From visualization to legal design : a collaborative and creative process

From Visualization to Legal Design:

A Collaborative and Creative Process

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INTRODUCTION

The digital revolution has prompted a strong, and accelerating, interest in "Visualization:" the use of images, photos, icons, diagrams, charts, or videos to enhance or supplant printed language.[1] Although the law remains predominately focused on the written word, the appeal of images to clarify and persuade suggests that legal visualization will be increasingly explored in research and legal practice in coming years. As Michael D. Murray writes, "socio-epistemic and law and society studies affirm that as modern culture becomes increasingly visual, discourse of every kind must follow suit."[2]

Pioneering visualization studies have been groundbreaking and expansive.[3] Murray provides a most helpful overview of many vectors that contribute to

[1] Sherwin, Feigenson, and Spiesel describe these trends and their impact on Western intellectual history, "Digital technologies allow the pictures and words from which meanings are composed to be seamlessly modified and recombined in any fashion whatsoever, while the Internet allows practically anyone, anywhere, to disseminate meanings just about everywhere. The Enlightenment-era insistence upon essentialist foundations (whether exemplified by Locke's empiricism, Kant's rational categories, or other totalizing epistemologies) is being challenged by digital experience, which has helped to inspire an alternative model of knowledge and reality as a centerless and constantly morphing network of relations." Richard K. Sherwin, Neil Feigenson, & Christina Spiesel, *Law in the Digital Age: How Visual Communication Technologies are Transforming the Practice, Theory, and Teaching of Law,* 12 B.U. J. SCI. & TECH. L. 227, 230 (2006). Seminal work regarding the impact of Information Age technologies on the legal system and legal interpretation appears in two books by M. Ethan Katsch (THE ELECTRONIC MEDIA AND THE TRANSFORMATION OF LAW (1989); LAW IN A DIGITAL WORLD (1995)).

[2] Michael D. Murray, *Leaping Language and Cultural Barriers with Visual Legal Rhetoric*, 49 USF L. REV. FOR. 61, 68 (2015). *See also* Elizabeth G. Porter, *Taking Images Seriously,* 114 COLUM. L. REV. 1687, 1693 (2014) (suggesting that Visualization, "[u]nless courts specifically prohibit it, "may "become the norm" in legal communication and argument and describing "multimedia written advocacy" as "the vernacular of modern communication" "[t]o rising generations of young lawyers"); Fred Galves, *Will Video Kill the Radio Star - Visual Learning and the Use of Display Technology in the Law School Classroom*, U. ILL. J. L. TECH. & POL'Y 195, 198 (2004) (discussing the use of display techniques in teaching today's law students who "are more accustomed to receiving information visually than students of the past"). Regarding the potential for using visualization techniques in private contracting, *see, e.g.,* Thomas D. Barton, Gerlinde Berger-Walliser & Helena Haapio, *Visualization: Seeing Contracts for What They Are, and What They Could Become,* 19 J. L. BUS. & ETHICS 47, 47-48 (2013); Helena Haapio, *Lawyers as Designers, Engineers, and Innovators: Better Documents through Information Design and Visualization, in* TRANSPARENCY: PROCEEDINGS OF THE 17TH INTERNATIONAL LEGAL INFORMATICS SYMPOSIUM 443 (Erich Schweighofer et al. eds., 2014), *available at* http://ssrn.com/abstract=2651066.

[3] *See generally* the highly generative work of Sherwin, Feigenson & Spiesel, *supra* note 1. As will be noted throughout the article, those authors have continued to expand and refine their analysis, and

understanding and growing use of visualization: "the scholarship of popular culture, cognitive studies and brain science, data visualization studies, modern argument theory in rhetoric, the rapid development of technology in the production of documents, and technology in the reading and reception of documents."[4] Some studies are more psychological or philosophical, analyzing images distinctly from words.[5] These contributions contrast the cognitive processing, emotional impacts, or sociological implications of pictures versus texts, and help understand the potential benefits and dangers of "visual law" in the digital age.[6] Other studies examine how images might

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have been joined by many other insightful authors. Among many important recent works, *see, e.g.,* Murray, *supra* note 2; Porter, *supra* note 2; Jay A. Mitchell, *Putting some product into work-product: corporate lawyers learning from designers*, 12 BERKELEY BUS. L.J. 1 (2015); Rebecca Tushnet, *Worth a Thousand Words: The Images of Copyright*, 125 HARV. L. REV. 683 (2012); Richard K. Sherwin, *Visual Jurisprudence,* 57 N.Y.L. SCH. L. REV. 11 (2013); Tobias Mahler, *A Graphical Interface for Legal Texts?, in* NORDIC YEARBOOK OF LAW AND INFORMATICS 2010—2012: THE INTERNATIONALISATION OF LAW IN THE DIGITAL INFORMATION SOCIETY 311 (Dan Jerker, B. Svantesson & Stanley Greenstein eds., 2012); Colette R. Brunschwig, *Law is Not and Must Not Be Just Verbal and Visual in the 21st Century: Toward Multisensory Law, in* NORDIC YEARBOOK OF LAW AND INFORMATICS 2010—2012: THE INTERNATIONALISATION OF LAW IN THE DIGITAL INFORMATION SOCIETY 231 (Dan Jerker, B. Svantesson & Stanley Greenstein eds., 2012).

[4] Murray, *supra* note 2 at 64.

[5] *See generally e.g.,* Sherwin, Feigenson, & Spiesel, *supra* note 1; Porter, *supra* note 2; Murray, *supra* note 2; COLIN WARE, VISUAL THINKING FOR DESIGN (2008); Lucille A. Jewell, *Through a Glass Darkly: Using Brain Science and Visual Rhetoric to Gain a Professional Perspective on Visual Advocacy,* 19 S. CA. INTERDISC. L.J. 237 (2010); Matthew J. McCloskey, *Visualizing the Law: Methods for Mapping the Legal Landscape and Drawing Analogies*, 73 WASH. L. REV. 163 (1998); Nancy Illman Meyers, *Painting the Law*, 14 CARDOZO ARTS & ENT. L.J. 397, 398 (1996); Clay Calvert, *Every Picture Tells a Story, Don't it? Wrestling with the Complex Relationship Among Photographs, Words and Newsworthiness in Journalistic Storytelling,* 33 COLUM. J.L. & ARTS 349 (2010); Gila Safran Naveh, *Glimmerings of the Gallows: Representing the Holocaust in Film and Fiction,* 28 T. JEFFERSON L. REV. 29, 31 (2005)

[6] *See generally* Sherwin, Feigenson & Spiesel, *supra* note 1 and RICHARD K. SHERWIN, VISUALIZING LAW IN THE AGE OF DIGITAL BAROQUE: ARABESQUES AND ENTANGLEMENTS (2011); Murray, *supra* note 2. Regarding potential dangers of visualization *see* Tushnet, *supra* note 3, at 695 (stating that "images are dangerous precisely because they seem so real") *and* Porter, *supra* note 2, at 1752-53 (identifying "three primary dangers of welcoming images into the legal-writing toolbox: the lack of legal rules or traditions to mitigate the interpretive risks associated with images; the related potential for visual arguments to warp traditional allocations of decision-making power; and finally, the risk that image-driven legal argument will vitiate the intellectual vigor and civility of legal discourse"); *see generally* Hampton Dellinger, *Words are Enough: the Troublesome Use of Photographs, Maps, and Other Images in Supreme Court Opinions,* 110 HARV. L. REV. 1704 (1997); and RICHARD K. SHERWIN, WHEN LAW GOES POP: THE VANISHING LINE BETWEEN LAW AND POPULAR CULTURE 146 (2000), *cited in* Robert F. Blomquist, *A Fascination Without Scruples: American Popular Culture and Its Corrosive Impact on the Law,* 32 CUMB. L. REV. 165, 181 (2001–2002).

function within traditional legal systems and thinking, typically as used persuasively within litigation.[7]

Given the extent to which technology is advancing, permitting a range of legal visualizations to enter both legal research and practice, this Article explores this evolving field with a focus on the *process* of visualization development, rather than the *product*, the image itself. The Article contributes to the existing literature on legal visualization in multiple ways: First, we offer guidelines for using images in conjunction with words, rather than in isolation as much of the cognitive-oriented legal visualization research implies. Realistically, legal visualization is almost always used in hybrid ways—combinations of words and images to enhance the effectiveness of communication. That seems unlikely to change, given the need for detail and refinement when the law is imposing duties on people. Second, we examine the use of images in business documents and in statutes, rather than for advocacy, which is the focus of much of the "visual law" literature mentioned above.[8] Moving away from adversarial settings permits us to illustrate the use of images in a broader range of practical legal applications.[9] It also enables analysis of the value of visualization as a means to enhance user-experience and organizational effectiveness.[10] Finally, we analyze variables surrounding choices and consequences about the process of generating, transmitting, and using images to

[7] *See, e.g.,* Porter, *supra* note 2; Tushnet, *supra* note 3; Sherwin, VISUALIZING LAW, *supra* note 6; Dellinger, *supra* note 6; Ellen P. Goodman, *Visual Gut Punch: Persuasion, Emotion, and the Constitutional Meaning of Graphic Disclosure,* 99 CORNELL L. REV. 513 (2014); K. Preston Oade & Leslie C. Annand, *Winning with Visual Evidence,* 25 COLO. LAW. 35 (1996).
[8] *See supra* note 6 (and accompanying text).
[9] As emphasized in Sherwin, Feigenson & Spiesel, *supra* note 1, at 228: "legal meaning is produced by the ways law is practiced."
[10] *See* Mitchell, *supra* note 3, at 8 (suggesting that documents should be created through more reflective process). *See also* Tim Brown & Jocelyn Wyatt, *Design Thinking for Social Innovation*, 8 STANFORD SOC. INNOVATION REV. 31, 33 (2010) (describing design thinking as deeply human-centered process).

accompany legal language, and call it "Legal Design.[11] Legal Design goes beyond visualization: While it includes the use of graphic communication tools, Legal Design is not limited to document design or visualization, but merges legal and design thinking. It includes using design methods and tools other than graphics for legal purposes. Legal Design focuses on the way in which visual tools are being created and effectively used in a legal transaction or legislative drafting. Examining this dynamic can deepen our understanding of the information conveyed; it can also reveal the potential of Legal Design for creating spillover value for businesses or regulatory agencies that employ the images' effectiveness in line with strategic and proactive approaches to lawyering and the law.[12]

[11] *See generally* the movement toward using design methods and tools in legal context*, e.g.,* Margaret Hagan, http://www.margarethagan.com (last visited May 2, 2016); Mark Szabo, *Design Thinking in Legal Practice Management*, 21 DESIGN MGMT. REV. 44 (2010); Kevin Conboy, *Diagramming Transactions: Some Modest Proposals and a Few Suggested Rules,* 16 TENN. J. BUS. L. 91 (2014); COLETTE R. BRUNSCHWIG, VISUALISIERUNG VON RECHTSNORMEN, LEGAL DESIGN (2001) (Ph.D. Dissertation, University of Zürich, 45 Zürcher Studien zur Rechtsgeschichte); Wolfgang Kahlig, *Visualisierungstypologie des Deutschen Privatrechts, in* JUSLETTER IT 24 (2011) (in German, describing efforts to visualize the German Civil Code).

[12] For a groundbreaking analysis of the potential of approaching Legal Design through a proactive lens, *see* Stefania Passera, Soile Pohjonen, Katja Koskelainen & Suvi Anttila, *User-Friendly Contracting Tools – A Visual Guide to Facilitate Public Procurement Contracting,* Proceedings of the IACCM Academic Forum on Contract and Commercial Management 2013, 8th October 2013, Phoenix, U.S. [hereafter *User-Friendly Tools*]. *See generally also* Gerlinde Berger-Walliser, Robert C. Bird & Helena Haapio, *Promoting Business Success through Contract Visualization*, 17 J. L. BUS. & ETHICS 55, 61-65 (2011) (distinguishing traditional from proactive contracts). On the Proactive Law Movement *see generally* Gerlinde Berger-Walliser, *The Past and Future of Proactive Law: An Overview of the Proactive Law Movement,* in PROACTIVE LAW IN A BUSINESS ENVIRONMENT 13 (Gerlinde Berger-Walliser & Kim Ostergaard, eds., 2012); Thomas D. Barton, PREVENTIVE LAW AND PROBLEM SOLVING: LAWYERING FOR THE FUTURE (2009); Gerlinde Berger-Walliser & Paul Shrivastava, *Beyond Compliance: Sustainable Development, Business, and Proactive Law*, 46 GEO. INT'L. L. J. 417, 434-39 (2015) (providing an overview of history and broad application of proactive law); on Proactive law as it compares to law and strategy in U.S. legal scholarship *see* George Siedel & Helena Haapio, *Using Proactive Law for Competitive Advantage*, 47 AM. BUS. L.J. 641 (2010). The value-creating role of law is also emphasized in the growing scholarship on law and strategy, *see generally e.g.* Constance E. Bagley, *Winning Legally: The Value of Legal Astuteness*, 33 ACAD. MGMT. REV. 378 (2008); Robert C. Bird & David Orozco, *Finding the Right Corporate Legal Strategy*, 56 MIT SLOAN MGMT. REV. 81 (2014); Robert C. Bird, *Pathways of Legal Strategy*, 14 STAN. J. L. BUS. & FIN. 1 (2008); Constance E. Bagley, *What's Law Got to Do with It?: Integrating Law and Strategy*, 47 AM. BUS. L.J. 587 (2010); Robert C. Bird, *Law, Strategy and Competitive Advantage*, 44 CONN. L. REV. 61 (2011).

