

# Lean Lawyering

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# A Change in Perspective

**A client calls his or her law firm** for assistance in making an investment. The call commences a process involving the efforts of three law firm partners, five associates, and three paralegals. These efforts require the additional support of legal secretaries, the escrow manager in accounting, and others. In doing their work, the law firm personnel employ forms, procedures, memoranda of law, and other knowledge assets. They also use computers and other machines that house and distribute these assets. The investment is successfully closed. The law firm issues a large bill.

By what discipline can one describe, evaluate, and improve the law firm's skill in the use of these many resources – human, information, and physical – in the performance of this work?

Although newly motivated to increase productivity, the legal industry lacks experience with methods to do so. For many years, most lawyers have billed by the hour, which has left few natural incentives to conceive or deploy operational improvements. Yet, short of reducing their own incomes, the only way lawyers can maintain or improve the quality and timeliness of their work while minimizing the price charged their clients is to make operational improvements in how their work is done. Doing so requires analytical methods by which their work can be described, evaluated, and improved.

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Many tools and practices affect the speed, quality, and cost of legal work. Computerized legal research, document assembly, and document management systems are among these tools. Resource scheduling and

project budgeting are among the practices. While increasingly open to these and other modern tools and practices, the legal industry has no comprehensive approach to describe its work or to set the relations among these tools and practices. It is difficult to improve one's work without the vocabulary to describe it in process terms.

# Law Practice Operations

**“Operations management”** is the discipline by which businesses describe, evaluate, and improve what they do. With slight extension, many operations disciplines developed elsewhere apply well to knowledge work, including legal work. Operations management commands a rich vocabulary and wealthy body of knowledge about processes generally and further includes specialized disciplines such as Lean, project management, Six Sigma, and the Theory of Constraints. Of these four, only project management has made much appearance in the legal industry.<sup>1</sup> By applying traditional operations management principles to the practice of law, the legal industry can stand atop over one hundred years of formal development. This application is easily described as “Law Practice Operations.”

Of the disciplines available to Law Practice Operations, Lean has immediate interest. Toyota first developed the principles of Lean to improve the production of vehicles. Lean is now routinely applied in manufacturing and service industries globally. Lean provides methods to describe, evaluate, and improve any productive process.

In a broad sense, Lean is a philosophy of continuous improvement accomplished through specific methods to identify and reduce “waste.” “Waste” is a technical concept that includes any unnecessary activity. When waste is removed from processes, they become faster, more reliable, and less expensive. These improved processes further Lean's goals of producing what a customer wants, when the customer wants it, at the

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<sup>1</sup> Project management mainly addresses, at a relatively high level, “who will do what when at what price.” The question of *how* tasks are done, or process improvement, is more directly served by other operations principles.

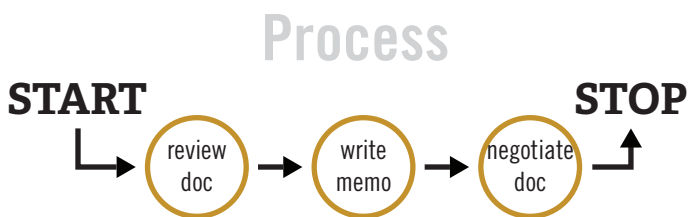
lowest possible cost (cost being internal to the provider; the customer pays *price*). Learning the methods of Lean to perceive processes and evaluate waste is called “learning to see.”

Lean delivers a comprehensive analytical toolbox. These tools include a highly-developed notion of continuous improvement (“*kaizen*”), a method of mapping processes (“value-stream mapping”), and routines for the error-proofing of processes (“*poka-yoke*”). The tools are valuable in their own right, but at some level they all work to reduce “waste” (also known as “*muda*”). An understanding of “waste” is therefore foundational to the application of Lean, as the main operational goal of Lean is to *eliminate waste*.

There is no “official” definition of waste. Without background in Lean, some definitions of waste may be unsatisfying to lawyers, accustomed as they are to precise uses of language.<sup>2</sup> However phrased, we find that definitions of waste address systems along the two separate dimensions of process and operations.<sup>3</sup>

## Working Lean

**First, Lean constrains** how much work a system is to accomplish, through what we call the “Process Test” for waste. To apply the Process Test, we regard the legal matter as made up of one or more strings of activities (review document, write memorandum, negotiate document, etc.).



