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Innovation Diffusion in the Legal Industry

William D. Henderson
Indiana University, Maurer School of Law

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Innovation Diffusion in the Legal Industry

William D. Henderson*

ABSTRACT

This article is adapted from a series of blog posts originally found in my recently-started blog entitled *Legal Evolution*. The foundational material set forth in this article (and in those blog posts) applies to the legal services market insights gained from disciplines other than law. This article begins by setting forth the well-established theory of an “innovation diffusion curve” and the research that has identified the factors that affect the rate of adoption of innovations. This article identifies why innovation in the legal services market is desirable and applies to the legal services field insights drawn from this research in other fields. In the course of presenting these theories, the article explains why and how research about things such as the speed of adoption of hybrid corn seed is directly relevant to lawyers and law firms. It also identifies factors that can promote innovation within a law firm and factors that can inhibit innovation within a law firm, including the challenges that firms face because factors that promote the initial stage of innovation may later hamper its widespread implementation. In addition to the discussion of the applicability of the innovation diffusion curve to the legal services market, this article discusses the relevance of work that has been done outside of law to identify when an innovation is likely to “cross the chasm” between early adopters and an early majority and the relevance of Gartner’s work about the impact and stages of “hype.” This article also explains the crucial role that communication channels, such as the *Legal Evolution* blog, can play in fostering innovation within the legal services market and explains how the foundational understanding set forth in this article can help promote legal services innovation and can help one understand the reasons for the successes—and failures—of legal services innovation.

* Professor and Stephen F. Burns Chair on the Legal Profession, Indiana University Maurer School of Law.

Although the content of this article originally was published in the foundational posts of the *Legal Evolution* blog, publication of this article means that my presentation of research from other fields and the conclusions I draw from that research can reach those who prefer a more traditional method of transmission. I thank the editors of Penn State's *Dickinson Law Review* for recognizing the importance of these issues and for agreeing to publish this article which does not fit the traditional heavily-footnoted law review format.

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I. WHAT IS LEGAL EVOLUTION?

Legal Evolution is two things. First, it curates successful examples of innovation within the legal industry, often relying on a simple narrative format. This is because examples and stories tend to be the most effective way to understand and communicate inherently complex material.

Second, Legal Evolution is an experiment in applied research. Yes, this sounds hopelessly academic, so let me break it down.

A. *An Experiment*

Legal Evolution is an *experiment* because I am trying to create a new medium for distributing serious research. Although many law professors blog in addition to publishing articles in academic journals (I have long been in this group), for the near future and hopefully beyond, Legal Evolution will be my primary focus as a law professor at a Research I university.¹ When I submit my annual

1. Research I university was a category that the Carnegie Classification of Institutions of Higher Education previously used to indicate universities in the United States that engage in extensive research activity. See DAVID J. WEERTS, STATE GOVERNMENTS AND RESEARCH UNIVERSITIES: A FRAMEWORK FOR A RE-NEWED PARTNERSHIP 26 (2002).

report to my dean at Maurer School of Law, I'll be hanging my hat almost entirely on Legal Evolution.

B. In Applied Research

Legal Evolution focuses on *applied* research, which tends to exist in only specific units of a university. Consider the following definition from the Lawrence Berkeley Lab at UC Berkeley, a government-financed applied research lab:

Basic (aka *fundamental* or *pure*) research is driven by a scientist's curiosity or interest in a scientific question. The main motivation is to expand man's knowledge, not to create or invent something.

Applied research is designed to solve *practical problems* of the modern world, rather than to acquire knowledge for knowledge's sake. One might say that the goal of the applied scientist is to *improve the human condition*.²

Examples of applied research include rural sociology (increasing agricultural production), industrial/organizational psychology (improving worker productivity), and public health (reducing and preventing disease).

C. What's the Practical Problem that Legal Evolution Is Designed to Solve?

The practical problem that Legal Evolution addresses is lagging legal productivity. This is a serious problem because it means that solving legal problems is becoming, in a relative sense, more expensive over time. In the individual client market, more citizens go without access to legal services. In the corporate market, clients cope with budget constraints by demanding fee discounts from law firms, which undercuts the incentive to create better systems and processes.