We use as an introductory example the plain design version of the Canadian federal Employment Insurance Act,[13] which was commissioned by the Canadian Government to make regulation more accessible to the public. In collaboration with Human Resources Development and Justice Canada, a team of communication designers introduced a redesign, which included diagrams and improved layout to make document navigation easier and enhance understanding of the Act.[14] The benefits of the new, more effective design are threefold: First, it is likely to reduce the time and effort citizens spend in contact with the government, thus improving user-experience and communication, but also freeing up resources for government administration.[15] Second, the more user-friendly design sends a message that the government is concerned that citizens understand the Act, thereby enhancing the government's credibility and increasing the likelihood that people will actually engage with the legislation and communicate concerns and ideas to their elected representatives.[16] Finally, the project report reveals that in the process of creating a flow chart diagram the design team discovered inconsistencies that were not accounted for in the current legislation. This

[13] David Berman, *Toward a New Format for Canadian Legislation – Using graphic design principles and methods to improve public access to the law* (Human Resources Development Canada and Justice Canada pilot project, Project Paper, 2000), http://www.davidberman.com/NewFormatForCanadianLegislation.pdf (last visited May 2, 2016).
[14] *See id.*, Appendix B for a sample of the new design. Testing revealed that respondents consistently rated the new design as "more user-friendly and effective at delivering information, engaging the reader and fostering an understanding of the Employment Insurance Act" (*id.* at 13). Preference differed depending on the language and expertise of users. While only 71% of English language informed users preferred the new design over the old design, 96 % of French language informed users preferred the plain design version (*id.* at 14).
[15] *Id.* at 31.
[16] *Id*.

suggests that if using diagrams becomes part of the process of legislative drafting, the resulting legislation might be substantively improved.[17]

As this small example shows, good design and good process not only enhance effectiveness of information by improving accessibility, but can strengthen the functioning of the organization or government agency which creates the legal document, and ultimately the legal system as a whole.[18] However, many working in the field have identified the need for a coherent methodology to harness or control the use of legal design tools and techniques.[19]

With this Article we respond to these calls for action. Part I below outlines the concept of Legal Design. It first traces the development of design thinking within management studies, describes its characteristics, and uneven application in business and legal contexts. It then identifies tensions between design thinking and traditional legal thinking. Finally, it transcends those tensions by integrating characteristics of legal design and value-driven legal approaches as articulated in the literature on preventive and proactive law.

Part II introduces and analyzes our framework for understanding and applying Legal Design. It provides a theory and set of best practices for creating, communicating, and using images in conjunction with words in non-adversarial legal settings. The effective use of Legal Design offers much value to the business and legal community: it can spark collaboration and clear communication between various stakeholders and

[17] *See* Berman, *supra* note 13, at 24.
[18] *See id.* at 31 (pointing towards the potential efficiency benefits for the organization and better citizen engagement).
[19] *See generally, e.g.,* Porter, *supra* note 2; Sherwin, *supra* note 3; Sherwin, Feigenson, & Spiesel, *supra* note 1; Mahler, *supra* note 3; Jewell, *supra* note 5.

organizational units, and can supply benefits of innovation, creativity, and legal problem solving.

I. LEGAL DESIGN: AN EVOLUTION OF THEORY

Common English language dictionaries define design as "the way something has been made: the way the parts of something (such as a building, machine, book, etc.) are formed and arranged for a particular use, effect, etc."[20] Contrary to widespread ideas about design, this definition focuses on the process of creating something rather than the outcome – the finished product. "Design" is not primarily concerned with aesthetics or the "look of a product", neither is it restricted to movable or immovable objects, such as machines, consumer goods, buildings or works of art. Rather, design, or design thinking, is the underlying cognitive process of developing new ideas.[21] As such, design is not concerned with "how things are", but how they "ought to be", and professionals such as architects, doctors, and managers are expected to develop processes to reach this goal.[22]

A. MANAGEMENT PERSPECTIVES: THE EMERGENCE OF DESIGN THINKING

[20] *Design*, MERRIAM-WEBSTER ONLINE DICTIONARY, http://www.merriam-webster.com/dictionary/design (last visited May 2, 2016).
[21] *See* Alexander Grots & Margarete Pratschke, *Design Thinking – Kreativität als Methode*, 26 MKTG. REV. ST. GALLEN 18 (2009) (in German), at 18 (contrasting this targeted, methodological approach with common ideas about design as intuition, inspiration or creativity); *see also* Roy Glen, Christy Suciu & Christopher Baughn, *The Need for Design Thinking in Business Schools*, 13 ACAD. MGMT LEARNING & EDUC. 653, 656 (2014) (defining design thinking as describing "cognitive processes designers have in common").
[22] *See* Lucy Kimbell, *Rethinking Design Thinking: Part I*, 3 DESIGN & CULTURE 285, 290 (2011) and Richard J. Boland, Jr., Fred Collopy, Kalle Lyytinen, & Youngjin Yoo, *Managing as Designing: Lessons for Organizational Leaders from the Design Practice of Frank O. Gehry*, 24 DESIGN ISSUES 10, 12 (2008) (both citing H.A. SIMON, THE SCIENCES OF THE ARTIFICIAL xii (3rd edition, 1996)).

Design and design thinking have roots in several disciplines.[23] For more than forty years, a stream of research called "designerly thinking" primarily addressed an academic understanding of what designers do, and how this could be taught to students.[24] It approached design from an interdisciplinary perspective influenced by economics, political science,[25] philosophy,[26] art history, design and architecture[27] and concentrated on the professional designer and design as the creation of artifacts.[28] Others have analyzed design as reflexive practice,[29] problem solving activity,[30] or creation of meaning,[31] and thus accessible and useful for any professional dealing with problem solving, not just professional designers.[32] More recent "design thinking," is predominantly situated in management studies and mainly addresses individual cognition and organizational innovation.[33] Though design continues to involve form, objects, and

[23] *See* Ulla Johansson-Sköldberg, Jill Woodilla, & Mehves Çtinkaya, *Design Thinking: Past, Present and Possible Futures*, 22 CREATIVITY & INNOVATION MGMT. 121, 132 (2013) (refusing to restrict design thinking to a single meaning in an attempt to uniquely define it).
[24] *See id.*, at 123 (differentiating "designerly thinking" and design thinking; "designerly thinking" being defined as "the academic construction of the professional designer's practice," while design thinking is used to describe the application of designer's methods by others outside the academic field of design).
[25] *See generally* Simon, *supra* note 22.
[26] *See generally* DONALD A. SCHÖN, THE REFLECTIVE PRACTITIONER: HOW PROFESSIONALS THINK IN ACTION (1983); K. KRIPPENDORFF, THE SEMANTIC TURN: A NEW FOUNDATION FOR DESIGN (2006).
[27] *See generally* BRYAN LAWSON, HOW DESIGNERS THINK: THE DESIGN PROCESS DEMYSTIFIED (4th ed. 2006) and NIGEL CROSS, DESIGNERLY WAYS OF KNOWING (2006).
[28] *See generally* Simon, *supra* note 22.
[29] *See* Schön, *supra* note 26.
[30] *See* Richard Buchanan, *Wicked Problems in Design Thinking*, 8 DESIGN ISSUES 22 (1992).
[31] *See generally* Krippendorff, *supra* note 26; for a comparison of the different literature streams see Johansson-Sköldberg, Woodilla & Çtinkaya, *supra* note 23, at 123-26.
[32] *See* Johansson-Sköldberg, Woodilla & Çtinkaya, *supra* note 23, at 127 (describing design thinking as "a way of thinking that non-designers can also use").
[33] *See* Tim Brown, *Design Thinking*, 86 HARV. BUS. REV. 84, 86 (2008) (defining design thinking as "a discipline that uses the designer's sensibility and methods to match people's needs with what is simultaneously technologically feasible and a viable business strategy which can be converted into customer value and market opportunity"). *See generally* Johansson-Sköldberg, Woodilla & Çtinkaya, *supra* note 23, at 123; David Dunne & Roger Martin, *Design Thinking and How It Will Change Management Education: An Interview and Discussion*, 5 ACAD. MGMT. LEARNING & EDUCATION, 512, 517-21 (2006) (explaining the concept and exploring the potential for design thinking to improve business school education); *see also* Kimbell, *supra* note 22, at 300 (positioning design thinking within a broader field of contemporary theory moving beyond anecdotal description of what designers do).

visual representation, designing intangible services or experiences concentrates on developing rational procedures for solving problems that involve "decomposing systems as well as searching for and choosing alternatives."[34] If we look at design this way, it does not appear as a mere appendage or superficial concern about the 'look' of a legal document.[35] On the contrary, our vision for Legal Design advances the dialogue about how to address complex social or business concerns in new ways that could become central for legal practice, scholarship and education.[36]

B. CHARACTERISTICS OF DESIGN THINKING

What characterizes design thinking depends on where, by whom, and for what purpose it is being used. The discourse thus varies significantly, depending on the disciplinary background of the author describing design thinking and the audience and goal the authors seeks to address.[37] Not all approaches are equally useful for application to legal theory and practice. Therefore, the following analysis concentrates on those characteristics and tools which translate best into the legal world, especially business law.[38]

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[34] *See* Kimbell, *supra* note 22, at 290-91 (describing the fragmented nature of design as an academic discipline and citing the seminal work of CHRISTOPHER ALEXANDER, NOTES ON THE SYNTHESIS OF FORM (1971) and Simon, *supra* note 22).

[35] *See* Ken Adams, *Adding Document-Design Bling to Contracts*, ADAMS ON CONTRACT DRAFTING (Dec. 1, 2011), http://www.adamsdrafting.com/adding-document-design-bling-to-contracts (last visited May 2, 2016) (arguing against "document-design embellishments," which he calls "document-design bling").

[36] In design thinking terms so-called "wicked" problems, *see* Hilary Collins, *Can Design Thinking Still Add Value?*, 24 DESIGN MGMT. REV. 35, 37 (2013) (citing Richard Buchanan, *supra* note 30).

[37] For an analysis and classification of existing literature in design and management studies *see* Johansson-Sköldberg, Woodilla, & Çtinkaya, *supra* note 23, at 136-144.

[38] The following characteristics largely draw on Glen, Suciu & Baughn, *supra* note 21, at 657-58 (identifying characteristics of design thinking as opposed to traditional rational problem solving approaches prevalent in business settings). *See also generally* JEANNE LIEDTKA, ANDREW KING & KEVIN BENNETT, SOLVING PROBLEMS WITH DESIGN (2013).

Design thinking has been described as an "innovation process" with which to discover unmet needs and create new product or service offerings.[39] Design thinking can also transform businesses through solving complex and intertwined problems that are vaguely formulated, raise uncertain, sometimes conflicting, consequences, and implicate diverse decision makers.[40] Many legal problems represent the same type of conflicting interests. The design of cyber security regulation, for example, deals with evolving technology and unknown threads while balancing government interest in access to information against important privacy concerns. Sometimes, solutions are worse than the symptoms.[41] The design thinking literature has identified methods and tools to address these problems, develop innovative solutions, and ultimately create value.[42] The following discussion summarizes some of the basic elements identified in the literature to characterize the way designers approach problems, which later in this Article will serve as a basis for our Legal Design framework.

Design thinking often has been characterised as user-centred, meaning that the needs of users are the driving forces behind the design process.[43] According to well-established design research, people tend to project their own thoughts and assumptions on others.[44] To reach optimal product or service functionality design thinking therefore

[39] Thomas Lockwood, *Foreword, in* DESIGN THINKING. INTEGRATING INNOVATION, CUSTOMER EXPERIENCE, AND BRAND VALUE xii (Thomas Lockwood ed., 2009).
[40] *See id.* (describing design thinking as innovation process "adopted to help reinvent businesses, as in solving "wicked" problems"). *See generally also* C. West Churchman, *Wicked problems*, 4 MGMT SC. 141 (1967).
[41] Churchman, *id*. at 141-42 (pointing out the importance of "taming" the entire wicked problem as opposed to partial solutions).
[42] Steve Sato, Sam Lucente, Douglas Meyer & Deborah Mrazek, *Design Thinking to Make Organization Change and Development More Responsive*, 21 DESIGN MGMT. REV. 44, 46 (2010) (describing design thinking as "structured, yet responsive and flexible, approach to creating value).
[43] *See* Brown, *supra* note 33, at 89.
[44] *See* Dunne & Martin, *supra* note 33 at 519 (citing DON NORMAN, THE DESIGN OF EVERYDAY THINGS (2002)).

emphasises the importance of separating one's own rationales and beliefs from those of the user.[45] To gain an understanding of both expressed and un-expressed user-needs, the designer is supposed to see the world through the user's eyes and develop a certain degree of "empathy" without losing objectivity.[46] The methods used for this initial phase in the design process are largely derived from ethnography.[47] They include observation of the user in his or her natural setting, engaging with the user through interaction and interviews, and immersion through "living the user's life.[48]

Following this phase of unstructured observation the designer frames the user's needs by identifying patterns of the observed behavior and analysing missing elements to develop a solution to a problem or innovate the process or product in question.[49] Design thinking thus combines both analytical and synthetic elements.[50] While legal or business reasoning typically uses deductive and inductive methods,[51] design thinking is unique as it includes inductive, deductive and abductive reasoning.[52] Abduction or "retroduction"

