point that is both theoretically robust and practically relevant.

From this perspective, the central challenge is to clarify the points of contact between legal design and contemporary legal theory, particularly in relation to the growing emphasis on the effectiveness of law as a category of analysis. This is not just a matter of rethinking traditional conceptions of the purposes and functions of legal action, but also of examining how legal design can significantly impact these elements as a research, diagnosis, and solution-generation methodology. This article is a conceptual contribution rather than an empirical study. It aims to address the research gap regarding the underdeveloped relationship between legal theory and legal design, with particular attention to how the notion of *effectiveness* can serve as one of the bridges between these two domains. In particular, we explore how legal design can serve as a methodology to enhance the effectiveness of law and to contribute to the realization of its purposes within the framework of the state.

In order to develop our argument, we will first analyse how the purposes of law have changed through history. Subsequently, we will investigate how legal design interacts with these trends and relate this to the idea of effectiveness and the usefulness of implementing this new approach. Finally, we will demonstrate how this relationship is manifested through real-life examples of how legal design and human-centered methodologies have transformed legal sources and systems, making them more effective. This is based on an understanding of legal effectiveness at two levels: the singular level, concerning specific sources of law such as contracts and statutes; and the systemic level, concerning public policies that bring together multiple legal sources.

2. The purposes of law through the evolution of legal theory

This section begins by examining two foundational perspectives that have historically shaped how the purposes of law are conceived: naturalism and formalism. We consider these to be the

starting points for understanding the later emergence of effectiveness as a category of analysis and the subsequent turn toward legal realism. While distinct in their premises, both offer influential interpretations of law's role in society. For naturalists, law derives its authority from a higher order; moral, rational, or divine, and its purpose lies in aligning human conduct with these universal principles (Falcon & Tella, 2010). Law, in this view, is valid not because it is enacted by an authority, but because it reflects what is intrinsically just or right. Formalism, by contrast, rejects the idea that law must mirror an external moral truth. Instead, it sees law as a system of rules established by a legitimate authority, typically the state, whose primary function is to organize social life through predictability, consistency, and enforcement. In this framework, the effectiveness of legal norms lies not in their moral content but in their formal validity and institutional application (Green & Adams, 2019).

Departing from both approaches, we have realism. Legal realism emerged in part as a response to the limitations of the previous perspectives, particularly the rigidity of formalism. Realists challenged the notion that law is a self-contained system of rules, arguing instead that it must be understood in terms of how it operates in practice. From this viewpoint, the purpose of law is not defined by its internal coherence or by its alignment with abstract ideals, but by its responsiveness to the complexities of real world contexts. Legal rules are meaningful only insofar as they produce tangible outcomes and adapt to the changing needs of society (Dagan, 2007, p. 27).

In this sense, realism marks a significant shift: it repositions law as a dynamic and empirical institution, 'it changes as society changes, forever in a precarious and unstable equilibrium' (Gilmore, 1961, p.6). Unlike naturalism and formalism, which rely on internal or theoretical foundations, realism invites us to see law as contingent, functional, and deeply embedded in the broader social structure. This transformation in perspective not only laid the groundwork for more flexible, human-centered approaches to legal thinking and practice, but also exposed the need to integrate new disciplines into the study of law. Indeed, one of the fundamentals that characterizes legal realism is its aspiration toward a 'truly scientific study of law - a systemized inquiry deliberately focused on gaining adequate knowledge of the entire social structure as a functioning and changing, yet coherent, mechanism' (Feldman, 2000, p.44).

The emergence of legal realism in legal theory redefined the purposes of law by emphasizing its connection to the reality it seeks to regulate. Its various strands have paved the way for contemporary disciplines such as legal design, which share this orientation toward real-world conditions. First, there is New Legal Realism, which has adopted an eclectic methodological study to facilitate this 'translation between theory and [legal] observation' (Suchman & Mertz, 2010, p.560). Rather than treating legal sources - especially judicial decisions - as mere textual outcomes, new realists consider broader influences, such as judges' personal backgrounds, beliefs, and the social effects of their rulings (Miles & Sunstein, 2007).

A parallel development can be found in Empirical Legal Studies, a research movement aimed at producing legally sophisticated empirical analyses (Talesh et al., 2021). Unlike New Legal Realism, this current is more methodologically restricted - primarily quantitative - when it comes to finding methods for studying law. Although attempts to define it have been diverse, there seems to be agreement in the doctrine on three main points: (i) it is an approach that questions the law and its operations, (ii) it uses empirical data to answer these questions, and finally, (iii) the questions it seeks to answer are relevant to current legal studies and their evolution (Epstein & Martin, 2014).

Thirdly, and in order to reconcile the quantitative and qualitative orientations of the two previous currents, New Legal Empiricism was born. It is 'new' in the sense that the legal discipline adopts empiricism and its evidence-based methods as the standard for both research and practical decision-making in the legal field (Greiner, 2019). For New Legal Empiricism, the important thing is the alignment of its research methods (whether qualitative or quantitative) with the facts. Thus, this new school of thought involves approaches to how the current legal system works and how it can be transformed, along with society, based on a study of reality.