Although lagging legal productivity has a large negative impact on both individual and corporate clients (the two hemispheres of law practice)³, the negative effects extend to recent law graduates. As demand for legal services continues to stagnate, the remaining work goes disproportionately to older lawyers. This is because their

2. Fred Prochaska, *Basic vs. Applied Research (from Lawrence Berkely National Laboratory)*, SAN JOSE STATE UNIV., <http://www.sjsu.edu/people/fred.prochaska/courses/ScWk170/s0/Basic-vs.-Applied-Research.pdf> (last visited Nov. 26, 2017).

3. See JOHN P. HEINZ & EDWARD O. LAUMANN, *CHICAGO LAWYERS: THE SOCIAL STRUCTURE OF THE BAR* 37, 127–28 (rev. ed. 1994) (introducing and explaining the two hemispheres).

training and experience makes them more productive, at least for doing “bespoke” work by the hour.⁴ Law schools better connected with innovations that improve legal productivity will produce graduates with brighter employment prospects. The current challenge for virtually every lawyer and professor is knowing where to start.

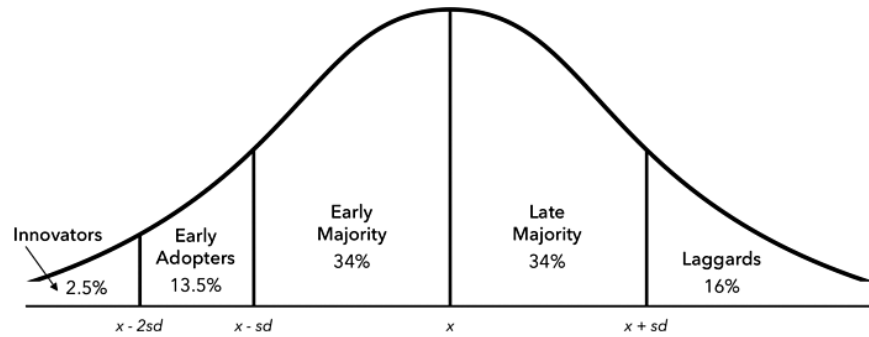
D. Can We Accelerate the Adoption of Productivity-Enhancing Innovations?

Legal Evolution is grounded in diffusion theory. One of diffusion theory’s cornerstone principles is that innovations diffuse faster when potential adopters have clear examples of how the innovation is working for others, particularly those in their peer group. These types of examples of solutions are important because their existence enables legal industry stakeholders to make more significant investments of time and money. In the legal field in particular, examples of already existing solutions serve as a necessary counterweight to lawyers’ natural skepticism.

The mission of Legal Evolution is not to create new solutions, but to find examples of what is working and share them with readers. The core hypothesis is whether well-drawn, specific examples of successful innovations are useful to those in the legal ecosystem trying to develop and implement solutions to similar technical problems.

II. WHAT IS THE ROGERS DIFFUSION CURVE?

FIGURE 1



Relationship between types of adopters classified by innovativeness and their location on the adoption curve.

SOURCE: Everett M. Rogers, *Diffusions of Innovations*, 5th ed. (New York: Free Press, 2003), p. 281.

4. See generally RICHARD SUSSKIND, *THE END OF LAWYERS?* (2008) (introducing framework where legal work moves from bespoke to standardized to systematized to productized to commoditized).

The purpose of this Section is to introduce readers to the Rogers Diffusion Curve. The Rogers Diffusion Curve was created by the eminent sociologist Everett Rogers. It was first published in his book *Diffusions of Innovations*,⁵ one of the most widely cited works in all of the social sciences.

A. The Core Insight of the Rogers Diffusion Curve

Rogers's core insight—one that is absolutely foundational for readers—is that the diffusion of innovation is a *process* that occurs through a *social system*. As shown in the figure above, the social system has five “adopter” segments that fit a normal distribution. The segments move from left to right over time in order of adoption: (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards.

The groups move in this progression because each group has attributes that make it more (or less) open to change. Obviously, innovators are the most open, and laggards are the least. With the exception of the innovators, each group adopts an innovation by observing experiences of the adjacent reference group. As favorable observations and testimonials accumulate, adoption spreads through the entire social system.

B. Innovators and Early Adopters

Within a social system, the relationship between innovators and early adopters is different from any other adjacent pairing. This is because innovators tend to be substantially outside the mainstream. They are drawn to ideas based on intellectual curiosity and passion for what is possible. As such, they have the patience and stamina for extensive trial and error and experimentation (think Thomas Edison).