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[45] *Id*.
[46] *See* Glen, Suciu & Baughn, *supra* note 21, at 657 (citing Brown, *supra* note 33; Heather Fraser, *The Practice of Breakout Strategies by Design*, 28 J. BUS. STRATEGY 66 (2007); Sabine Junginger, *Learning to Design: Giving Purpose to Heart, Hand, and Mind*, 28 J. BUS. STRATEGY 59 (2007)).
[47] *See id.* (describing the fundamental ethnographic principles underlying user observation); *see also* Sara L. Beckman & Michael Barry, *Innovation as a Learning Process: Embedding Design Thinking*, 50 CAL. MGMT. REV. 25, 34-35 (2007) (explaining how ethnographic methods can be used to gather relevant information under time constraints).
[48] *See* Dunne & Martin, supra note 33 at 519 (pointing towards the importance of observation and interaction with the user as early as possible in the design process and citing Dorothy Leonard & Jeffrey F. Rayport, *Spark Innovation through Emphatic Design*, 75 HARV. BUS. REV. 102 (1997)).
[49] Beckman & Barry, *supra* note 47 at 36 (examining a generic innovation process).
[50] *See id.* at 27 (citing Charles Owen, *Considering Design Fundamentally*, 5/3 DESIGN PROCESS NEWSLETTER, 2 (1993).
[51] Colleen F. Johnson, *Deductive versus inductive reasoning: A closer look at economics*, 33 SOC. SCI. J. 287, 291 (1996) (defining deduction as "reasoning from the general to the particular", and induction as "reasoning from the particular to the general" and citing ROBERT MARTIN, THE PHILOSOPHER'S DICTIONARY 56 (1991).
[52] Dunne & Martin, *supra* note 33 at 518 (describing the interaction between deductive, inductive and adaptive reasoning in design thinking and its benefits for business thinking). *See also* Johansson-Sköldberg, Woodilla & Çetinkaya, *supra* note 23 at 125(citing BRYAN LAWSON, HOW DESIGNERS THINK: THE DESIGN PROCESS DEMYSTIFIED (4th ed., 2006) and NIGEL CROSS, DESIGNERLY WAYS OF KNOWING (2006)).

has been described as "reasoning that forms and evaluates hypotheses in order to make sense of puzzling facts".[53] In other words, it attempts to reveal possibilities, and therefore has been found to be successful in dealing with complex innovations.[54] Through the interaction of all three forms of reasoning, design thinking leads to the generation of new ideas but also validates them through analysis and evaluation.[55]

Interpersonal collaboration, and therefore mutual understanding, is key in the design process, not only to develop empathy for the user but also in the form of peer-collaboration.[56] Collaboration helps to overcome personal bias, thereby enabling a full understanding of the user's needs.[57] Working with people with different backgrounds broadens the perspectives of those entrusted with drafting regulation or forming a contract.[58] The design literature argues that working with individuals who make one feel uncomfortable (so-called "creative abrasion"), is propitious to generating new ideas.[59]

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[53] Danielle D. Dunne & Deborah Dougherty, *Abductive Reasoning: How Innovators Navigate in the Labyrinth of Complex Product Innovation,* 37 ORG. STUD. (2016) 131, 35 (describing deductive reasoning and its analysis in organizational scholarship).
[54] Karen Locke, Karen Golden-Biddle & Martha S. Feldman, *Making Doubt Generative: Rethinking the Role of Doubt in the Research Process*, 19 ORG. SCI. 907, 907(2008) (distinguishing inductive, deductive and abductive reasoning, and citing the initial proponent of the concept Charles Sanders Peirce); *see also* Heather M.A. Fraser, *Designing Business: New Models for Success*, 20 DESIGN MGMT. REV. 57, 64 (2009) (stressing the importance of imagination and embracing radical new solutions).
[55] Dunne & Martin, *supra* note 33 at 518 (describing how a cycle of design thinking including all three ways of thinking generates new ideas).
[56] *See* Dunne & Martin, *supra* note 33 at 519 (citing TOM KELLEY, THE ART OF INNOVATION (2001) acknowledging that some designers might prefer to work alone but that even in these cases collaboration with users and peers is important).
[57] *See supra* note 44 (and accompanying text); see also Kamil Michlewski, *Uncovering Design Attitude: Inside the Culture of Designers*, 29 ORG. STUD. 373, 383 (2008) (identifying "swinging between synthesizing and analyzing" as one substantive category "representing the professional culture of designers").
[58] *Id.* (stressing the importance of "expending perspectives by collaboration with individuals unlike oneself").
[59] *Id.* (citing Dorothy Leonard & Susan Straus, *Putting your company's whole brain to work*, 75 HARV. BUS. REV. 110 (1979).

The design process typically consists of the analytical phase of observation and understanding described above, followed by "synthetic phases of experimentation and invention".[60] It moves between theoretical analysis and practical phases, where the designer creates graphic models, or prototypes.[61] These visualizations make ideas tangible. They facilitate feedback from users, self-criticism, and reveal inconsistencies language may not be able to detect.[62] Exploration and iteration are important elements of the design process.[63] Contrary to single-solution strategies, proposing multiple solutions to the client is an integral part of design thinking as it allows to further clarify the specific user needs.[64]

Initially practical or conceptual in nature, design thinking is now supported by empirical research showing how the methods and tools of design professionals can be broadened into more general business or social purposes.[65] Nonetheless, using design thinking outside of its traditional boundaries has been discredited as little more than a

[60] Sara L. Beckmann & Michael Barry, Innovation as a Learning Process: Embedding Design Thinking, 50 CAL. MGMT. REV. 25, 27 (citing Owen, *supra* note 50).
[61] *See id.*
[62] *See* Glen, Suciu & Baughn, *supra* note 21, at 658 (describing the role of visualization and prototyping in the design process); *see also* Fraser, *supra* note 54, at 61 (describing the superior value of pictures and props over documents in this stage of the design process).
[63] *See* Glen, Suciu & Baughn, *supra* note 21, at 657 (contrasting exploration with rational analytical problem solving methods); *see also* Michlewski, *supra* note 57 at 384 (observing that designers create "fundamental value through epistemologically unconfined exploration").
[64] *See supra* note 17 (with accompanying text); *see also* Glen, Suciu & Baughn, *supra* note 21, at 657 (contrasting scientific and design strategies to solve problems).
[65] *See generally, e.g.* ROGER MARTIN, THE DESIGN OF BUSINESS: WHY DESIGN THINKING IS THE NEXT COMPETITIVE ADVANTAGE (2009) and Brown & Wyatt, *supra* note 10. In one particular example, a case study by Uehira & Kay describes how design thinking has been successfully used to improve patient experiences in Japanese hospitals. *See generally* Taisuke Uehira & Carl Kay, *Using Design Thinking to Improve Patient Experiences in Japanese Hospitals: A Case Study*, 30 J. BUS. STRATEGY 6 (2009); *see also* Sean D. Carr, Amy Halliday, Andrew C. King, Jeanne Leidtka, & Thomas Lockwood, *The Influence of Design Thinking in Business: Some Preliminary Observations*, 21 DESIGN MGMT. REV. 58 (2010). In their book SOLVING PROBLEMS WITH DESIGN THINKING Jeanne Liedtka, Andrew King & Kevin Bennett report on ten organizations' success stories in using design thinking in the management context. Liedtka, King, and Bennett, *supra* note 38. IDEO's website contains many other practical examples. *See Case Studies*, IDEO, http://www.designkit.org/case-studies (last visited May 2, 2016).

marketing tool for design firms.[66] The criticism is not primarily based on an inability of design thinking to address business or social concerns. Instead, the perceived shortcoming is its overemphasis on the professional designer's role, with a failure to link the designer theoretically with end-users and other stakeholders in the design process.[67] To spread the blame more broadly, however, business also has been criticised for not fully embracing design thinking, a failing attributable to an exaggerated reliability orientation and risk averseness.[68] These shortcomings mask, however, a deeper divide between the methods used by designers, and those used by lawyers or business professionals, to solve problems. These challenges will be discussed in the next section, before we move on to the benefits design thinking offers in legal contexts.

C. Challenges and Chances of Design Thinking in Legal Problem Solving

The previous section shows that the way designers approach a problem or goal differs significantly from the analytical problem solving approach that lawyers or business professionals would typically employ.[69] Rational-analytical problem solving assumes that all conditions as well as the ultimate goal are known, while designers

[66] *See* Peter Merholtz, *Why Design Thinking Won't Save You*, 88 HARV. BUS. REV. 88 (arguing that design thinking is a "disingenuous term" because "[t]he kind of interdisciplinary thinking we seek is not simply the purview of designers, and shouldn't be considered as such").
[67] *See* Kimbell, *supra* note 22, at 141 (describing how a "practice-orientation" allows to take into account the roles other stakeholders than the designer play in the design process).
[68] *See* Collins, *supra* note 36, at 39 (identifying risk and failure aversion as reasons why business has not yet fully embraced design thinking); *see also* Paul J.H. Schoemaker & Robert E. Gunther, *The Wisdom of Deliberate Mistakes*, 84 HARV. BUS. REV. 108, 110 (2006) (stating that "[m]any managers recognize the value of experimentation, but they usually design experiments to confirm their initial assumptions"); *see also* Kimbell, *supra* note 22, at 301 (citing Bruce Nussbaum, *Design Thinking is a Failed Experiment: So What's Next?* FAST COMPANY BLOG, http://www.fastcodesign.com/1663558/design-thinking-is-a-failed-experiment-so-whats-next (last visited May 2, 2016), and claiming contrary to Nussbaum that design thinking has not failed but needs to be studied more extensively and further theorized).
[69] *See* Glen, Suciu & Baughn, *supra* note 21, at 656-57 (contrasting design thinking and the rational problem solving paradigm commonly used in business education).

experiment with various solutions, going through much iteration before issues are clarified and solutions are developed.[70] Designers frequently do not have a precise objective or definition of the problem they seek to address when they begin the design process.[71] In the beginning they may have a broad goal or task, which they will further define.[72] Objectives may even change over time as the understanding of the problem and its solution "coevolve."[73]

A lawyer, in contrast, typically employs a more instrumental rationality.[74] Before starting to work on a legal solution to a client's problem, the lawyer is likely to seek first a clear definition of the client's objective and gather as much information as possible to solve a client's case. Doing anything else runs counter to the professional duties and responsibilities a lawyer owes to the client.[75] Spotting the legal issues in a case is the first and most crucial step in legal analysis. Overlooking a relevant issue will negatively impact the resolution of the case, while becoming "distracted" by irrelevant issues will

[70] *See* id., at 657 (with references).
[71] In this sense design illustrates the contrast between "management by objectives" and "management by discovery." The approach has been successfully used in project management where the success of the project was not defined by reaching the initial project objectives but rather how the goals were defined over the life of the project. *See* Glen, Suciu & Baughn, *supra* note 21, at 659 (citing Gary Klein & Jay Rothmann, *New Directions: Staying on Course When Your Destination Keeps Changing*, 45 THE CONFERENCE BOARD REV. 24 (2008) (observing how managers in an engineering project began their designs before completely defining the project objectives – a way of processing commonly associated with design thinking).
[72] *See* Kimbell, *supra* note 22, at 137 (describing the author's observation of designers trialing a smoking cessation service in a pharmacy).
[73] Glen, Suciu & Baughn, *supra* note 21, at 657; *see also* Richard J. Boland & Fred Collopy, *Design Matters for Management*, *in* MANAGING AS DESIGNING 5 (Richard J. Boland & Fred Collopy eds., 2004) (describing the authors' surprise observing a renowned designer tearing up his plans for a "perfectly good solution" he and others had worked on several hours and explaining his act with "[w]e proved we could do it, now we can think about how we *want* to do it.").
[74] *See* Robert S. Summers, *Pragmatic Instrumentalism in Twentieth Century Legal Thought—a Synthesis and Critique of Our Dominant General Theory of Law and Its Use,* 66 CORNELL L. REV. 861 (1981) (characterizing prevailing legal thought as instrumental rationality).
[75] *See* DAVID HOWARTH, LAW AS ENGINEERING: THINKING ABOUT WHAT LAWYERS DO 74 (2013) (identifying specification of objectives as an important and common trait between transaction lawyers, legislative lawyers and engineers).

not only be unproductive but also is likely to result in an unclear and unconvincing argument. The "messy" working style of designers therefore seems to be at odds with the analytical skills in which lawyers are trained, and which commonly are highly valued both within and outside the profession.[76]

However, legal work is not restricted to analytical problem solving. When counselling a client a good lawyer is expected to find creative solutions. Exploratory techniques like "sketching" or "mapping" out different solutions, or even creating a "prototype" (e.g., a preliminary contractual document) are ways to test different solutions or potential scenarios.[77] These are solution-based strategies typically used by designers, which not only help the expert to solve the problem better, but also help clients better understand the solutions offered to them.[78]

Legal analysis involves application of facts to legal rules, which takes place in a specific cultural environment and requires "perceiv[ing] connections between general standards and particular instances."[79] The application of facts to legal rules is not purely mechanical but involves "a variety of inferences, deductions and connections … to predict an appropriate resolution of the legal issue."[80] As one commentator states, "issue

[76] *See* Michelle M. Harner, *The Value of "Thinking Like a Lawyer",* 70 MD. L. REV. 390, 391 (citing Eric Torbenson, *Law Degrees Increasingly Attractive for CEO Candidates*, DALLASNEWS.COM, (Sept. 2, 2008 7:22 AM)); *see also* Menachem Wecker, *Where the Fortune 500 CEOs Went to Law School,* U.S. NEWS & WORLD REPORT, June 26, 2012, http://www.usnews.com/education/best-graduate-schools/top-law-schools/articles/2012/06/26/where-the-fortune-500-ceos-went-to-law-school (last visited May 2, 2016) (stating that "[o]f the 498 chief executive officers listed on the 2012 Fortune 500 list, 46 hold legal degrees").

[77] On legal sketches *see generally* Mitchell, supra note 3; on legal maps *see generally* McCloskey, *supra* note 5.

[78] *See* Glen, Suciu & Baughn, *supra* note 21, at 657 (stating that in the designer's way to approach "wicked" problems a "great deal of thought and planning does not always precede action").

[79] Philip C. Kissam, *Law School Examinations*, 42 VAND. L. REV. 433, 440 (1989).