All of these approaches bring with them a strong empirical foundation that directly impacts the questions asked by law and, therefore, the objectives it pursues. In this context, an epistemic inquiry arises regarding how law unfolds in empirical reality beyond the formal and internal validity of its content comes into question. This change in the approach to the study of law and its purposes introduces the concept of effectiveness into the discussion and, similarly, informs disciplines of study such as legal design.

3. «Efficacy» and effectiveness of the law

The effectiveness of law has not been given the importance it deserves in legal theory. It is usually explained in law schools but tends to remain hidden in each student's legal dictionary, mainly overshadowed by its sibling, the much-discussed concept of validity. This makes sense because, when practicing the legal work of interpretation and analysis of rules, one of the defining arguments is to establish whether a rule that applies to a given situation is valid. However, as will be seen below, effectiveness moves beyond the rhetorical plane to engage with matters of fact and empirical variables.

Hans Kelsen (2008) distinguished these concepts in his Pure Theory of Law: validity relates to a norm's consistency within the legal system, while effectiveness concerns its application and obedience. Notably, Kelsen treated 'effectiveness' and 'efficacy' as interchangeable.[1] Other authors such as Hart (1994) argued that the acceptance and applicability of norms is foundational to the existence of legal systems, and saw no necessary connection between validity and effectiveness. For much of the 20th century, the concept of legal effectiveness was confined to the notions of validity and internal consistency within legal systems.

Interest in legal effectiveness intensified in the mid-20th century, as welfare states sought to use law as a tool for social engineering (Zumbansen, 2009). This shift required legal systems to move beyond merely preserving the rule of law and maintaining normative coherence; they also had to respond to results and social ends that can be measured through concepts such as effectiveness. From these perspectives emerged schools of thought, such as the economic analysis of law, which studies the functioning of legal systems based on the function of the rules in society, leveraging microeconomic tools (Posner, 1977). In this context, ordering society and the economy by means of legal norms became a generalized objective in modern times, allowing the effectiveness of law to enter the equation.

The issue is more complex than it may initially appear, as the concept involves semantic, linguistic, and even idiomatic distinctions. To elucidate this matter, we can begin by analysing the treatment of the idea of effectiveness in the two great legal traditions of the Western world:

[1] This distinction of terms will be important later.

the civil and the common law. In the first instance, the legal doctrine of the continental (civil) tradition - with which we coexist in our legal practice - has defined effectiveness in two senses: first, as an instrument to demonstrate whether a rule complies with the purposes for which it was created, and second, as the compliance and respect that society has for the rule (Betegón et al., 1995). However, this is where various linguistic challenges begin. In fact, in Spanish - our native language and the language in which much of the civil legal doctrine developed - many legal theorists use two different words to refer to the two senses mentioned above. On the one hand, they use the word «eficacia» (which in English would translate as 'efficacy' or 'effectivity') to refer to the 'effective achievement of the results sought by those who legislated the rule' (Jeammaud, 1984). On the other hand, they use the word «efectividad» (which translates into English as 'effectiveness') to refer to the practical application of the rules in force to the concrete cases they regulate, the same meaning that Kelsen had given to the concept.[2]

The interpretations of and responses to the concept in the Anglo-Saxon or common law tradition have been similar to those in the continental and Spanish-speaking legal worlds. However, it is not as straightforward in English to differentiate the two senses with different words, as the word 'effectivity' - which would correspond to 'effectiveness' in Spanish - does not exist in British English (d'Apremont, 2015). Few authors have used these two interpretations represented by distinct terms. The usage of the concept of legal effectiveness by the vast majority of authors is based on the elementary dictionary definition, which describes it as 'the ability to be successful and produce the desired results' (Cambridge Dictionary, n.d.). From this starting point, the concept has been studied, recognizing that another interpretation lies in the compliance and social recognition of the norm.

This is evident in many branches and areas of the study of law, where the concept of effectiveness serves as a mechanism for analysing legal institutions and their implementation. For example, Bachmaier Winter and Demleitner (2018) highlight the concept's applicability in criminal policy, as it helps to measure and understand the complex purposes of the discipline, ranging from the reduction of punishable conduct to the rate of sentences imposed. In particular, the concept has been used to underscore the ineffectiveness of regulations that seek to combat illicit drug trafficking. Similarly, the concept has been applied in environmental law to implement its normative objectives, where prevention and reparation of damages are emphasized (Hautereu, 2018). Interestingly, in these investigations, effectiveness is evidenced by contracts, a source of law in addition to statutes and other kinds of laws.[3]

This paper focuses on effectiveness in terms of achieving a norm's intended purposes. We argue that this view captures the essence of the debate: the aims of law and its outputs. Even when referring to compliance and application, the discussion ultimately revolves around legal purposes, since these dimensions also reflect what the law seeks to accomplish. Therefore, effectiveness must be assessed by comparing legal intentions with empirical outcomes. While enforcement is important, it is not our primary concern here.

Now, the great challenge is to find the most appropriate methods to analyse these empirical variables and to check whether the rule, the contract, or whatever the source in question fulfills the objectives for which it was created. It is precisely at this point where legal design enters the

[2] In the same way it is interpreted in French legal doctrine which uses the word 'effectivité'. See Carbonnier (1988). Effectivité et ineffectivité de la règle de droit : Flexible droit, pour une sociologie du droit sans rigueur. Paris LGDJ, 9e éd., 1998, p. 133.