<sup>2</sup> We will present a more technical and complete treatment of Lean in our monograph in process, “Reducing Waste in Law Practice Operations.”

<sup>3</sup> Shigeo Shingo, one of the founders of Lean, first described production as process executed through operations.

If this process includes activities that a fully-informed client would not wish to pay for, these excess activities are waste and should be eliminated. The Process Test concerns the work to be done by the system, not *how* the work is to be done (“how” being the second dimension, addressed under the separate “Operations Test”). A pragmatic use of this what/how distinction involves the reduction of the work that is to be done (improve process) before improving how the work is to be done (improving operations). One would not want to invest in perfecting a document only to discover that the document could be omitted entirely from the legal workflow. The goal of the Process Test is to *eliminate unnecessary work*. To apply the Process Test, we ask, “*Is this work truly necessary?*”

▶ **The investment is in** a retail business with 100 real property leases. Diligence must be done to assess the leases, which could require a full reading of each lease. But the work might be further refined in its quantitative and qualitative scope. As to quantitative scope, the review might exclude leases with less than six months remaining on locations that the company does not intend to continue. As to qualitative scope, the review might limit the review of each lease to ten criteria, rather than the review of every word of every lease; leases raising issues based upon these criteria could be reviewed in more detail. If these reduced quantitative and qualitative specifications of the work to be done are acceptable to the client, it would then be waste to perform a full review of every lease.<sup>4</sup>

Second, Lean constrains *how work is to be performed*, through what we call the “Operations Test” for waste. To apply the Operations Test, we consider the manner in which the work is to be accomplished.<sup>5</sup> We then reduce the resources expended in doing the work to the fullest feasible extent. This may sound trivial in abbreviation, but Lean provides a comprehensive method to analyze the ways that productive systems

<sup>4</sup> Adjusting the scope of work to the values of the client is also undertaken in project management. If a firm routinely performs a task, the scoping options are developed as part of normal operations (not project management) and then offered to clients when scoping work, just as a restaurant determines its menu offerings as part of its core business and then offers them to you as a customer to tailor your order.

expend resources and by which they can be improved. The goal of the Operations Test is to *do the necessary work in the best way*. To apply the Operations Test, we ask, “*Is there a better way?*”

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► “We are going on a train to Chicago for a client meeting.” [Apply the Process Test – Is this work truly necessary?]

“Do we really need to go to Chicago? Would a conference call or videoconference do?”

“No, this meeting is to discuss our client’s new investment. The client also has some new personnel to introduce to us. We must go to Chicago.” [Now apply the Operations Test – is there a better way to accomplish this?]

“OK. Maybe we should take a plane rather than a train. Southwest has a new flight that’s really cheap and we would have less travel time.”

“You’re right, that flight would be a better way for us to go to Chicago.”

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Lean’s general concept of waste takes form through its division into specific waste types. Each type of waste directs our attention to a different characteristic of a system, and it is through these types that we best learn to “see” process and waste.

Originally, Lean recognized seven types of waste. Some of the types implement the Process Test (wastes of transportation and excess processing), some the Operations Test for individual events (wastes of excess motion of workers, waiting, and defects), and some the Operations Test with a view toward the coordination of activities, or “flow” (wastes of excess inventory in process and excess finished goods). When they are taken in their essence, all but one of these waste types are directly relevant to knowledge work.<sup>6</sup> We have stipulated another waste type, that of “excess thought” (analogous to excess

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<sup>5</sup> For example, the process to make a part may be cut – weld – grind. Each of these processing events is then accomplished through operations (for example, cutting may be accomplished with a saw, laser, cutting wheel, or some other method).

physical motion), as necessary to apply Lean to knowledge work. An understanding of these types is necessary to apply Lean effectively.

Consideration of all waste types is beyond our present scope. But as examples of their uses, we will consider the wastes of excess motion, excess thought, and excess inventory.

## The Waste of Excess Motion

**If a worker moves** more than is necessary to perform a task, we find waste. In industry, motion includes reaching for a part, pressing a lever, walking to feed a machine, and other finely-studied activities. Human motion is reduced by the transfer of work to machines, by changing the procedure for a worker’s task, and by changing the physical design of the worker’s environment.