[80] Kathleen Magone & Steven I. Friedland, *The Paradox of Creative Legal Analysis: Venturing into the Wilderness*, 79 U. DET. MERCY L. REV. 571, 574-75 (2002).

spotting provides a form of construction or creation."[81] Legal education's focus on formulaic analysis therefore sometimes has been criticised as restricting student's creativity.[82] The question is how a lawyers' creativity can be strengthened without losing the benefits of the analytical skills for which they are praised, and without relying on an individual lawyer's creative talent. The design thinking literature suggests that the dilemma between analytical thinking and creative problem solving could be addressed through abductive reasoning[83] and is supported by dual process models of cognition.[84]

Psychological studies show that human reasoning uses two very different processes, referred to as systems.[85] System 1 describes automatic cognitive processes; system 2 is more deliberate, "conscious reasoning". System 1 processes rely on "contextual, particularly visual cues" that are "intuitive" and "experimental". Human problem solving activities start with system 1 and some also end there. The more analytical system 2 serves to "decontextualize and depersonalize" the problem. System 2 thus represents the core of what legal analysis typically is about, serving as "a check on system 1."[86] Strengthening the creative processes in legal thinking could make legal thinking more innovative, while still controlled by the analytical processes in system 2.

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[81] *Id.* at 574.
[82] *Id.* (criticizing the Socratic method for oppressing student's creativity and citing Andrew J. McClurg, *Poetry In Commotion: Katko v. Briney and the Bards of First-Year Torts*, 74 OR. L. REV. 823 (1995)).
[83] *See* Dunne & Dougherty, *supra* note 53 (and accompanying text).
[84] *See* Glen, Suciu & Baughn, *supra* note 21, at 659-60 (citing Steven A. Sloman, *The Empirical Case for Two Systems of Reasoning*, 119 PSYCHOL. BULL. 3 (1996) and Keith E Stanivich & Richard F. West, *Individual Differences in Reasoning: Implications for the Rationality Debate?*, 23 BEHAVIORAL & BRAIN SCIS. 645 (2000) .
[85] The following description of dual process models largely builds on Glen, Suciu & Baughn, *supra* note 21, at 659-60.
[86] *See id.*; *see generally* Daniel Kahnemann, *A Perspective on Judgment and Choice: Mapping Bounded Rationality*, 58 AM. PSYCHOLOGIST 697 (2003); Stanivich & West, *supra* note 88.

Combining legal thinking with aspects of design thinking thus produces unexpected benefits, and supplies the basis for our concept of Legal Design.

Legal Design is an evolution in the analysis of visualization, intended to make legal communication easier, more user-friendly and more effective. It also strives to substantively improve the drafting process and resulting public or private regulation,[87] in order to transform positively the significance and value of laws and traditionally word-heavy legal applications like contracts or governance documents, for individual users and organizations.[88] In effecting these goals, the process by which visualization is created becomes as important as the image itself. That process of design suggests the sort of inquiry and communication that has long been promoted by "Preventive Law" or "Proactive Law" (combined here as "PPL").[89]

The methods and values of PPL reach back to the founding of the preventive law movement in the 1950's.[90] The term "Proactive Law" emerged in the 1990's in Finland, and was quickly adopted in Europe, to stress positive goals and outcomes in legal transactions as well as to avoid problems.[91] PPL distinguishes itself from traditional law and lawyering by its conscious orientation to the future rather than the past; its systems-oriented, contextual thinking rather than reductive analytical methods; its focus on the needs and relationships of those who use the law, as well as legal experts; its efforts to

[87] *See* Berman, *supra* note 13, at 24.
[88] "Our job as designers is to design with intent, so that the object we design function as they are supposed to for those who need them and use them. Information needs to be in a form that [users] can understand and use meaningfully, and to tell the truth of what things mean and how they work." JOEL KATZ, *Introduction, in* INFORMATION DESIGN: HUMAN FACTORS AND COMMON SENSE IN INFORMATION DESIGN (2012), *quoted in* Mitchell, *supra* note 3, at 5.
[89] *See supra* note 12.
[90] Louis M. Brown, PREVENTIVE LAW (1950).
[91] *See generally* Berger-Walliser, *supra* note 12.

connect law with surrounding organizations and institutions; and its willingness to suggest interventions or restructuring of environments that generate problems or obstruct goals.[92]

From the PPL perspective, visualization becomes more actively and strategically planned. It becomes conscious "design," meaning both a noun--an image to advance communication—and a verb, the process by which text or spoken language is clarified by images that simplify and supplement language. This design process makes legal information intellectually accessible, and functional.[93] Where these goals are met, legal documents can become stronger generators of value rather than of higher transaction costs. Contracts and other legal documents can facilitate better communication within and between organizations, and offer possibilities for innovation.[94] It is against this background that we will develop, in the following part, a framework of Legal Design that effectively combines language and graphics to help organizations reach their preventive and proactive goals.

II. A FRAMEWORK FOR LEGAL DESIGN

Our suggestions for Legal Design build on characteristics identified in the design thinking literature mentioned above.[95] Building on these criteria, we suggest methods and values for Legal Design as rooted in PPL.

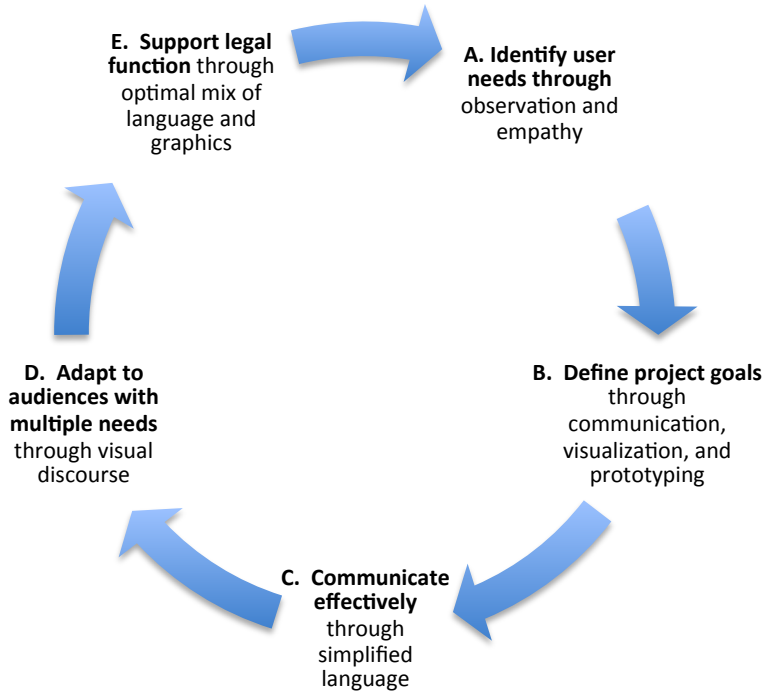
[92] *See generally* Barton, *supra* note 12 and Siedel & Haapio, *supra* note 12.
[93] *See generally User-Friendly Tools, supra* note 12.
[94] On the relationship between contract design and innovation *see generally* Matthew C. Jennejohn, *Collaboration, Innovation, and Contract Design*, 14 STAN. J. L. BUS. & FIN. 83 (2007).
[95] *See supra* Part I B.

Legal Design research is in its early stages, but proceeding quickly. A fully prescriptive theory—one expected to generate a single "right" procedure, image or layout--may never be feasible, nor desirable.[96] Fixed rules would be too restrictive to adapt to individual users' needs. More desirable is a creative, constantly innovative process that achieves a high "probability of correct use of a visualization, given information type and goal of the design."[97] That said, based on the design thinking characteristics identified in Part I B., we offer a framework for Legal Design below in the hope that it will spark greater awareness, more conscious use, and further exploration of the possibilities. Ultimately, through better process and conscious use of visualization, we hope to make legal communication more effective and user-centered, thereby leading to conflict prevention and value creation.

The framework outlined below moves in graduated steps--from the most traditional and easily achieved by regulators and private drafters lacking design experience, toward those that are more strongly pictorial and may require more professional designer help: A. Identify user needs through observation and empathy; B. Define project goals through communication, visualization, and prototyping; C. Communicate effectively through simplified language; D. Adapt to audiences with multiple needs through visual discourse; and E. Support legal function through optimal mix of language and graphics. We discuss each step of the framework in the following sections.

[96] Stefania Passera, Personal Communication, October 10, 2015.
[97] *Id.*

The framework, like every design process, is iterative;[98] each step in the framework loops back into the previous one, since introducing a new design tool can generate new ideas or reveal a problem, which may in turn require going back to an earlier step to verify assumptions or address problems or new opportunities.[99] Open-minded and flexible communication among the interested parties and legal drafter/designers--feedback loops--are important components of Legal Design and furthermore align with principles of PPL.[100] Ultimately, the framework aspires towards goals expressed by PPL, such as dispute prevention, cost savings, and value creation, which guide every step in the framework.



[98] *See supra* note 60 (and accompanying text).
[99] Stefania Passera, Personal Communication, December 7, 2015.
[100] *See* Fraser *supra* note 54, at 58 (identifying collaboration and open-mindedness as essential for business design); Barton, *supra* note 12, at 57; Thomas D. Barton, *Redesigning Law and Lawyering for the Information Age*, 30 NOTRE DAME J. L & PUB. POL'Y (forthcoming 2016).

FIGURE 1: FRAMEWORK FOR ITERATIVE LEGAL DESIGN

The following sections explain the steps of the framework in greater detail.

A. IDENTIFY USER NEEDS THROUGH OBSERVATION AND EMPATHY

As stated earlier design thinking is human or user-centred.[101] In other words, design thinking requires the designer to spend time with the client/user exploring collaboratively the function, or specific current or future use the client or other impacted person is likely (intentionally or not) to make of the work product.[102] Transposed to the legal world, this means that when drafting a legal document the user should be involved, and his or her needs should be taken into account.[103] For legislative rulemaking this is an approach increasingly favoured, for example, by the European Union.[104] The European Commission's "Better Regulation Agenda" explicitly relies on stakeholder input and impact assessment at all stages of the life-cycle of European regulation: from initial roadmaps and policy development over feedback on the Commission's proposals and draft delegated and implementing acts to review of existing legislation by subject matter experts from social partners, business and civil society.[105]

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[101] Brown, *supra* note 33, at 89; *see also* note 43 (and accompanying text).
[102] *See* Boland, Collopy, Lyytinen, & Yoo, *supra* note 22, at 15 (reporting on observations from a "Managing as Designing" workshop with designer Frank O. Gehry).
[103] *See* Gillian K. Hadfield, *Equipping the Garage Guys in Law*, 70 MD. L. REV. 484 (2011) (describing an extracurricular case study session in which J.D. and M.B.A. students worked together to find a solution for a real company facing a very real business challenge and showing the benefit of user-involvement).
[104] *See* Opinion of the European Economic and Social Committee on *The proactive law approach: a further step towards better regulation at EU level*, OFFICIAL JOURNAL OF THE EUROPEAN UNION 2009/C175/05, at 2.6, *available at* http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:175:0026:0033:EN:PDF (recommending "active and effective" stakeholder participation during the drafting and decision-making process).
[105] *See generally* European Commission, Better Regulation, http://ec.europa.eu/smart-regulation/index_en.htm (last visited May 5, 2016).

On the business side, an increasing body of scholarship criticizes corporate legal practices that focus primarily on outcome and standardization[106] instead of user-experience and product functionality.[107] Those studies imply that corporate lawyers and their clients tend to favor legal certainty and formal enforceability of contractual terms over efficiency-enhancing communication about business objectives and deliverables to the employees actually in charge of performing the contractual obligations.[108] Applying design thinking to contract drafting, good contract design in contrast should identify the users' needs, communicate deliverables to the employees actually in charge of performing the contractual obligations and serve the specific uses the client wants to make of it, rather than assuming that contracts serve primarily as a defensive tool in case of a lawsuit.[109] In line with PPL principles the contract should address and solve business concerns, and take into account the personal relationship between the contract partners.[110]

To do so, careful observation and understanding of the users' needs becomes a prerequisite for successful legal design and therefore builds the first step in our framework. In design projects, observation often is done by using ethnographical methods.[111] Although this might seem an unusual practice for legal services, the benefit

[106] George G. Triantis, *Improving Contract Quality: Modularity, Technology, and Innovation in Contract Design*, 18 STAN. J.L. BUS. & FIN. 177, 179 (2013) (criticizing corporate legal practice for its focus on cutting costs through automation and standardization instead of developing better service).
[107] *See* Mitchell*, supra* note 3, at 12 (suggesting that lawyers' focus on well-tested, standardized legal documents prevents them from being open to new ideas and taking into account their clients' real needs).
[108] See Triantis, *supra* note 106, at 10 (stating that "efficiencies in the midstream of the contract lifecycle are often neglected by both lawyers and their clients"); *see also* Berger-Walliser, Haapio & Bird, *supra* note 12 at 21 (suggesting that contract should serve as "roadmaps for performance").
[109] *See generally* Helena Haapio & Thomas D. Barton, *Business-Friendly Contracting: How Simplification and Visualization Can Help Bring It to Practice*, *in* RUN LEGAL AS A BUSINESS (Kai Jacobs, Dierk Shindler & Roger Strathausen eds., forthcoming 2016).
[110] Thomas D. Barton, *Improving Contracts Through Expanding Perspectives of Understanding,* 52 CAL. W. L. REV. 33, 36-41 (2015) (elaborating on the role of the personal relationship in contracting).
[111] *See supra* note 47 (with accompanying text).

of counsel being intimately familiar with and understanding her client's business or personal situation has long been a central tenet of Proactive Law.[112]

In this sense empathy with the user is another characteristic attitude of designers."[113] However, empathy typically does not characterize lawyers who have been educated to analyze a given fact scenario rationally, and exclusively apply legal rules to assess these facts.[114] Usually legal counsel will ask a client about past actions or future goals, and then determine reductively whether these activities comply with legal rules. Design thinking would lead the legal advisor to enter a constructive conversation to understand motivations and constraints, and – using abductive thinking - generate creative solutions to reach the client's immediate, and longer-reach, business goals.[115] Though some legal counsel achieve this already, the design thinking literature and design practice provide theoretical underpinning and practical tools to enhance creative communication between legal counsel and their clients.[116]