[3] This is striking in view of the fact that traditionally the effectiveness of the law or any type of norm is predicated, thereby forgetting that contracts are also sources of law and can be analyzed through the eyes of effectiveness.

equation and is related to all of the above. Indeed, the relationship lies in the fact that legal design can be a mechanism to achieve the effectiveness of the law or, in other words, help it to materialize the objectives for which it was created. In this sense, the concept of effectiveness can be understood as a key reference point in establishing the legal-theoretical grounding of legal design.

4. On the concept of legal design and its legal basis

Legal design, with its non-canonical and inclusive origins, is a testament to its interdisciplinary nature. It is not confined to a specific discipline or school of law but emerges from a diverse array of processes that have reimagined the understanding of law. It is a product of various experiences and encounters, particularly with design, showcasing its unique and broad approach.

As a concept, legal design is based on the idea of applying design methods to the world of law (Hagan, 2017) but under the philosophy of designing with the user in mind - that is, the ordinary person who is not necessarily a lawyer and does not necessarily have legal knowledge. In essence, it enables the creation and evaluation of products (legal artifacts) and services (legal activities), always focusing on how to deliver the best possible experience to the user of the legal world. Therefore, legal design offers myriad application possibilities, from redesigning how a law firm operates to creating or implementing public policy. Its added value lies in its ability to 'transform legal products, services, work, systems, business strategies, ecosystems, and user experiences' (Kohlmeier & Klemola, 2021, p. 70).

In practice, legal design is methodological, and structured around step-by-step processes. While various methodologies exist, all draw on the principles of design thinking, which promotes human-centered problem-solving. This generally involves three steps: (i) understanding the problem, (ii) devising solutions, and (iii) testing and implementing them (Brown, 2008). Thus, no matter which methodology is used, the essence of legal design rests on these steps.

From a theoretical standpoint, legal design finds its roots in legal realism, due to its intense emphasis on analysing legal experiences and their impact on outcomes for legal users. Hagan (2018) situates legal design both alongside and ahead of Empirical Legal Studies (ELS), emphasizing its role in evaluating legal interventions using empirical tools. With its systematic and empirical character, conclusions can be drawn about legal phenomena that extend far beyond rhetoric, personal biases, and anecdotes (Boyd, 2015). Similarly, legal design aligns with the Law in Action and Law in Society research by focusing on how law functions as a social institution and impacts people's realities (Hagan, 2018).

We agree with the aforementioned categorization of legal design within legal theory; however, we believe that, given the current state of its methodology, approaches such as Empirical Legal Studies may fall short in explaining and accompanying the work of legal designers.[4] This is why we return to New Legal Empiricism and its attempts to mitigate the tensions that have emerged in legal studies, since, in our perspective, this is the approach that best fits with legal design.

[4] In this regard, we say that the methodology is in an incipient phase insofar as there is still a lack of discussion and standardization about which methods are the most appropriate for testing the effectiveness of legal design. See Hagan, M. (2020). Legal design as a thing: A theory of change and a set of methods to craft a human-centered legal system. *Design Issues*, 36(3), 3-15.

As discussed above, New Legal Empiricism bridges the methodological differences between Empirical Legal Studies, with its marked quantitative and confirmatory tendencies, and New Legal Realism, which embraces an eclectic openness to diverse social science methods and theories (Suchman & Mertz, 2010). Yet New Legal Empiricism goes further: it establishes an explicitly evidence-based and interdisciplinary orientation for legal studies, drawing equally on doctrinal analysis, qualitative social science, and quantitative metrics to examine how law operates in practice. Davies (2010) characterizes this approach as a commitment to 'methodological pluralism,' in which no single research technique is privileged but rather combined in the service of understanding law's societal functions. Suchman (2016) further emphasizes New Legal Empiricism's central tenet that law must be studied not as a closed system of norms, but as a set of practices embedded within social contexts, institutions, and technologies. This methodological inclusiveness is a key strength of the approach, as it allows for the integration not only of these two traditions, but also of 'any systematic and observational study of law, whether the observations were quantitative or qualitative, contemporary or historical, direct or archival, material or cultural, and whether the purpose was exploratory or confirmatory, abstract or applied, descriptive or prescriptive' (Suchman & Mertz, 2010, p. 9).

Therefore, the New Legal Empiricism has been recognized as an instrument for transforming the legal profession into an evidence-based field. Its distinctive contribution lies in insisting that legal scholarship should not merely describe or interpret doctrine but should also generate empirically verifiable claims about how law functions in practice. This insistence on combining doctrinal rigor with interdisciplinary methods positions New Legal Empiricism as the most fertile ground for locating legal design within legal theory. Legal design, we argue, can be understood as an applied extension of the New Legal Empiricism project: it deploys design methodologies; empathic research, co-creation, prototyping, and testing, as tools for systematically observing and reshaping law in action. In this sense, legal design offers not just practical innovations but also a way of operationalizing New Legal Empiricism's epistemological commitments to methodological pluralism and empirical validation. More broadly, approaches such as legal design share their theoretical foundation with the realist movement, which emphasized the dynamic link between law and society.