Methods for reducing the motion of workers are highly refined in industry and apply a sophisticated understanding of ergonomics. A healthy, non-fatigued worker is a productive worker. The main economic reason for reducing excess motion is that by reducing motion, we reduce the time necessary to perform a task. By reducing this time, called “cycle time” in operations management, we reduce cost (there being an assumed direct relation between time of worker activity and the cost of production). The reduction of cycle time is a major goal of Lean and of operations management generally.

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<sup>6</sup> The waste of excess finished goods holds that production should not exceed demand. A service business does not stockpile inventory and has no analog to finished goods in this sense.

Much motion has already been removed from the lawyer's workday. Thirty years ago, legal research required a trip to the library, sorties among its shelves, and thumbing the pages of books. In a form of speedy conveyor, computer networks now deliver that content digitally to the lawyer's monitor. The resulting reduction of cycle time for legal research is now taken for granted, but has been important as a partial offset to increases in hourly rates.

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Lawyers still physically move to accomplish other ordinary tasks, and the organization of the lawyer's working space, file space, and office equipment remains important and can often be improved. For example, a walk to the printer may be excess motion when a desktop printer costs \$200. Even the fine physical movements of operating a computer may include the waste of physical motion. Functions on the computer screen should be grouped to minimize eye movement and the distances necessary for the cursor to travel. Software programs should minimize keyboard input by having lists from which predictable answers may be selected with a single click or keystroke. These fine motions, especially since repetitive, take time and are fatiguing.

To "see" the waste of excess motion, we therefore observe the lawyer in the workplace, note every time the lawyer moves, and consider whether that motion can be eliminated.

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► **In performing diligence**, each lease is posted to the firm's document management system before the lawyer reviews it on a screen. The completion of seven data fields (such as client, matter, and document type) is required. Only one field changes from one lease to the next. To avoid repetitious entry, we invoke a feature called "repeat last," which populates the seven fields automatically with their previous values, reducing new entry to a single field. The

motion required for anyone to store a document has been reduced. This simpler task is also more likely to be done by the lawyer without a "handoff" to an assistant (handoffs are opportunities for error and interrupt the flow of work).

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## The Waste of Excess Thought

**When lawyers perform** logical work, they may make no perceptible motion, but logical work consumes resources just as physical work does. This consumption might be more than is necessary. So we have created a new waste, that of "excess thought," analogous to that of excess motion but addressing unnecessary logical work instead. A goal of Lean, then, is to reduce the waste of "excess thought." Just as physical human ergonomics are important in reducing excess motion, human cognitive factors (such as memory) govern much of how we engineer tasks to require less thought.



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We reduce the thought required in legal work by automating tasks where possible and by assisting the lawyer with knowledge tools to help do that which cannot presently be automated.

The *automation* of knowledge work to reduce the amount of thought required for a task is easily represented by TurboTax®. The software asks questions that are phrased using vocabulary within the reach of most adults. These inputs are applied to a complex set of rules that the user does not need to understand. The output is a compliant tax return.

The legal industry has lagged behind in automating processes. Most other industries, including knowledge industries such as accounting and architecture, have

eagerly automated processes that (i) consist of sequences of events that can be predicted with reasonable certainty, and (ii) occur frequently enough so that it's worthwhile to elicit, render, and automate the process. Legal work often fails both these tests. Legal tasks are based upon rules stated in natural language rather than those of mathematics or physics, so they are inherently uncertain and difficult to render in a procedure. Legal issues also often turn on a large number of different factors, so that, even if not ambiguous, their logical routes may spider-web in complexity. Given these constraints, few legal providers presently perform tasks in sufficient volume to warrant the capital investment necessary for complete automation; certainly, no single law firm performs any task remotely in the volume with which consumers use TurboTax®.

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In applying automation to reduce excess thought in the performance of legal work, we must think small. If it is not feasible to automate an entire legal process, we can find smaller process fragments that can be automated to reduce the thought required in legal work.

► **The investment calls for** a Stock Purchase Agreement. The law firm has drafted many of these, and it created a document production system that asks ten substantive questions with two options each and produces a rough draft of an agreement. The rough draft must still be conformed to the transaction, but it is error-free, perfectly formatted, thorough, and internally consistent. Even this simple system can produce 1,024 different versions of a draft document. But the task of producing an initial draft has been automated and the necessary human thought reduced.