Focusing on the human side of adding value to the future product, service or experience, successful design firms have incorporated elements from anthropology, psychology and sociology into their process.[117] To reach the intended results they engage in visual discourse, visual thinking, creative dialogue, intuition, instinct, and tacit

[112] *See* Barton, *supra,* note 110, at 102.
[113] *See supra* note 46 (and accompanying text).
[114] *See generally* Lynne N. Henderson, *Legality and Empathy*, 85 MICH. L. REV. 1574 (1987).
[115] *See supra* note 53 (and accompanying text).
[116] The Legal Design Toolbox developed by the Legal Design Lab, an interdisciplinary team based at Stanford Law School and Stanford Design School provides "a set of resources for aspiring designers who are approaching legal challenges with a creative, generative, human-centered approach", http://www.legaltechdesign.com/LegalDesignToolbox/ (last visited May 5, 2016).
[117] Michlewski, *supra* note 57 at 383 (citing TOM KELLY, THE ART OF INNOVATION (2001) and CREATING BREAKTHROUGH IDEAS: THE COLLABORATION OF ANTHROPOLOGISTS AND DESIGNERS IN THE PRODUCT DEVELOPMENT INDUSTRY (Susan Squires & Bryan Bryme eds., 2002).

knowledge, concentrating on people and transparency of communication.[118] Design practice provides methods such as value-mapping[119] or a needs pyramid[120] to help with this process.[121] If used in a legal setting, these tools could reveal motivations and concerns otherwise overlooked, and potentially could inspire lawyers in their everyday work to provide a more user-centered service.[122] Legal Design could be equally useful for business and for government: in a corporate setting for contract drafting or developing corporate policies such as privacy rules or codes of conduct, or in a government setting for legislative drafting or creating public educational tools.[123]

B. DEFINE PROJECT GOALS THROUGH COMMUNICATION, VISUALIZATION, AND PROTOTYPING

The observation phase leads to a phase in which project goals and restrictions are defined by means of communication, brainstorming, and prototyping. In this step contradictions in expectations are identified, multidimensional meanings are consolidated, and new ideas are developed through reconciliation of contradictory

[118] *See* Michlewski, *id.* at 381-82 (identifying "engaging polysensorial aesthetics" as a prevalent design attitude), and Glen, Suciu & Baughn, *supra* note 21 at 658 (distinguishing design thinking from rational analytical thinking).
[119] Value mapping consists of "document[ing] beliefs, preferences, priorities, frustrations, loves, hates, and other values" the designer "can infer from what" she has "heard & observed", Legal Design Toolbox, *supra* note 116.
[120] A needs pyramid maps out user needs in the form of a pyramid moving from the less important to the most important need expressed by users in the observation stage of the design process. *See* id.
[121] *See* id.
[122] See introductory material developed by the Stanford design school, http://dschool.stanford.edu/use-our-methods/ (last visited May 5, 2016).
[123] The Legal Design Lab's website offers various practical example for using design methods and tools for legal projects, http://www.legaltechdesign.com/our-projects/ (last visited May 5, 2016).

objectives, bridging approaches, and abductive reasoning.[124] Design thinking research analysing designer's attitudes has described designers as able to "[…] 'look at a situation from a wide variety of perspectives', bringing together 'humanistic standpoint', 'deep understanding' and technical limitations […]. [T]heir strength lies in utilizing both [synthesis and analysis] — 'putting things together' and 'taking them apart' simultaneously."[125] This description of the designer's role arguably shifts the role of legal counsel from a legal service provider to that of a pre-contractual mediator or legal consultant, perhaps requiring new skills for some lawyers.[126]

Shifting between analysis and synthesis requires the participating actors to keep an open mind and embrace discontinuity, characteristic of successful designers but untypical for lawyers who tend to be motivated by efficiency and legal certainty.[127] To reach user-centered, innovative solutions, legal templates are likely to be too confining. Templates should be readily modified as a result of open-ended conversations. This requires all actors in the process to accept the iterative nature of the project, starting with initial brainstorming and then reaching from "low-fi" to "high-fi" prototypes.[128] Though this step may significantly lengthen the drafting process, ultimately we expect it to prove

[124] *See* Michlewski, *supra* note 57 at 377, 78 (describing design thinking as "swinging between synthesising and analysing").
[125] *Id.*
[126] *See* Louis M. Brown & Harold A. Brown, *What Counsels the Counselor? The Code of Professional Responsibility's Ethical Considerations–A Preventive Law Analysis,* 10 VALPARAISO LAW REVIEW 453, 454 (1976); see also Camilla Baasch Andersen, *Pre Contractual Mediation in Negotiation – Transplanting Techniques from Mediation and Introducing a Neutral Contract Facilitator*, in Proactive Law in a Business Environment, *supra* note 12. (introducing the idea of pre-contractual mediation in the contract negotiation stage).
[127] *See supra* note 78 (and accompanying text); *see also* Michlewski, *supra* note 57 at 380-81 (identifying and embracing openendness and discontinuity as one of the characterizing attitudes found in successful designers).
[128] *See* Legal Design Toolbox, *supra* note 116 (outlining the process to get from an idea to a finished product).

valuable by facilitating implementation, avoiding misunderstandings, and preventing disputes.[129] To help with this process, designers may use creative manifesting such as drawings, visuals, rapid prototyping, or other tangibles.[130] Since the preliminary as well as the final product of any legal design process is likely to be some kind of printed document (with or without visual representations),[131] the remaining steps of the framework concentrate on how to enhance legal document design through effective choice of language and visuals.

C. COMMUNICATE EFFECTIVELY THROUGH SIMPLIFIED LANGUAGE

Legal Design can almost never dispense with the words. Words constitute the state-enforced rights and duties, and if a controversy arises words must always be authoritative.[132] That said, an indispensable step in Legal Design is for the drafters of the "legal language" to use words that are as simple as possible to favor communication and attention to user needs. This step occurs either during the project development process described above, or at the end of the legal design process when the final product – a legal document, contract, legislative draft or educational material-- is created. Our suggestions for this step of our framework are influenced by contributions of the Simplification Centre, based in the United Kingdom. Based on case studies and projects it has undertaken, the Centre suggests criteria for measuring good document design.[133] Though

[129] *See* Barton, *supra* note 110, at 111-112.
[130] Michlewski, *supra* note 57 at 379 (reporting that the interviewed designers in the empirical research "share a real affection for creating things and bringing solutions to life").
[131] Though students in one of the author's MBA classes have suggested a three-dimensional model to represent contractual obligations.
[132] Barton, Berger-Walliser & Haapio, *supra* note 2, at 48.
[133] *See generally* Rob Waller, Technical Paper 2, *What makes a good document? The criteria we use,* Simplification Centre,

legal design is not limited to document design, the criteria developed by the Simplification Centre are helpful in identifying methods and values for Legal Design. We recognize that some legal ideas are embedded in a specialized professional vocabulary that loses nuance if translated into everyday words. Wherever possible, however, particular legal vocabulary should be avoided. The Simplification Centre suggests the following criteria that may guide the current step of our framework, i.e., simplified language:[134] Use direct language to assign responsibilities; use plain words to make the document easily understandable; use grammar and punctuation in conformity with the practice of good Standard English; make it easy for the reader to follow the argument of the text.[135]

Once the actual legal text is created along these criteria, the remaining steps of Legal Design are meant to supplement this formal language with graphics, not to supplant or change the words of a negotiated contract or legislative directive. As stated in the Introduction, virtually all Legal Design will result in a hybrid between words and images; the text constitutes the formal law, but good layout and graphics can facilitate its easy access, understanding, and implementation. Scientific research suggests that visual thinking and language-based thinking actually overlap.[136] The choice of the "visual and language codes of expression and the amount of each should depend on what is to be

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http://www.simplificationcentre.org.uk/downloads/papers/SC2CriteriaGoodDoc_v2.pdf (last visited May 5, 2016).

[134] *Id.* at 6-14 (identifying language criteria in order to "assess how easy it is for people to understand the words").

[135] *Id.*

[136] *See* Ware, *supra* note 5, at 131 (stating that "[t]he existence of sign language clearly demolishes the idea that one mode is fundamentally visual and the other mode is fundamentally auditory").

conveyed."[137] For legal design to be effective, drafters need to choose carefully what type of information is conveyed in which form, and adapt it to multiple audiences.[138]

The following two sections address these related concerns: First, how to adapt legal communication to different audiences beyond those who are legally trained; second, how to express legal ideas to support the intended function of the law in a given context through an optimal mix of language and graphics. Following these steps certainly produce better products, or images; but a thoughtful reflection on the functional quality of the images underscores the importance of design *process* that we are stressing in this Article.

D. ADAPT TO AUDIENCES WITH MULTIPLE NEEDS THROUGH VISUAL DISCOURSE

A variety of tools can augment the understanding of even complex language, so that non-experts may more readily use legal documents and even experts may grasp complicated legal concepts more easily or faster. Visualisation studies show the most reliable methods for enhancing comprehension to be "adjunct aids": visual organizers like structured text, boldface headings, internal summaries, outlines, matrices, tree diagrams, and tables.[139] These tools allow users to develop a holistic understanding that words cannot convey. They make "thought and organization processes visible", and "assist users in processing and restructuring ideas and information", without changing the

[137] *Id.* at 134.
[138] *See* Mitchell, *supra* note 3, at 6 (reflecting on the lack of attention lawyers typically pay to the way in which they communicate: "For us, 'contract design' means substance, not its concrete expression").
[139] *See* Peter Robinson, *Graphic and Symbolic Representations of Law: Lessons from Cross-Disciplinary Research* 16 ELAW J. 53 (2009), at 65-68 (summarizing existing studies on the effectiveness of "adjunct aids").

content of the legal communication. "They clarify complex concepts into a simple meaningful display" and "promote recall and retention of learning through synthesis and analysis."[140]

Some of these tools are relatively easy to implement even by lawyers and regulators without any prior design training or practice; others may require more talent or professional designers' help. But with the advancement of graphic software, even slightly more sophisticated visuals such as diagrams become readily accessible to almost everyone and can enhance understanding for legally trained as well as untrained audiences.

A somewhat more sophisticated processing tool, which not only improves readability but also allows adaption to multiple user needs, is "Layering". As the term suggests, layering creates alternative layers of information that vary in depth or style. Layering responds to differing needs of different users, such as legal experts, who are concerned about different issues in a legal document than the subject-matter experts in charge of its implementation. Layering can also address the needs of just one user but at different times when either careful study of particulars may be needed, or instead a simple reminder of general points. It also can express information in different formats—for example graphic images versus words, but also "sounds and shapes"—that appeal to different learning styles, or that accommodate users with disabilities.[141]

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[140] *Id.* at 66, (quoting Shumin Kang, *Using Visual Organizers to Enhance EFL Instruction,* 58 ELT J. 58, 60 (2004)). For experimental verification of the enhanced usefulness of well-designed documents, *see User-Friendly Tools, supra* note 12.

[141] *See* Brunschwig, *supra* note 3, at 263 and 256-60 (describing efforts to use multisensory virtual reality software and brain-computer interface in legal communication among persons with various disabilities).

At its most simple, layering can be achieved using different levels of particularity. Authoritative text can be accompanied by additional levels of abstraction to make text navigation and retention easier. For example, keywords (at a higher level of abstraction) or definitions (at a lower level of abstraction) can be moved out of the main text to become notes in a column next to the body of the text. [142]

Slightly different from layering information at different levels of abstraction is the use of layering to present information by breaking down a larger whole into discrete, more easily digestible parts. Some of these layers are visual, fast and easy to understand, while others are more complicated, text-heavy and require deeper analytical analysis. The user typically starts to absorb the information with the first, intuitive layer, followed by more analytical processes in the following layers. Such segmentation advances clear thinking and the possibility of finding more particularized solutions to problems through combining different permutations of the analytical layers.

The licensing images used by the sharing website "Creative Commons" [143] combine analytical layering with a user-operated algorithm of choices that results in solutions that can be more tailored to a problem-holder's particular needs. Creative Commons is a nonprofit organization that provides standardized copyright licenses to enable people to easily share and use their creative works and knowledge through free legal tools on its website. [144] Creative Commons' licenses rely on three layers of

[142] For practical examples *see* Waller, Technical Paper 15: *Layout for Legislation,* Simplification Centre, http://www.simplificationcentre.org.uk/downloads/papers/SC15LayoutLegislation-v2.pdf (last visited May 5, 2016), at 13-16.
[143] *See generally* http://creativecommons.org (last visited May 5, 2016).
[144] *See About*, CREATIVE COMMONS, http://creativecommons.org/about (last visited May 5, 2016).

information: [145] First, there are simple, users can click on recognizable icons to reveal a plain-language version of the relevant text. If additional information is required, the full text is also available just one click away. As illustrated in Figure 2, there is the so-called Legal Code (the "lawyer readable" version, the full license), the Commons Deed (the "human readable" version), and the "machine readable" version of the license.[146]

To choose a license, a creator of a work who wishes to become a Creative Commons licensor answers a few simple, direct questions, such as "Do I want to allow commercial use?" and "Do I want to allow derivative works?" The introductory text to the Creative Commons licenses invites the reader to think of the Commons Deed "as a user-friendly interface to the Legal Code beneath."[147]

[145] *See About The Licenses*, CREATIVE COMMONS, http://creativecommons.org/licenses (last visited May 5, 2016).
[146] *Id.* ("Taken together, these three layers of licenses ensure that the spectrum of rights isn't just a legal concept. It's something that the creators of works can understand, their users can understand, and even the Web itself can understand.").
[147] *Id.*

FIGURE 2. The Three Layers of Creative Commons Licenses.[148]

Other projects have proven how credit card agreements and other consumer contracts as well as commercial contracts can benefit from a new, more user-friendly approach.[149] The U.K.'s National Archive is developing "new online formats for legislation, which would not only link explanatory notes to legislation, but which would also highlight those parts of an Act which had been amended or were not currently in force."[150] These examples also rely on layered information, often combined with simplified language, to advance both analysis and problem solving.