Building on this affinity, it becomes clear that effectiveness is not only a central concern for New Legal Empiricism but a key analytical variable. This stems from the empiricist tradition of raising specific questions related to objectives, purposes, and any of the various operations through which law can be studied in accordance with the extent to which it has or has not managed to have certain impacts on reality. Effectiveness transcends the interest in the doctrinal or formal aspects of law, it focuses on whether legal norms actually achieve the outcomes they were designed for. The shared emphasis on effectiveness thus highlights a deeper connection between legal design and New Legal Empiricism, situating both within a broader inquiry into law's capacity to fulfill its purposes.

This emphasis on effectiveness can also be illuminated through the methodological lens of design thinking, the theoretical basis of legal design from a design perspective. As Le Gall (2021) explains, design involves two interrelated dynamics: «formulating» which elaborates the meaning and values of an artifact, and «formalizing» which embodies that meaning into perceivable forms such as objects, services, or interfaces. Notably, both dynamics entail an 'intention-led' approach; an 'inside-out' movement from the designer to the world, but also an 'outside-in' movement from the world to the designer, who grounds their project on an understanding of people's needs (Chanal & Le Gall, 2016). This implies that the legal designer is

constantly thinking in terms of whether what they are designing is effective in addressing the user's needs, hence its connection with effectiveness.

Before concluding this section, we believe that it is important to mention that legal design remains a developing discipline. It can be categorized as an emerging field with emerging and controversial interdisciplinary content that is being refined over time (Perry-Kessaris, 2019). The heterogeneous and relative nature of its methods means there are no rigorous standards or systematic analyses of how best to ensure the full applicability of the methodology and the human-centered approach. In this regard, Hagan (2020) has found that one of the biggest challenges of this methodology lies in strengthening the prototyping phase - in which prototypes become pilots - to find the best methods for testing solutions in a rigorous and controlled manner. This methodological challenge can be extended to the other stages of the methodology to ensure its effectiveness and applicability.

At this stage, legal design must continue to strengthen, broaden its conceptual horizon, and draw on other fields and disciplines to better understand users and equip practical solutions to their needs. That is why we advocate for conceptual expansion, since we have noticed that the practice of legal design has established its tone exclusively from the design tools. It needs more dialogue with other qualitative and quantitative social science methods that can make its practice more rigorous. In fact, there are already several studies that show how legal design not only can, but needs to, connect with other disciplines to refine its methods. Among them is the work done by Amanda Perry-Kessaris (2021) who states that legal design should be more sociolegal. This type of research pays special attention to legal contexts and their meanings in order to conceptualize law. Conceptualization operates at different levels, however, its importance lies in that researchers have structured methods to collect evidence of perceptions, expectations, and experiences of actors and users of social systems (Creutzfeldt et al., 2019).

In this way, legal design would maintain its eclectic methodological nature while finding grounding in legal theory. The essential point is that legal design can be theoretically grounded and contribute to the currents and disciplines that study law in their processes of analysing how it affects people and societies. Legal design presents an opportunity to generate knowledge about what can improve the outcomes and experiences of people involved in the legal world.

5. Discussion

a. Effectiveness of the sources of law and legal design

Assessing the law's effectiveness requires consideration of empirical variables. This evaluation involves determining whether legal norms and other sources can be applied to reality and if they fulfill their intended purposes. While this article primarily focuses on the latter perspective, all aspects converge in contrasting with reality to analyse and reflect on how the law operates in the empirical world. In this regard, we follow the orientation of New Legal Empiricism, which maintains that effectiveness cannot be assessed solely through doctrinal validity but must be grounded in systematic empirical observation of how law is experienced and acted upon (Davies, 2010; Suchman, 2016). This empiricist lens underscores the importance of identifying mechanisms that make such evaluation possible - what we here call

effectiveness. At this juncture, we propose legal design as a distinctive mechanism that can contribute to examining the purposes of law and its sources.

In this sense, legal design would enter into the question of effectiveness by offering tools to assess whether legal goals are being achieved, particularly through the lens of usability. Indeed, one of its main objectives is to make 'legal systems more useful' for people (Hagan, 2017). Its methods - especially prototyping and testing - are designed to generate and evaluate tangible solutions to legal challenges. These stages focus on determining whether proposed interventions address the problem at hand and provide real value to users. Reflecting on whether the envisioned solutions work and are helpful for users is, in essence, an evaluation of whether the problem addressed by the methodology was effectively solved.

Singular perspective: how legal design can help ensure the effectiveness of different sources of law

To assess the effectiveness of specific legal sources, it is essential to distinguish between (i) the intended purpose of the norm embedded in the source - for instance, allocating risk fairly, securing informed consent, or enabling enforceability - and (ii) the intended purpose of the design artifact (such as a document, interface, or workflow) that operationalizes the norm - for example, ensuring comprehensibility, findability, or operability (Haapio & Hagan, 2016). Usability is not the purpose of a norm; rather, it is an instrumental property of the artifact that mediates between the norm and actual behaviour (Raz, 1979). In line with the orientation of New Legal Empiricism, these artifact-level properties can be conceived as empirical variables that require systematic observation and measurement in order to establish how norms succeed or fail in practice (Davies, 2010; Suchman, 2016). Accordingly, artifact-level usability and comprehension should be understood as mediating variables that enable the achievement of norm-level purposes, such as fair risk allocation or informed consent (Suchman & Mertz, 2010). Where possible, evaluations should trace a chain of evidence that begins with usability, proceeds to user understanding, then to correct application, followed by behavioural or transactional outcomes, and ultimately culminates in the fulfillment of the norm's purposes. This evidence-based tracing reflects New Legal Empiricism methodological commitment to linking doctrinal intent with empirical outcomes.