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Yet many legal tasks cannot be economically rendered even as process fragments. To reduce the human thought necessary to accomplish these tasks, we can *assist* the lawyer by providing handy reference tools. These tools may take the form of sample documents, checklists, collections of cases and articles, and internal shelf memoranda. These resources reduce the thought necessary to perform a task and also yield other operational benefits. The better the tools support the lawyer, the less specialized the lawyer must be to perform a task. With this reduced need for specialization, more lawyers on staff are eligible to perform a given task. When more lawyers are thus eligible, they provide a larger pool of resources that serves as a buffer by which the firm manages the variability of work demand. Effective management of variable work demand is a primary management task of the law firm or law department. Operations science has a well-developed vocabulary for these issues, underutilized so far in the management of law practices.

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► **The investment raises** a complex tax issue. A tax lawyer begins his analysis by going to a resource site on the firm's Intranet that has a collection of law review articles, cases annotated by previous lawyers, checklists, and a list of lawyers in the firm who have analyzed this issue in other matters. This resource reduces the thought required for him to resolve the matter. It may also take him directly to someone who can answer a question without any research.

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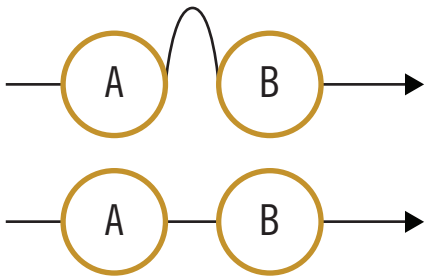
The operational strategies of “automation” and “assistance” have an important relationship. Certainly, automation “assists” the lawyer in a general sense. But automation does so by actually *executing* some of the logical work of a task. By “assistance,” we mean only that reference content is made available to the lawyer, which is short of process automation. Of course, the delivery of this content may itself be automated, so that the system perceives the context of the lawyer's work and presents supportive content without being asked.

## The Waste of Excess Inventory

**No introductory discussion** of Lean can

omit a discussion of the concept of “just-in-time” production. The notion of “just-in-time” or “stockless” production is the most popularly known feature of Lean, and is Lean’s most distinguishing concept among operations disciplines.

The point of “just-in-time” production – to eliminate the waste of excess inventory in process – is best considered in contrast to the alternative. Just-in-time production is the opposite of batch production. In batch production, inventory is processed in large lots. Each station processes a batch of inventory and then sends the batch downstream. At each station there is a full or partial batch of (1) work in process from the upstream station awaiting processing, (2) any new materials received from outside the plant for use in that station’s operations, and (3) processed work waiting for the remainder of the batch to be completed for transportation to the next downstream station. This accumulation of inventory between stations can cumulatively mean that the plant is housing an enormous amount of unfinished inventory.



Lean seeks to reduce the batch size (ultimately to a batch of one), thus reducing the cumulative inventory retained in the plant. When a Lean “flow” process replaces a batch process, inventory proceeds in a steady stream one unit at a time; a batch plant completing a lot of ten units each hour is converted to a Lean plant completing one unit every six minutes. In effect, inventory buffers are replaced with a high capacity for fast production. The resulting system has more flexibility to produce precisely to market demand; defects occur in individual units rather than in batches; and no inventory is acquired, stored, financed, insured, accounted for, or otherwise dealt with except what is “pulled” through the plant and out the door by market demand.

Inventory must arrive “in time” to be used at a station on schedule, but the main point of “just-in-time” production is that inventory should arrive when needed, *but not before*. Hence it arrives “*just* in time.”<sup>7</sup>

Knowledge work does not produce inventory in the way of goods production, so the concept of excess work in process does not apply in the same way to knowledge work.<sup>8</sup> The general concept of “just-in-time” still relates to knowledge work in important ways, however. One useful application addresses the main operational issue in Law Practice Operations, which is the management of capacity to perform work that is quantitatively and qualitatively variable.

Operationally, a lawyer is a work station at which information about a matter is gathered and then processed through his or her knowledge to produce a legal conclusion, the determination of a “next step,” a written document, or any other output. The lawyer’s capacity to do this work determines how long it takes; if the lawyer must look up an issue or seek assistance from another lawyer, the cycle time of the task is longer than if the lawyer already knows the law and other information necessary for the task. Firm or departmental capacity is therefore mostly a function of the individual capacity of the lawyers. In turn, the individual capacity of each lawyer is a function of the lawyer’s skill and the tools available to assist in the work.