Other helpful devices to make information more accessible to multiple audiences include diagrams,[151] such as swim-lanes[152] and timelines.[153] Those responsible for negotiating and executing contractual agreements in organizations, such as subject-matter experts or engineers, are often more accustomed to "reading" a flowchart than text. Graphic tools adapt legal documents to the expectations of these audiences. They can

[148] *Id.* (Image released under a Creative Commons Attribution 4.0 International license (CC BY 4.0)); for a "human-readable" summary of the so-called Legal Code (the full license), *see Attribution 4.0 International,* CREATIVE COMMONS, http://creativecommons.org/licenses/by/4.0/ (last visited May 5, 2016).
[149] *See Know Before You Owe*, CONSUMER FINANCIAL PROTECTION BUREAU, http://www.consumerfinance.gov/credit-cards/knowbeforeyouowe/ (last visited May 5, 2016); and Gautrain Disclaimer, http://blog.clarity2010.com/wp-content/uploads/2010/11/gautrain-disclaimer.pdf (last visited May 5, 2016); for commercial contracts, *see generally* Stefania Passera & Helena Haapio, *Transforming Contracts from Legal Rules to User-centered Communication Tools: A Human-information Interaction Challenge*, 1 COMMC'N DESIGN Q. 38 (2013), *available at* http://sigdoc.acm.org/wp-content/uploads/2012/09/CDQ-April-1-3-FINAL.pdf; HELENA HAAPIO, NEXT GENERATION CONTRACTS: A PARADIGM SHIFT (2013); and Helena Haapio, *Good Contracts: Bringing Design Thinking into Contract Design, in* PROCEEDINGS OF THE 2013 IACCM ACADEMIC FORUM FOR INTEGRATING LAW AND CONTRACT MANAGEMENT: PROACTIVE, PREVENTIVE AND STRATEGIC APPROACHES 95, 114–17 (Jane Chittenden ed., 2013).
[150] Waller, *supra* note 142, at 17 (citing Carol Tullo, Re-imagining Legislation and Official Publications. By Design?, http://www.simplificationcentre.org.uk/events/clearer-legal-information/).
[151] Diagrams are symbolic representations of information using some visualization techniques. They can also be called graphs.
[152] Swimlanes are often used in process flow diagrams or flowcharts that illustrate roles and responsibilities for different parts of a process. The swimlanes may be named, for example, Customer and Supplier, or Sales, Finance, and Legal, with one lane for each party or function. For an example, *see* Figure 3.
[153] Timelines are diagrams that display events in chronological order.

help to allocate responsibility among multiple parties, demonstrate sequence, and highlight systemic relationships, as well as serve as easily-accessed reminders of periodic deadlines.

Drafters can use swimlanes, tables, or matrices to create order and structure among logical categories.[154] Figure 3 depicts a clause in a standardized public procurement contract. The colored swimlanes used in the figure illustrate the parties' obligations regarding the monitoring of service quality. They clarify who has to do what; where costumer and supplier need to collaborate; and when additional obligations occur. Obligations which require immediate action from one of the parties are highlighted by a "to do" sign.

[154] Stefania Passera, Personal Communication, Nov. 10, 2015.

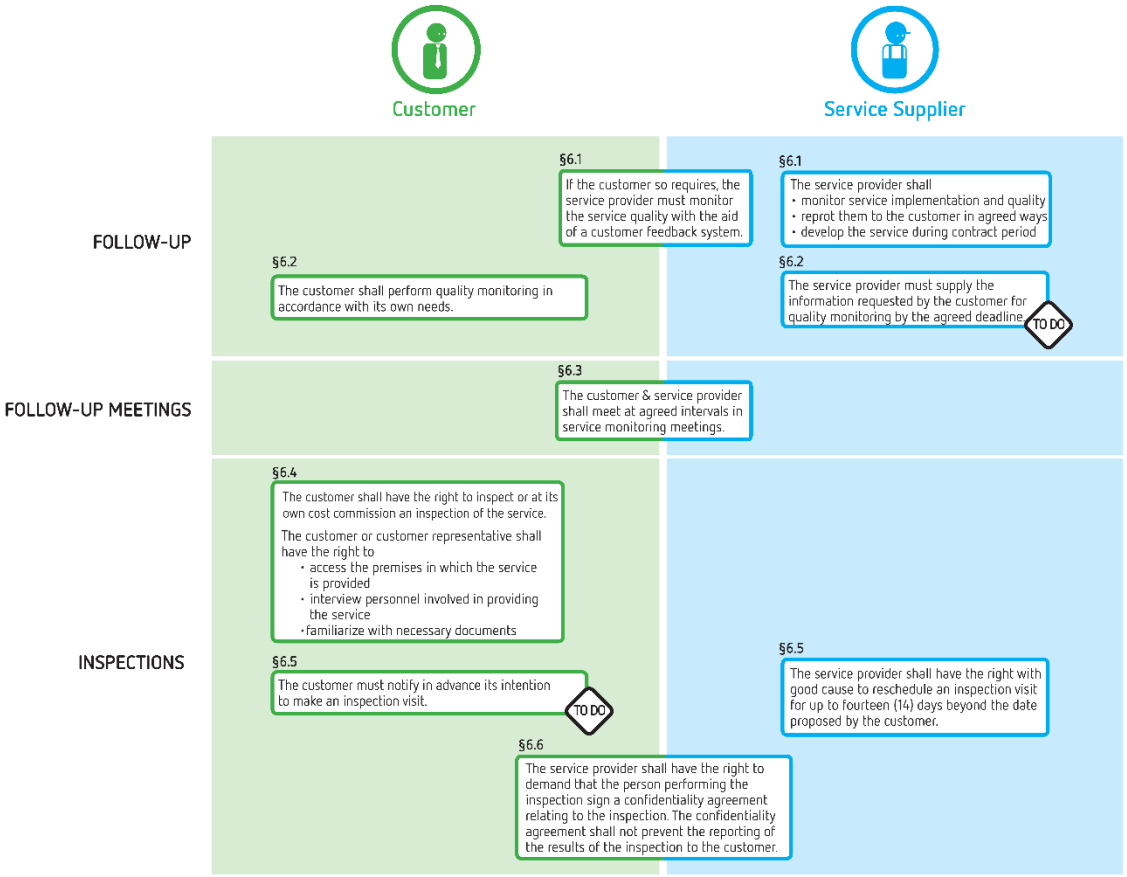

Figure 3. Swimlanes depicting parties' obligations in a public procurement contract. © 2013 Aalto University / Kuntaliitto ry. Design: Stefania Passera. Used with permission.[155]

Flowcharts or timelines are suitable to illustrate dynamic processes, or the evolution of different contingencies. Flowcharts can be used to define the different paths a certain process may follow, e.g., a flexible price or the procedure to follow in case the customer suggests a price change as illustrated in figure 4. A timeline, on the other hand, could be used to clearly identify timespans, durations, deadlines, or milestones.[156]

[155] *User-Friendly Tools*, *supra* note 12.
[156] *Id.*

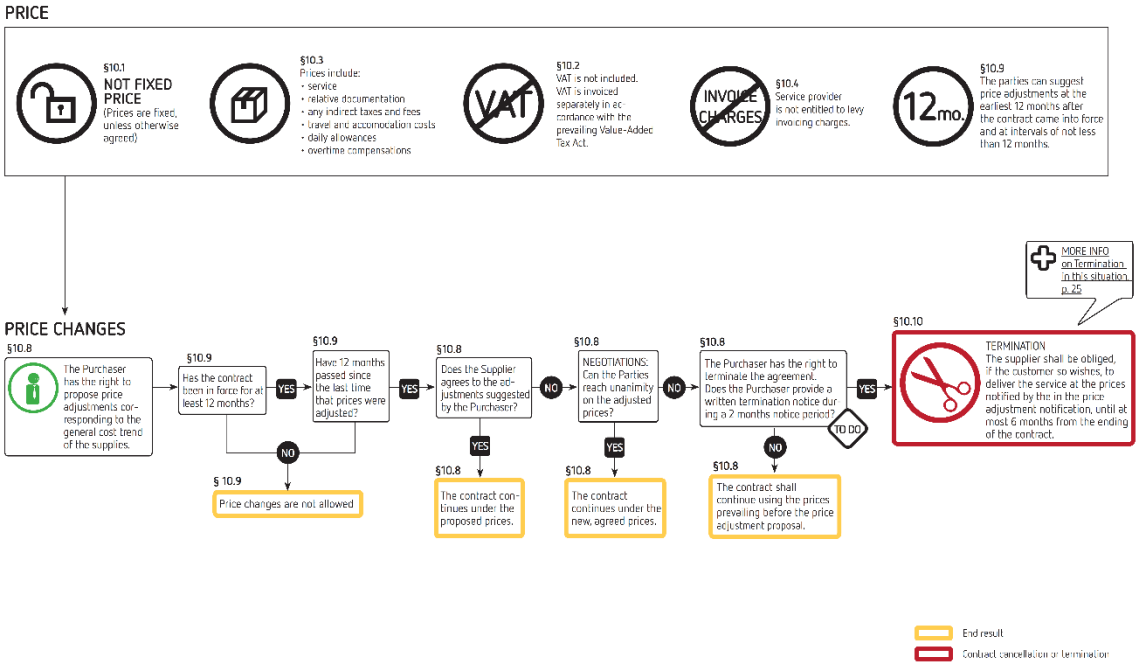

FIGURE 4. Flowchart depicting price changes and the customer suggesting a price change in a public procurement contract. © 2013 Aalto Univeristy / Kuntaliitto ry. Design: Stefania Passera. Used with permission.[157]

The design methods and examples presented above can make legal communication faster, more effective, and help to avoid misunderstandings.[158] Their purpose is to adapt legal documents, contracts or regulation to the needs of their users, to augment understanding, and enhance user-experience. However, these are not the only functions of legal transactions in a given context. Particular designs should support the intended functions of the law. To achieve some legal functions, stronger use of graphics and fewer words may be suggested. For other legal purposes, the words will predominate. This observation leads to the next step of the framework: Support legal function through the optimal mix of language and graphics. In the following section we

[157] *Id.*
[158] *See* Helena Haapio, Gerlinde Berger-Walliser, Björn Walliser, & Katri Rekola, *Time for a Visual Turn in Contracting?*, J. CONTRACT MGMT 49, 54-55 (summer 2012) (providing an example of how a timeline potentially could have prevented a two million dollar lawsuit over the meaning of a contract termination clause).

distinguish different functions of the law. We then analyze the mix between words and images that best supports these functions and integrates them in the design process.

E. SUPPORT LEGAL FUNCTION THROUGH OPTIMAL MIX OF LANGUAGE AND GRAPHICS

The "process" qualities of Legal Design are emphasized in the fifth step: Finding the optimal mix of language and graphics to support particular legal functions for particular contexts. Different contexts clearly do require legal information to be expressed and communicated quite differently—if it is to be effective in that context.

Occasionally, for example, the compelling function of the law is to secure social order through unthinking obedience to the law's commands. This may not happen often, but in some contexts quick and consistent compliance is needed. A graphic, accompanied by the simplest text in the form of a command, may be the most effective method. The humble stop-sign uses a legal visualization that achieves a high level of legal functionality with elegant simplicity. Stop-signs illustrate that when the visual coding of a legal norm is well-designed for one or more functions that the law must play, the visualization can be an indispensable accompaniment to the legal rule itself.[159]

[159] Michal Dudek, *Why Are Words Not Enough? Or a Few Remarks on Traffic Signs, in* PROBLEMS OF NORMATIVITY, RULES, AND RULE-FOLLOWING 366 (Michal Araszkiewicz, Paul Banas, Tomasz Gizbert-Studnicki & Krzysztof Pleszka eds., 2014) ("Traffic signs . . . can be regarded as an integral, not secondary part of certain legal provisions and legal norms encoded by these [background regulatory] provisions. [The e]xample of traffic signs clearly shows that, although the statutes and regulations are thought of in terms of specific linguistic expressions their strictly visual dimension should also be taken into account."; *See also* Brunschwig, *supra* note 3, at 245.

FIGURE 5. Stop-sign.[160]

Stop-signs illustrate a strong strategic goal on the part of the creator of the image—here, municipal officials who need to regulate traffic at road intersections. For stop-signs to function well---that is, for the legal goal to be well met—the graphic image that embodies the law must induce quick, unreflective, and unswerving obedience by the "user," i.e., the automobile driver who encounters the stop-sign. The stop-sign simply visualizes a non-negotiable legal command ("Stop!") through surrounding a single word by a standardized octagon shape and red color. Though simple, the visualization of this traffic regulation strongly advances the vital function of the underlying law: to prevent collisions. Similarly, in a contractual setting, the swimlanes in figure 3 are completed by a "to do" sign in the shape of a traffic warning sign, which suggests in the observer that immediate attention is required.