To illustrate this in the contractual domain, we present a case conducted by the Colombian legal design firm Háptica with Bancolombia, the country's largest bank. The intervention targeted a core investment contract with the goal of improving comprehensibility and decision support for clients considering investments around USD 2.5 million. The process of solving this challenge consisted of: i) conducting research to understand the user experience and diagnose the document; ii) generating insights based on the research and thus delimit the intervention; iii) holding co-creation workshops with users to connect insights with design patterns; iv) prototyping the agreed solutions; and v) evaluating the process through key performance indicators (KPIs) of the document and its experience (Háptica, 2020).

A key feature of this intervention was its sustained focus on aligning the contract with its intended objectives within the legal experience. The use of indicators to diagnose the contract and monitor its redesign helped ensure that the legal design process remained aligned with the contract's intended purposes. For the diagnosis, Háptica used readability indicators to identify how understandable and accessible the document was to the user. These included the number

of clauses, pages, words, and characters.[5] The same indicators were used for monitoring, alongside additional experience-based metrics such as time to sign the contract, user satisfaction with the document, among others. The balance of the intervention was significant: the contract's content was reduced by 21% (in terms of pages, sections, and words), and the average signing time dropped from approximately 30 days to under three (Háptica, 2020). Beyond readability and cycle-time improvements, the intervention was expected to advance norm-level ends, such as more informed consent and fewer post-signature clarifications, which would be monitored through reductions in renegotiations, client queries, or compliance exceptions. Legal design thus allowed Bancolombia to transform a complex contract into a more effective tool for its investors.

However, the role of legal design in promoting normative effectiveness extends beyond the contractual domain. It can be applied to any source of law such as statutes, court rulings, decrees or any rule that seeks to regulate conduct. In terms of law making, user-centered design has been considered as a mechanism to generate more useful and effective laws. According to Gils et al. (2021) methodologies based on design thinking can guarantee safer and more effective laws due to the processes of understanding and prototyping that their application brings. Designing legal norms with end users in mind, and testing them empirically before enactment, can significantly improve their clarity, usability, and impact (Gils et al., 2021).[6]

Apropos of the discussion, at Háptica we have had the opportunity to apply our legal design methodology in legislative processes, particularly during the early stages of legal drafting. In collaboration with our partner Gómez Lee, a Colombian law firm specializing in administrative law, we contributed to the development of a new statute for the protection of public goods and patrimony. Our great challenge was to create a law that could effectively protect Colombia's resources, in a context marked by institutional fragmentation, legal uncertainty, and insufficient mechanisms for enforcement and recovery. To address this, we built a new statute using our legal design methodology in collaboration with key stakeholders - including oversight institutions, regulated officials, civil society, and academia.

The strategy consisted of inviting these actors to four workshops in which we applied the methodology and built the statute jointly. Participants were organized into thematic working groups, each supported by tailored tools corresponding to a specific stage of the methodology. First, the participants first identified the problems related to their topic that they wanted to solve through the statute (diagnosis), then generated solutions to those problems with agile and creative ideation methods (co-creation) and finally prototyped the statute's articles under plain language guidelines. At the end of the sessions, each group produced a draft chapter of the statute, which was later refined and consolidated by subject-matter experts.

Currently, the bill is consolidated and awaiting its respective legislative process. Although it has not yet entered into force - and therefore cannot be considered a fully realized example of effectiveness - it illustrates how legal design can help anticipate and embed normative objectives from the earliest stages of lawmaking. In practice, this intervention resulted in the securing of two objectives of the new statute: its usability and legitimacy. Usability, since it involved the future user of the statute in the drafting process, allowing them to develop

[5] Even the density of sentences was measured to analyze the complexity of the contract.

[6] Nonetheless, the authors themselves recognize that there are limitations and risks of policy prototyping. Among them are: status quo bias, intentions of the testing group, diversity of the testing group, representativity and scalability of results, etc.

provisions that reflected their realities and addressed practical challenges in the protection of public patrimony. Additionally, legitimacy was reinforced through a collaborative and inclusive process, which will likely enhance acceptance and compliance with the statute once it is enacted. Other objectives such as the guarantee of legal certainty and the improvement in the articulation between control institutions remain to be assessed after implementation. Nonetheless, this case demonstrates how legal design can serve as an instrument to anticipate and incorporate the objectives of a given bill and make preliminary examinations of whether it is on track to becoming effective.

Finally, it is worth mentioning that many of the interventions of legal design on sources of law have to do with touchpoints that are embedded in documentary formats. These sources involve information architecture, which must be taken into account in order to ensure both their comprehensibility and their effective implementation. On the subject, Haapio and Hagan (2016) recognize the need for the use of design patterns, a class of reusable models of solutions for frequent problems. These patterns comprise methods and solutions 'that make things easier to understand and tools more useful and usable' (Haapio & Hagan, 2016, p. 4). Crucially, patterns operate as artifact-level mechanisms that, although not ends in themselves, facilitate the achievement of norm-level purposes by enhancing comprehension, navigation, and correct application (Doherty, 2020).