## Capacity = Skill x Tools

A lawyer of average skill who is supported by a system of tools that automate tasks or otherwise assist the lawyer can have an above-average capacity for the work. This capacity may be greater than that of a better-skilled lawyer who has less effective tools.

Forms, checklists, and other tools that deliver targeted content to the lawyer store knowledge until it is

<sup>7</sup> In the diagram, the top figure represents inventory accumulated between stations, and the bottom represents “flow” such that inventory moves from one station to the next without accumulation.

<sup>8</sup> Unfinished legal work is work in process for the law firm. It has different operational characteristics than inventory.

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needed. These tools store knowledge in ways more durable than and less expensive than storage in human brains. This knowledge is made available in time, but does not clutter the minds of the lawyers *before* it is needed; again, it is delivered *just* in time. These resources reduce the required skill of the lawyer, which reduces cost and provides a larger pool of qualified lawyers among whom work can be assigned when demand is high. This flexible capacity serves as a buffer against the variability of demand.

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► **“We have three** employment agreements to review tonight. The employment lawyers are all at a retreat. Good thing they created the employment contract wizard that calls for a check-off of the top twenty employment contract issues and offers advice for each. Grab someone from the corporate department and have them run the traps. That system makes us all experts.”

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## Lean Lawyering

**The practice of law** involves both art and science. The turn of a phrase that sways a jury or the intuition that wins a negotiation require emotional intelligence of the highest sort, combined with substantive knowledge of the rules of the law. There is no technology or management discipline that can replace lawyers in these matters of judgment. But there are technologies and disciplines that can support them, once we really think about how lawyers do what they do.

The scientific management of law practice has a

long way to go. It requires viewing law practice as a process, which is neither welcome nor intuitive for many lawyers. Most clients, on the other hand, and particularly larger ones, have long run their businesses guided by operations principles. This article is but an introduction to a few of those principles as applied to legal work. These operations disciplines provide solid foundations to describe, evaluate, and improve the ways in which legal work is done. Law Practice Operations applies the most relevant parts of operations disciplines to law practice.

Lean is a powerful operations discipline. Eliminating waste not only to reduce cost, but to also increase the timeliness and quality of work. As with any discipline, it takes investment to appreciate and apply Lean effectively. Some Lean concepts that readily apply to legal work are to **(i) eliminate** unnecessary work from the work process, **(ii) automate** the execution of the work process where feasible, and **(iii) assist** lawyers in performing those legal tasks not suited for automation, by delivering supportive content to those lawyers *just* in time.

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- **(i) eliminate**
  - (ii) automate**
  - (iii) assist**
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To apply Lean in law practice, lawyers must “learn to see” the visible and invisible processes by which they do their work. The resulting change in perspective changes management decisions. Confronted with an increase in volume of a particular type of work, most lawyers would say “add personnel.” To the Lean Lawyer, however, adding resources to increase capacity is a last resort; one should first exploit the full capacity of the present system by reducing waste. The Lean Lawyer does not first think “add personnel,” but rather “reduce cycle time.”



## About the Authors

**John E. Murdock III** is a partner in the Nashville office of Bradley Arant Boult Cummings LLP, a Southeast regional law firm. John received his undergraduate degree *magna cum laude* from Vanderbilt University and his J.D. from the Vanderbilt School of Law, where he was a member of the Order of the Coif. His law practice includes debt and equity capital transactions and commercial law. A frequent speaker, John is listed in Chambers for his banking and finance practice and is Best Lawyers' 2012 Lawyer of the Year for Nashville in banking and finance. John has for many years applied and sought to explain the importance of technology and process disciplines in law practice.

**Nancy Lea Hyer** is Associate Professor of Operations Management at Vanderbilt's Owen Graduate School of Management where she teaches courses in process improvement and project management. Nancy received her undergraduate degree *summa cum laude* from University of Richmond and her MBA and Ph.D. from Indiana University. Her research has appeared in *Harvard Business Review*, *Sloan Management Review*, *California Management Review*, *Journal of Operations Management* and a number of other professional and scholarly journals. She is the co-author of two books, one of which was awarded the 2003 Shingo Prize for Excellence in Manufacturing Research.

The authors have been collaborating since 2007 to apply operations principles to knowledge work, including the practice of law.

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