Sometimes, in contrast, a visualization is intended to deepen understanding of the law. The goal is to help people understand legal language conceptually, yet nonetheless guided toward particular meanings. In these instances, "obedience" is not the intended goal; instead, "structural comprehension" might be a better description of the intended function to be achieved in invoking the law and its accompanying image. To be

[160] *Vienna Convention road sign B2a.svg*, WIKIMEDIA COMMONS, https://upload.wikimedia.org/wikipedia/commons/1/1e/Vienna_Convention_road_sign_B2a.svg (last visited May 5, 2016).

successful in aiding the law in this different way, the design of the image must be quite different. Visual metaphors[161] and icons have been suggested to help users make more thoughtful, better-informed decisions.[162] As a way to better understand the law, they will be most useful in educational settings, in pre-transactional lawyer-client communication, or in communications between government and citizens, where stronger understanding of the regulation, e.g. the tax code, could lead to improved compliance with the law.[163]

A different way of achieving a "structured comprehension" of the law is by structuring thought through icons or other symbols that have little or common cultural relativity. Tobias Mahler, for example, seeks ways of graphically interfacing the laws with their users that are more "logically" than "design" oriented.[164] Using the shapes and

[161] A metaphor functions almost conversely to the stop-sign visualization. Rather than conveying an immediate and simple message to obey, a metaphor may invite unhurried reflection by the viewer as the viewer mentally imagines more and deeper connections between the image and the idea conveyed, aided by conversations that supply words to accompany the images. McCloskey describes, for example, the "fruit and tree" metaphor that can help explain tax concepts, and property law's commonplace "bundle of sticks" metaphor. McCloskey, *supra* note 5, at 166, 167. Metaphors, however, are not always helpful; they may be too powerful or too weak. Metaphors that are too powerful confine imagination too strongly into channels that are difficult to break. The ubiquitous "pie" metaphor, for example, can too strongly suggest that a problem can be resolved only through zero-sum outcomes that slice up resources for distribution among contending parties. Creative ideas for expanding the pie, thus benefitting everyone, are not intuitive to the image.

A completely different difficulty with using metaphors is the need for the user to make quick connections between the image and the concepts—and that ability is dependent on what the user already knows. As the authors discovered, those connections depend on cultural exposure to past uses of the metaphor. Although the "bundles of sticks" and "fruit and tree" metaphors resonate easily with U.S. trained lawyers, those same metaphors are not part of continental legal training. They were meaningless, even confusing, when presented to one continentally-trained author of this article. Hence reference to an image or metaphor may be highly suggestive to one person, but not to another.

[162] *See* McCloskey, *id.* at 164-65 (describing legal map-making as "a mediation device between the law and a client's needs to make a decision, a tool to be used by lawyers acting as legal guides. As travelers use maps of a physical landscape to decide the best way to go, lawyers create and use maps of the legal landscape to counsel clients on the best way to go."); *see also* Meyers, *supra* note 5, at 398 (using imagery to strengthen retention of legal concepts).

[163] On prior efforts to make IRS forms and other regulations easier to understand through use of plain English *see* http://www.plainlanguage.gov/news/braleyBillPasses.cfm (last visited May 5, 2016). *See also* Annetta Cheek, *The Plain Regulations Act, HR 3786*, MICH. B. J. 40 (May 2012) (addressing some of the criticism against the Plain Regulations Act).

[164] Mahler, *supra* note 3, at 311.

symbols of traffic signs as a foundation, Mahler builds a visual vocabulary of the "deontic logic" of the law.[165] Examples of what he terms the various "normative modalities" of the law[166] are portrayed in Figure 6 below: "obligation" (a duty); "permission" (but not required); "prohibition" (forbidden); and "No obligation" (an exception to a duty: permission not to do something that ordinarily is required).[167]

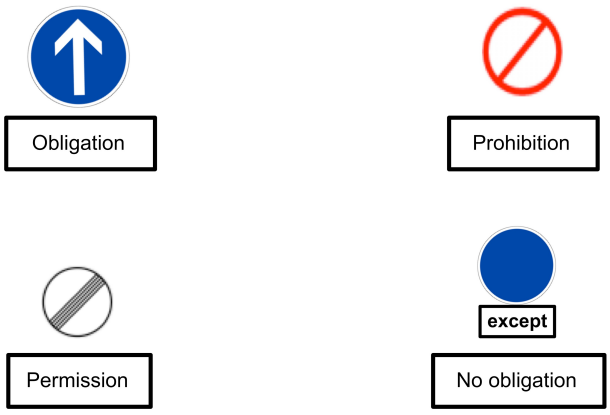

FIGURE 6. Visualization of simplified deontic square.[168]

The use of such icons could enhance user understanding and effectiveness. They may "highlight certain aspects of a legal text,"[169] signaling the reader where the words constitute a prohibition or a duty. That in turn "may be a good guidance for future conduct, and visualization could contribute to an initial level of understanding."[170]

Another suggestion to enhance a reader's understanding of legal texts through a more formal system of design is combining standardized usage of lines, shapes, arrows,

[165] *Id.* at 314 (As Mahler explains, "If we want to create a graphical user interface for legal texts, we ideally need a stable basis for designing a graphical representation that can be used and understood by anyone in the world, regardless of jurisdictional or cultural background. Arguably, a simplified account of legal logic presents an adequate starting point for graphical modeling of legal norms.").
[166] *Id.* at 315.
[167] *Id.* at 316.
[168] *Id.* at 317.
[169] *Id.* at 321.
[170] *Id.*

colors, and the thickness or thinness of lines into diagrams that express more complex legal rules.[171] Standardizing symbols or icons could have yet more significant consequences: once digitized and made available in user-friendly software, individual users may be able to create visualized contracts or other image-enhanced documents for themselves. "In the future it might even be feasible and useful to create a legal text using a graphical user interface. For example, when drafting a contract, the parties might drag icons onto a diagram, thus creating an obligation or a prohibition based on pre-existing text templates of relevance to the contractual context."[172] Alternatively, perhaps "avatars [could guide] the general public using e-government services."[173] It

[171] *See* Conboy, *supra* note 11 at 92 (suggesting the standardization of diagrams through ten usage rules that would eventually ease de-coding as well as make diagrams more consistent).

[172] Mahler, *supra* note 3, at 322. On the prospects for computerized generation and analysis of visualized contracts *see generally e.g.,* Stefania Passera, Helena Haapio & Michael Curtotti, *Making the Meaning of Contracts Visible: Automating Contract Visualization, in* Transparency: Proceedings of the 17th International Legal Informatics Symposium IRIS 2014 443 (Erich Schweighofer et al. eds., 2014), *available at* http://ssrn.com/abstract=263060 (combining information design, user experience, readability, visualization and natural language processing); Meng Weng Wong, Helena Haapio, Sebastiaan Deckers & Sidhi Dhir, *Computational Contract Collaboration and Construction, in* Co-operation: Proceedings of the 18th International Legal Informatics Symposium IRIS 2015 505 (Erich Schweighofer et al. eds., 2015), *available at* http://ssrn.com/abstract=2613869 **(**analyzing a four-part framework of automation, visualization, collaboration, and formalization in an effort to merge computing with "do-it-yourself" law, and envisioning an automated contract generation toolkit which expands term sheets into long forms); Primavera de Filippi, *Legal Framework For Crypto-Ledger Transactions*, P2P foundation (Feb. 28, 2015), http://p2pfoundation.net/Legal_Framework_For_Crypto-Ledger_Transactions (last visited May 5, 2016), (discussing the prospect for "smart" contracts). – The idea of "smart contracts" that can evaluate themselves for compliance and trigger business events was presented by Nick Szabo more than 20 years ago; *see* Nick Szabo, *Smart Contracts*, Nick Szabo's Essays, Papers, and Concise Tutorials (1994), http://szabo.best.vwh.net/ (last visited May 5, 2016). Later research has developed these ideas further; *see, e.g*., Harry Surden*, Computable Contracts* 46 U.C. Davis L. Rev. 629 (2012) (describing computable contracts and their relevance to computerized finance, with an emphasis on machine-readable data elements); Mark D. Flood & Oliver R. Goodenough, *Contract as Automaton: The Computational Representation of Financial Agreements* (The Office of Financial Research, Working Paper, March 26, 2015), *available at* http://ssrn.com/abstract=2648460.

[173] *Preface,* NORDIC YEARBOOK OF LAW AND INFORMATICS 2010—2012: THE INTERNATIONALISATION OF LAW IN THE DIGITAL INFORMATION SOCIETY 311 (Dan Jerker B. Svantesson & Stanley Greenstein eds., 2012.). *See also* Dimitros Riges and Badr Almutairi, *Using Multimodality and Expressive Avatars in e-Government Interfaces to Increase Useability,* Conference Proceedings, RECENT ADVANCES IN ELECTRICAL ENGINEERING AND EDUCATIONAL TECHNOLOGIES, Athens, Greece, Nov. 28—30, 2014, at 33—39. As described in its Abstract, the Riges and Almutairi paper "examines the role of … facially-expressive and full-body avatars in e-government interfaces. . . . The effect of multimodal metaphors [is] to increase user trust . . . ."

may even become possible to generate such images automatically. If legal texts and images reach a level of standardization that they can be computer-generated and subjected to automated searches and analysis, then initially higher coding costs will be reduced yet further, and accompanied by significantly lowered transmission, retrieval, and de-coding costs.[174] If attractive and easy to use, these digital tools could potentially better engage expert and non-expert users; thus automating the generation of text and visuals could be democratizing rather than dehumanizing.[175] But even if the images become machine-generated, someone must write the programming that pairs particular images with particular needs. How should those decisions be guided? What images should be generated for which circumstances? The choice of effective, efficient, and attractive images to support the intended legal function is illustrated in the following case studies together with the process leading up to their creation.

III. ILLUSTRATIVE CASE STUDIES

The Legal Design framework offered above can work as a prospective process guide for legal design. In this section, we offer two case studies of successful legal design: one in the regulatory/public sphere and one in the private sector. Both case

[174] "An initial objection may be that this would imply a considerable degree of additional work for the person adding the visualization to the text. In this respect, it is worth noting that it is possible to extract normative modalities automatically from a text. A possible approach to automation could use text parsers or software for syntactic text analysis to select sequences of text in legal sources. This automatic analysis yields a normative modality, which could then be visually annotated. Thus, by combining two approaches, automatic text analysis and this article's initial graphical language, it might be possible to create a completely new functionality." *Preface, id.* at 321.

[175] *See* Michael Curtotti, Helena Haapio, & Stefania Passera, *Interdisciplinary Cooperation in Legal Design and Communication, in* Co-operation: Proceedings of the 18th International Legal Informatics Symposium IRIS 2015 458, 460 (Erich Schweighofer et al. eds., 2015), *available at* http://ssrn.com/abstract=2630953 (contrasting the democratizing function of legal design to a "command theory of the law"); *see also* Sherwin, Feigenson & Spiesel, *supra* note 1, at 267-68.

studies are consistent with general principles of PPL[176] and together demonstrate the steps of the design framework: observation of client-environment and needs, clear process goals, effective communication through simplified language and images, strong adaptation to particular, multiple user needs, and a resulting support for the legal function: operative public regulation in the first case or effective private trademark licensing in the second. Together, the case studies reveal how design characteristics such as communication and collaboration, as well as systemic thinking overlap with general principles of PPL.[177]

The Street Vendor Project of the Center for Urban Pedagogy (CUP) particularly illustrates the possibilities for good design that emerge from strong observation and empathy for the user, effective communication, and adaptation to multiple, diverse audiences. The project began life as an advocacy group for the thousands of merchants who sell their ware on New York City sidewalks.[178] The group was founded in 2001 by Sean Basinski, a lawyer and former vendor.[179] Basinski noted that the elaborate New York City Code regulating the vendors was "intimidating and hard to understand by anyone, let alone someone whose first language isn't English."[180] To protect street vendors from unwittingly falling foul of the law—with sometimes devastating consequences of $1,000 fines--the Project collaborated with the Center for Urban

[176] *See supra* note 89--95 (and accompanying text).
[177] *Id.*
[178] *See* Candy Chang, Urban Omnibus: The Culture of Citymaking, http://urbanomnibus.net/2009/05/making-policy-public-vendor-power/ (last visited May 5, 2016).
[179] *Id.*
[180] *Id.*

Pedagogy[181] and Candy Chang, a designer, urban planner and artist. The goal was to produce a visual Street Vendor Guide called "Vendor Power!" that "decodes the rules and regulations for New York's 10,000 street vendors so they can understand their rights, avoid fines, and earn an honest living".[182] Figure 7 illustrates the difference between text ("Before") and visual guidance ("After").

[181] The Center for Urban Pedagogy CUP served as project manager and provided working stipends, research assistance, and direction throughout the process. *Id.*

[182] *See Vendor Power: A Guide to Street Vending in New York City*, CUP STORE (The Center for Urban Pedagogy), http://welcometocup.org/Store?product_id=17 (last visited March 21, 2016); *See also* Candy Chang, *Street Vendor Guide*, CANDY CHANG.COM, http://candychang.com/street-vendor-guide (last visited March 21, 2016).