In the examples seen above they can be evidenced in the design determinants that were taken for the investment contract (e.g., flowcharts, interactive elements, and explanatory conventions) or even the step-by-step process that had to be taken to write the statute bill so that it would ensure user-centered content. Although Haapio and Hagan (2016) primarily apply design patterns to contracts, we argue that their use can be extended to any legal source. A key aspect of our conceptualization of the relationship between legal design and effectiveness is the challenge of articulating and systematizing proven solutions, so they can inform and facilitate the future development of the discipline.

General perspective: how legal design can help ensure the effectiveness of systems or sets of sources of law

Similarly, legal design can be outlined as a mechanism to evaluate and achieve legal effectiveness, no longer from the singularity of individual sources but from the grouping and articulation of many sources of law. This systemic dimension is best illustrated through legal systems, which comprise interrelated norms working together to fulfill various purposes. Following the logic of New Legal Empiricism, such systemic assessments require not only doctrinal analysis but also sustained empirical study of how these interrelated norms are implemented, contested, and adapted in practice (Davies, 2010; Suchman, 2016). Although no known case to date demonstrates a sufficiently broad or systemic application of legal design at the legal system level, likely due to the methodology's early stage of development - the New Legal Empiricism framework helps us conceptualize how such applications could be studied and evaluated. One promising path is to approach this through public policies and structured state programs, as these are the means by which institutions pursue their objectives. In fact, public policies need groupings and systems of norms in order to exist, since it is through these that they are given a legitimate and authoritative basis for activating the state apparatus.

To illustrate this systemic perspective, we compare approaches to fatigue-related road safety in Spain and Colombia. We do not claim that Spain's regulatory process explicitly adopted a formal Human-Centered Design methodology; rather, we interpret its regulatory evolution as

functionally aligned with Human-Centered Design principles, such as problem framing, iterative adjustment, and measurement (Gils et al., 2021), whereas Colombia's framework relies more heavily on principle-level guidance without specific, measurable control mechanisms. In this context, Human-Centered Design informed regulation entails early engagement with affected users (drivers, firms, inspectors), co-design of instruments, prototyping, the definition of clear outcome metrics (fatigue-related incidents, compliance costs, enforcement accuracy), and iterative refinement based on evidence. Assertions of Human-Centered Design application should be substantiated through engagement records, pilot protocols, evaluation reports, and revision rationales. This example is particularly relevant because it shows how the integration of design thinking can lead to effective, user-centered public policy by: (i) fostering a global understanding of the problem, beyond the mere enactment of legal norms; (ii) formulating solutions that address the evolving and adaptive needs of society; and (iii) embedding a process of evaluation and testing that underscores a continuous concern with legal effectiveness and the achievement of policy objectives.

To begin with, the first fact that should be mentioned is that in both Colombia and Spain, micro-sleepiness and fatigue are one of the main causes of road accidents. In a study conducted by the CEA Foundation (European Automobile Club), it was estimated that around 59.22% of Spanish drivers have suffered at least once from micro-sleepiness on the road, in addition to the fact that around 24% of fatal traffic accidents in 2015 were attributed to these causes. It is worth mentioning that this data can increase if not only microsleeps are considered but also fatigue and drowsiness while driving. By comparison, the case of Colombia does not differ much from the above, since it is estimated that more than 40% of road accidents in 2015 were caused by micro sleepiness and almost 30% of violent deaths by 2022 are caused by driving accidents and, mostly, vehicles for work purposes (Naza, 2023).

Now that the problem has been identified, the question arises as to how the regulatory treatment to mitigate the high accident rate associated with this phenomenon has been handled in each country. In the first instance, one similarity is that both countries resorted to legislation to control the maximum continuous driving time allowed. In Colombia, in particular, although there are rules that establish specific rest guidelines, these are technically 'recommendations', taking into account that with Resolution 40595 of 2022, it is left to the discretion of each transport company to define its fatigue prevention plan. This, in other words, means that in Colombia there is an obligation for individuals to establish parameters to prevent and mitigate these risks but without any regulated specificity.

At EU level, driving-time and rest-period rules were set by Regulation (EC) No 561/2006 and later updated by Regulation (EU) 2020/1054. In the field of tachographs, Regulation (EU) No 165/2014 requires installation and use on vehicles covered by Regulation 561/2006. Building on this framework, Spain adopted Royal Decree 640/2007, which defined exceptions to these obligations, and this was later amended by Royal Decree 1082/2014 and Royal Decree 729/2022, which together constitute the updated regulatory framework currently in force.

Why has Spain's approach performed better, while Colombia's has lagged? The key difference lies not merely in the existence of norms but in the incorporation of enforceable mechanisms and measurable controls that reflect the user context - for example, tachographs enabling monitoring and compliance - together with successive regulatory adjustments. In our interpretation, this reflects functional alignment with Human-Centered Design principles of iteration and measurement. Although in both countries the same problem is recognized and active attempts to mitigate it are undertaken; including prevention and education programs for

users, it is in the Spanish case that particular attention has been paid to ensuring the effectiveness of the rules over time.

With the first decisions on road regulation in Spain, where only time and working day limitation guidelines were established, it seems that two problematic points were identified. On the one hand, the inability of the authorities to control and record the actual compliance with time controls and, on the other hand, the small decrease in accident indicators associated with these causes despite the 'new' regulatory framework. However, in contrast, after the issuance of the regulations requiring the installation and use of a time counting tachometer in these vehicles, the European Commission has reported a 44% reduction in road accidents in Spain in the last 10 years, which is attributed to the increase and effectiveness of road safety measures that have been implemented in that period of time (Dirección General de Tráfico, 2021).