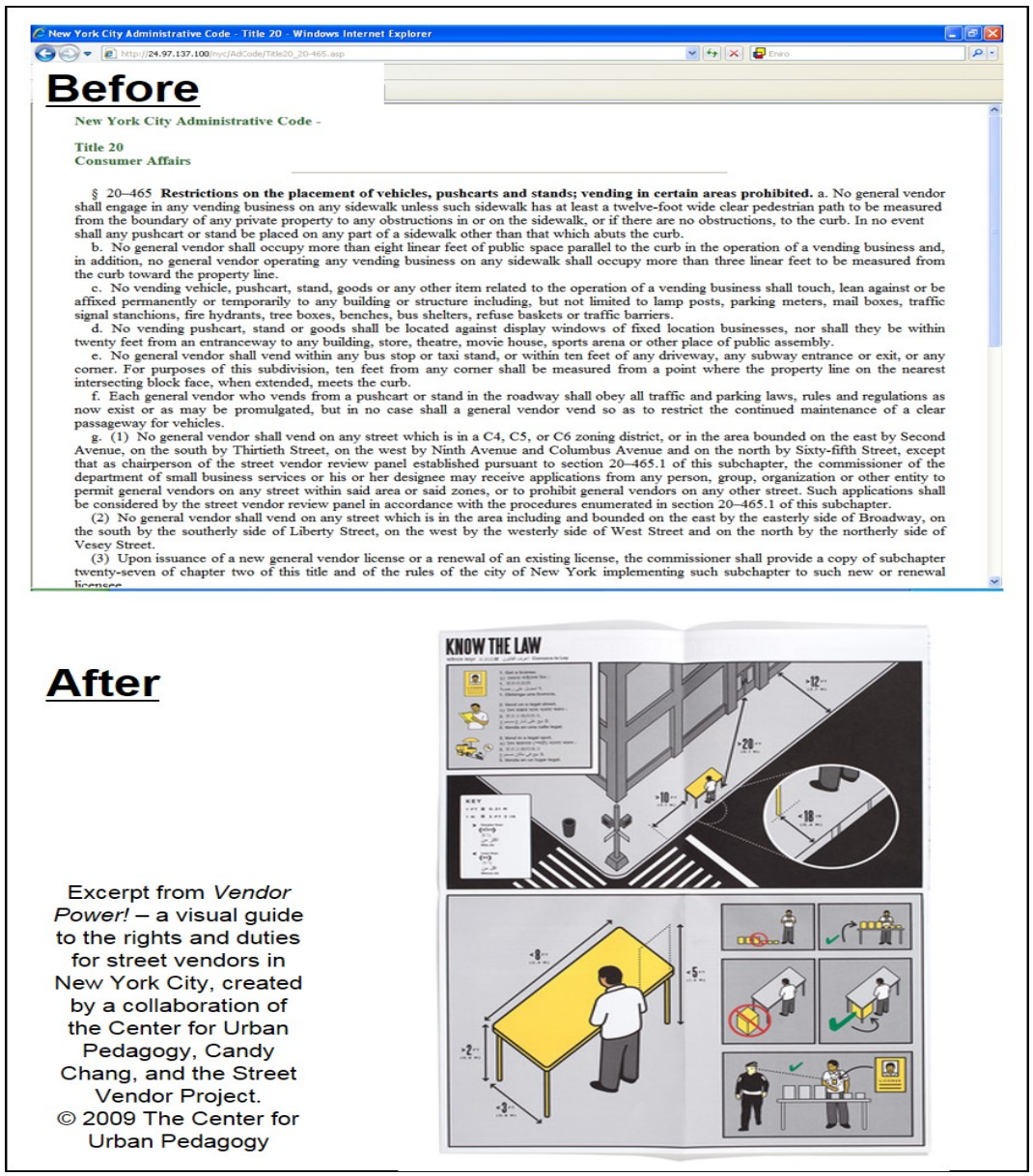

FIGURE 7. Example of Using Design to Communicate Legal Information – City Regulations Before and After.[183]

By what process did the Guide unfold? It began with first-hand knowledge and empathy for the plight of the intended user: the street vendors themselves. As Candy

[183] See *Vendor Power*, *id.* (excerpts from VENDOR POWER, a visual guide to the rights and duties for street vendors in New York City. VENDOR POWER can be purchased or downloaded free from CUP Store) (used with permission).

Chang describes, "While meeting at Sean's office to learn more about vending issues and challenges, he pulled out a box containing heaps of pink tickets they've accumulated from local vendors: The violations are mostly for the physical position of vendors' carts and tables, which must be certain distances from curbs, crosswalks, and building doors. Law enforcement frequently ticket vendors for not 'conspicuously' wearing their vending license and for setting up shop on restricted streets. It's an uphill battle for vendors, whose interests have often been quashed by the City's 'quality of life' crackdowns."[184]

Consistent with our suggested Legal Design framework, the Street Vendor Project then identified a clear goal: "Our goal was to make an educational resource for vendors that clarifies the rules and their rights when confronted by police officers. We also wanted the poster to serve as an advocacy tool that highlights the history of vending, personal vendor stories, and policy reforms to help develop a more just system."[185]

The language and images needed to be simple, and to adapt to multiple audiences, many of whom struggled with English.[186] This was achieved through strong collaboration between designers and users: "We learned more at The Street Vendor Project's monthly meeting where vendors join forces to inform each other about current issues and take an active role in making changes."[187]

The design itself was iterative, with the goals, user needs, and legal functionality feeding back into a gradually evolving set of images. Here again is how Candy Chang described the process: "While learning about the challenges vendors face we started

[184] Chang, *supra* note 178.
[185] *Id.*
[186] "Today over 80% of NYC vendors in lower Manhattan are born outside the U.S., particularly Bangladesh, China, Senegal and Afghanistan." *Id.*
[187] *Id.*

thinking about the content of the poster. How much would be directed towards street vendors as a much-needed resource, and how much would be an educational/advocacy tool about street vendors and regulation reform? How much would be about clarifying the convoluted regulations into clear graphics and how much would be about showing just how convoluted it currently is?[188] The result was a graphic representation of the regulations that not only bolstered user knowledge and compliance, but may well have enhanced formal legal enforcement as well: "[The regulations] not only make it confusing for vendors but for the government too. Sean pointed out several tickets where even the police officers got the rules wrong."[189] Concludes Chang: "Cross-disciplinary collaboration is critical for combining approaches, looking at things differently and developing new solutions."[190]

The Wikipedia Trademark initiative demonstrates how visual images and stronger attention to patterns of communication can strongly facilitate business as well as civic relationships. In the example below, the focus shifts away from strategies employed by the text designer and image creator, and even away from the separate attention to user needs. Instead, this example reveals how parties who are joined together through contracts or the law—transacting partners or citizens and states—can together be served through the imagery in contracts or regulations. Their relationships or joint interests, in other words, can be facilitated through the ability of visualization to promote collaboration as well as clarity; and innovation, creativity, and better problem solving. The potential benefits are not confined to individual pairs of lawyer/client or contracting

[188] *Id.*
[189] *Id.*
[190] *Id.*

partners; better communication can facilitate stronger interactions throughout organizations. Such positive relationships have long been the goal of the PPL approach to lawyering and contracts, and, as illustrated below, are advanced through thoughtful use of visualization techniques. When parties to transactions collaborate, the entire process of communication—coding through de-coding and use of the documents—is not only more efficient, but also helps to generate broadly organizational and relational benefits.

Wikimedia Foundation introduced a trademark policy in 2009. In 2013, their legal team prepared a new draft trademark policy to strike a better balance between the interests of the Wikimedia community and trademark law, and to create a document that better communicates how people can use Wikimedia trademarks.[191] In preparing their new draft document, the legal team relied on information design principles to make the draft user-friendly. Simplicity of language was one factor in enhancing its usability, as were appearance and format. The legal team also tried to organize the document in a logical manner so that users could quickly find provisions relevant to them without having to study the entire document.[192]

However, what makes the Wikimedia trademark policy truly revolutionary is the collaborative method for preparing it. In contrast to the manner in which lawyers typically prepare legal documents, the new draft policy was developed in public, "the Wiki way". The first step was for the legal team to solicit comments on how the policy

[191] *See* Yana Welinder, *Call for input on the new trademark policy*, WIKIMEDIA BLOG (Nov. 18, 2013) *available at* https://blog.wikimedia.org/2013/11/18/call-for-input-on-the-new-trademark-policy/; and Yana Welinder, *10 Days into Developing a Trademark Policy Through a Public Discussion*, WEBLOGS AT HARVARD LAW SCHOOL (Nov. 30, 2013), *available at* http://blogs.law.harvard.edu/yana/?p=174; Yana Welinder & Heather Walls, *Designing a user-friendly trademark policy for some of the world's most recognizable marks,* WIKIMEDIA (Oct. 29, 2013), *available at* https://blog.wikimedia.org/2013/10/29/designing-a-user-friendly-trademark-policy/.
[192] Welinder, *Call for input, id*.

should be revised and then prepare a draft based upon that feedback. They teamed up with legal information researchers and practitioners to organize two workshops, Legal Design Jams,[193] to brainstorm about how to make the policy more user-friendly using colors, visuals and other information design methods.[194] The Legal Design Jams at Stanford and in San Francisco brought together professionals and students with law, design, computer science, and policy backgrounds to collaborate and learn together. Figure 10 displays an excerpt from their work, a visualized summary of the new draft trademark policy, asking the core question "May I use the Wikimedia marks?" and grouping the answers under traffic light colors: green for "Yes, please!" (use does not require permission); yellow for "Yes, but first…" (permission must be sought); and red for "Sorry, no" (uses that are prohibited).

[193] The idea of Legal Design Jams – a concept coined by Stefania Passera – is borrowed from 'hackathons' and 'service jams'. A Legal Design Jam brings together people from different fields to "give an extreme user-centric makeover to a legal document […] to engage people to rethink and innovate the very concept of what a legal document should be, look and feel." *See* LEGAL DESIGN JAM, http://legaldesignjam.com (last visited Nov. 15, 2015); *See also* Haapio, *supra* note 2 at 451–8; Helena Haapio & Stefania Passera, *Visual Law: What Lawyers Need to Learn From Information Designers*, LEGAL INFORMATION INSTITUTE (May 15, 2013), *available at* http://blog.law.cornell.edu/voxpop/2013/05/15/visual-law-what-lawyers-need-to-learn-from-information-designers/; Margaret Hagan, *5 insights from a legal design jam*, THE WHITEBOARD (Oct. 25, 2013), *available at* http://dschool.stanford.edu/fellowships/2013/10/25/5-insights-from-a-legal-design-jam/.

[194] *See* Welinder, *Call for input, supra* note 191; Welinder & Walls, *supra* note 191.

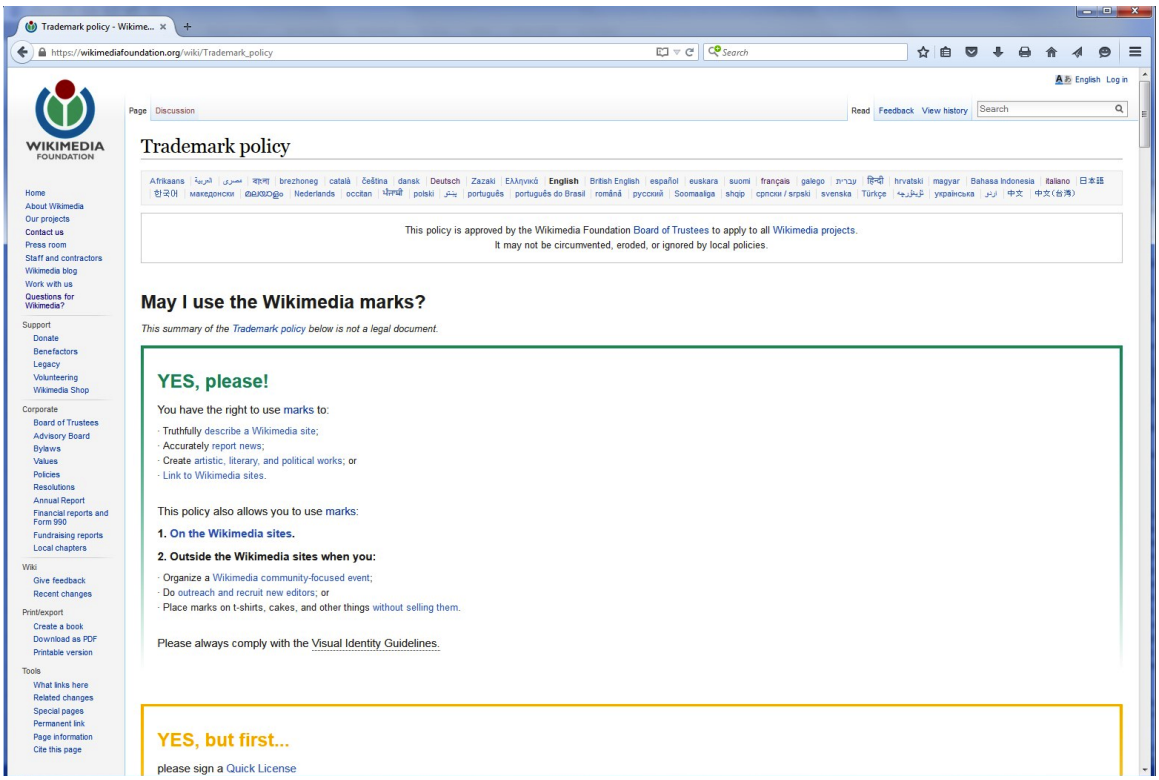

FIGURE 10. Excerpt from Wikimedia Trademark Policy.[195]

Next, the draft was posted on Wikimedia Meta-Wiki for feedback from the Wikimedia community across the world. The initial comments suggest that people like the new design and find the document approachable and easy to read. According to Yana Welinder, one of Wikimedia Foundation's legal counsel, the design and readability of the draft also improved the material discussion of the draft: people could get a better overview and understand the legal terms, so they could become involved in the discussion and comment on the substance of the terms. It helped them propose revisions or point out scenarios that were not yet addressed by the draft.[196] This and the Street

[195] Used with permission. Wikimedia Foundation, CC BY-SA 3.0 (creativecommons.org/licenses/by-sa/3.0), original *available at* https://wikimediafoundation.org/wiki/Trademark_policy (last visited May 5, 2016).
[196] *See* Welinder, *Call for input, supra* note 191.

Vendor Project example above underscore the value of the collaborative design process for legal communication and problem solving.

CONCLUSION

"Legal Design" is a natural progression from recent efforts to incorporate visualization into legal texts. The interdisciplinary work needed to enhance the clarity and usefulness of documents through images has brought together lawyers, managers, subject-matter experts, end-users and designers. Through that cooperation, a stronger appreciation of design principles may emerge—ideas that stress reflection and experimentation on the processes of creating legal visualization, as well as a concern for the end product. Such partnerships in legal design may, as suggested in this Article, promote stronger collaboration and communication, creativity and innovation, and perhaps paradoxically enhance the use of traditional legal analysis even as it helps to solve problems more effectively.

The investment in better, stronger Legal Design thus seems prudent. Even where it may require start-up expenses in coordinating designer work with legal professionals and business managers, that communication in itself may help to identify goals, smooth implementation, and prevent problems—all aims that have long been espoused by PPL. On many dimensions, further research into the development of Legal Design will promote positive outcomes and better business relationships.