In the case of Colombia, on the other hand, the reduction of road accidents due to microsleeps is still an expectation for the future. Road accidents in 2024 with respect to the previous year have increased by 3.58%, and although the government has made several attempts to make companies aware of the excessive working hours of their drivers, there is currently a lack of adequate articulation between the state, employers and drivers to set specific parameters for time control (ANSV, 2024). This is further aggravated by the fact that since the 'Strategic Plan for Road Safety' (Resolution 40595 of 2022) is a non-specific provision in terms of times and sanction frameworks, there is currently no adequate control mechanism to measure the effectiveness of the prevention rules or their success in terms of real risk mitigation.

Specifically, the Spanish regulatory framework is more successful than the Colombian one, among other things, because of its focus on the control and effectiveness of risk mitigation measures. In this way, the European regulatory system and its evolution shows an attempt to understand the attitudes and behaviours of drivers in reality, and as developed previously, it manages to be dynamic enough to be capable of evolving and adapting into the real needs that requires the success of the measure, creating a specific and unique solution for its system.

b. Legal design as an influence that encourages the effectiveness of the law and the attainment of its purposes

We observe that legal design can influence legal effectiveness, because it is based on a philosophy centered on the individual and its impact on the objectives of the law. Legal design is not a superficial methodology concerned only with formal compliance; rather, it reflects a broader ambition: to ensure that legal products and services are conceived with a user-centered perspective. This orientation allows legal design methods to be meaningfully applied within a legal system whose underlying principles and values; such as fairness, transparency, and accessibility, directly align with its user-centered aims.

This is evident in international and national legal orders that uphold human dignity, equality, freedom, and welfare (Michaels, 2019). These values not only guide the objectives and goals of the social order set by each state but also possess a humanistic and human-centered ethos championed by legal design.

This approach offers another perspective on the effectiveness of law through legal design - one that moves beyond the specific purposes of individual legal sources (such as contracts, regulations, or court decisions). At this macro level, we observe a strong alignment between human-centered design and the foundational values of modern legal systems. Legal design

thus emerges as a mechanism to operationalize these values and render them effective in pursuit of social objectives. The evolution of the Welfare State and other more complex forms of statehood have placed greater demands on the legal system than merely upholding the rule of law. Today, the state - and the law - must not only create regulations to govern behaviour but also guarantee rights, satisfy needs, regulate markets to meet those needs, and manage resources and ecosystems, among many others.

In these new forms of state, as Popa (1992) establishes, they imply new functions of the legal system that go beyond the regulatory one. These include the protection and safeguarding of social values, the legal institutionalization of the social-political organization, and even the management function of the whole institutional apparatus. The main point is that it is not only a matter of establishing rules to resolve all kinds of conflicts but of analysing the law according to its capacity to effectively reestablish social order or to achieve the desired economic, social, or cultural result. In this way, the problem of effectiveness begins to enter into the question, in terms of the materialization of such purposes and functions.

However, nowadays, as the purposes of the law become increasingly heterogeneous and dependent on the changing dynamics of each legal system and market, the question could be reframed around the most fundamental objective of law in regulating people's lives: shaping human behaviour. This has been recognized for some time in legal doctrine, particularly by Joseph Raz, who uses this idea to explain the indeterminate concept of the rule of law. According to Raz (1979), the rule of law goes beyond considering ‘that people should be ruled by the law, [but it also implies that the law] should be such that people will be able to be guided by it’ (p. 213). The law must have the capacity to be obeyed and this is achieved as long as it can guide the behaviour of the subjects by means of clear, stable, prospective, and open rules (Raz, 1979).

This perspective not only serves to explain the scope of the right but also enables us to address the question of effectiveness from the behavioural essence that law has paradoxically ignored. Currently, this intersection between law and behaviour has been studied by new research in legal theory, such as that by van Rooij (2020), which highlights the need to examine how law shapes human and organizational behaviour rather than merely defining what it is and what it should be. Yet, law has consistently failed in its behavioural function, as its reactive approach to addressing past behaviours does not fully reduce risky and harmful behaviours (van Rooij, 2020).

This reactive conception aligns with what van Rooij (2020) and other scholars describe as the ex post function of law: the legal system responds to past conduct by resolving disputes, applying the law to facts, and seeking to deliver justice (p. 4). While this traditional view remains central, it is limited in scope. Ethical awareness alone is limited and might not be enough to lead to a change in people's conduct without an investigative effort to understand behaviours and how to shape them (Feldman, 2018). Instead, by directing legal efforts toward the moments preceding behaviour and proactively shaping human conduct, the law may more effectively prevent the harmful and unjust actions it seeks to regulate. This is what van Rooij refers to as the ex-ante function, and it can serve as an alternative way to understand the discussion on the purposes of law and its materialization from a behavioural perspective.

Under this ex-ante perspective of the law, we can understand how the law can affect future cases and behaviours. Moreover, we are also discussing effectiveness from this perspective to the extent that we are conducting an exercise to verify empirical variables (whether we were able to affect/reduce harmful behaviour). This would integrate the concept of effectiveness in

two ways: first, during the planning and creation of the rule, by prioritizing the objective of shaping human behaviour; and second, through the evaluation of whether that objective was achieved, thereby enabling an analysis of the law's effects on future conduct.

Legal design exemplifies an ex-ante approach to law, as it aims to intervene in legal contexts based on a comprehensive understanding of users and their interactions. Like other human-centered methodologies, it relies on ethnographic methods to explore individuals' contexts, mindsets, emotions, culture, and - most importantly - their needs (Allio, 2014). Empirical tools such as participatory design, grounded theory, empathetic mapping, interviews, and passive observations illustrate how legal design strives to interpret and intervene in the interactions between people (Hagan, 2020). While the focus remains on legal experience, these tools also aid in understanding human behaviours, aligning them with objectives, and making interventions that favor users' needs.

This way, the ex-ante function could be applied concurrently as the legal design is used to make effective legal interventions. Human-centered methodologies will later be complemented by the more rigorous and systematic measurement methods of the behavioural sciences. Meanwhile, they can facilitate legal analyses that consider the expected effects of the law and channel them to shape human behaviour and deliver better experiences for law users. As van Rooij states, this is about creating legal responses more focused on human behaviour (2020).

In the same way, legal design can contribute to the ex-ante function of law by enhancing the comprehensibility of legal norms and thereby influencing behaviour. Raz (1979) rightly said that people cannot obey the law without knowledge of it or, in other words, that they can 'find out what it is and act on it' (214). It is for this reason that laws must be prospective, open, clear, and relatively stable. In this context, Doherty (2020) argues that legal design plays a key role in realizing the rule of law by facilitating knowledge of legal norms. He identifies three complementary movements that support this process: (i) access, through the Free Access to Law Movement; (ii) readability, through the clear language movement; and (iii) comprehensibility, through the visual and user-centered strategies of legal design.

The key is that legal design acts as the missing piece of this process, as it can enhance the experience of the law so that people not only understand the legal information but can also act on it. With legal design, visualization and representation of the legal content of the rules can be accessed through various resources such as pictograms, icons and symbols, charts of all kinds, process and organization maps, timelines, and swim lanes (Doherty, 2020). This, coupled with the user approach through ethnography, would facilitate the process of creating law focused on shaping human behaviour and transmitting information so that people can understand how to act based on law.

In brief, legal design is a mechanism that can help construct an effective tool at any of its levels through the preventive and comprehensive analysis that human-centered design brings to human behaviours and interactions. With this, law could be legitimized and justified due to a better mastery of social and technical reality. In this way, it implies a slow but sure bet that could translate into better results for the state and all its legal tools that operate through policies and norms that aid to fulfill its purposes.

6. Conclusion

In contemporary academic research, each discipline is inevitably enmeshed in a globalized, hyperconnected, and increasingly interdisciplinary landscape. Even the most insular and

traditional areas of law are being subjected to scrutiny and revaluation from an innovative perspective. Legal design exemplifies this shift, emerging as a novel field of study that applies design methodologies to dissect legal challenges and concretize solutions. However, the emergence of this new discipline has been characterized by its diffuse nature, lack of systematic approach, and general absorption by traditional design paradigms, which have enhanced the legal domain with their methodologies. This integration has somewhat estranged legal design from its legal roots, thereby stifling the development of substantial discourse within the legal community concerning the impact of this discipline on both the theoretical and practical aspects of law. At the core of this methodology lies a profound legal epistemological shift that warrants rigorous examination and debate, as it challenges us to reconsider the practical utility of law rather than merely contemplating its ideal state.

The aim of this article is to contribute to the scholarly discourse by positioning legal design within the context of legal theory and highlighting its transformative potential within the legal domain. It is imperative to recognize legal design not merely as a practical innovation but as an applied expression of New Legal Empiricism, a framework that consolidates the epistemological turn of realism by insisting on methodological pluralism, interdisciplinary collaboration, and systematic empirical observation (Davies, 2010; Suchman, 2016). Within this framework, the theoretical significance of legal design transcends mere classification; it becomes a methodological vehicle for operationalizing New Legal Empiricism´s commitments to studying law as practice, embedded in social and institutional contexts. Legal design is conceptualized as a methodological approach to actualize the often-overlooked principle of legal effectiveness, entailing an evaluation of whether legal provisions and their implementations fulfill their intended objectives. This evaluation is facilitated through the application of legal design to discrete legal sources, such as contracts, statutes, and judicial decisions, as well as its broader application in processes and systems aimed at achieving state and legal objectives, including public policies and government programs.

It is crucial to acknowledge the evolving capabilities of this methodology, as its tools and techniques are still in flux and enhancement. Therefore, a cautious approach is warranted when implementing and examining this nascent fusion of legal and design disciplines to foster a more stringent and effective maturation of the practice. The crux of this endeavour will be identifying and utilizing the most adept quantitative and qualitative tools from various fields to ascertain the thoroughness and effectiveness of interventions on legal experiences. In the meantime, it is essential to continue to integrate human-centered design into legal discussions, generating an ongoing interdisciplinary dialogue that transcends individual judicial decisions, personal biases, and anecdotes. This interdisciplinary approach has the potential to contribute to the construction of a more equitable, humane, and effective legal system, ultimately advancing the law to better serve society.

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