Innovators are a natural affinity with early adopters because the latter have intellectual curiosity and patience. Yet unlike innovators, early adopters tend to have significant influence within the social system. Their motive is not necessarily to touch off the widespread adoption of an innovation. Rather, they want a competitive advantage over their peers or, alternatively, to maintain leadership status. In a word, early adopters tend to be ambitious.

5. See EVERETT M. ROGERS, *DIFFUSIONS OF INNOVATIONS* 281 (5th ed. 2003).

The special relationship between innovators and early adopters is reflected in the Legal Evolution logo. These two groups make up the light gray portion of the bell curve. This is a population more than one standard deviation from the mean in terms of willingness to adopt a new idea or innovation. When this group (roughly one sixth) meets with relative success, the rest of the social system eventually follows. (By the way, by virtue of finding and reading this article, there is a very high probability that you are either an innovator, an early adopter, or a very curious member of the early majority).



C. *Does the Rogers Diffusion Curve Apply to Lawyers?*

Legal Evolution is directed at a specific social system: those entering or working within the legal industry. This raises a threshold question likely of interest to readers: Does the Rogers Diffusion Curve apply to lawyers and the broader legal industry?

I am confident that the answer to this question is yes. Further, I believe that knowledge of diffusion theory has enormous practical value to anyone who is seeking to understand and adapt to the sea change that is now occurring in the legal services market.⁶

Note that if diffusion theory applies to lawyers, we are confronted with a difficult takeaway: for roughly five sixths of the legal market, the adoption of new innovations is more a social process of imitation than a mental process of analytical reasoning. This means that the vast majority of lawyers (or law students or law professors) won't change until they see others successfully change first. Adoption decisions are more than rational, explicitly stated risk calculations; they are also strongly influenced by the often-unstated desire to fit in or, alternatively, the fear of being left behind.

D. *The Evidence*

Part of my confidence in the Rogers theory of diffusion is the breadth, quality, and volume of Rogers's supporting data. Rogers

6. See *supra* Section I (explaining structure and intent of Legal Evolution).

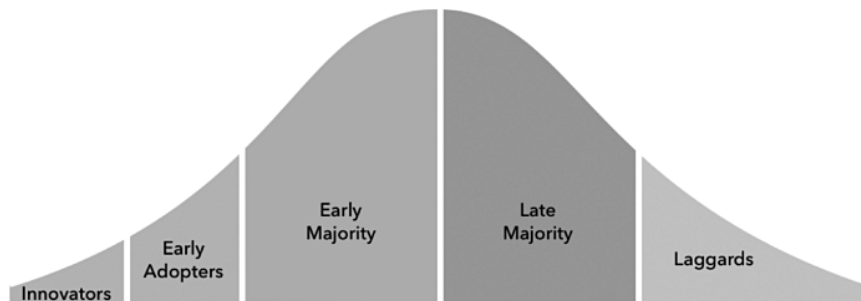
published the first edition of his book, *Diffusion of Evolution*, in 1962 and spent much of the next four decades updating subsequent editions with ever richer examples drawn from a diverse array of geographies, time periods, cultures, and fields of study. His examples included public health, technology, education, military, marketing, politics, etc.).

Although *Diffusion of Innovations* is very thorough and persuasive, my confidence in diffusion theory is also borne of personal experience. For six years, I was part of a team that built and sold data analytics products and services to lawyers. This was my time at Lawyer Metrics (now owned by AccessLex Institute).⁷ As I grappled with the lengthy sales cycle, I often compared notes with fellow legal start-up travelers. In most cases, our experiences were eerily similar; and to the extent they were different, the differences could be explained through diffusion theory. Yet, most significantly, the application of diffusion theory provided powerful guidance on where and how to allocate our limited bandwidth.

I hope readers come to appreciate the power of diffusion theory and its application to law. Those who fully grasp these lessons can do both good and well.

III. UNITS OF ANALYSIS AND ADOPTER TYPES

FIGURE 3



The purpose of this section of the article is to explain diffusion theory well enough so that readers can apply it to the legal context.

Part I of this section covers units of analysis. Part II presents composite sketches of the five adopter types. Before getting to these new topics, however, let's briefly review the foundational points in the prior section.

7. Learn more about Lawyer Metrics at www.lawyermetrix.net, and AccessLex Institute at www.accesslex.org.

A. *Law is a Social System*

The previous section introduced readers to the key insight that innovation diffuses through a social system. The social system has five segments: (1) innovators (~2.5 percent), (2) early adopters (~13.5 percent), (3) early majority (~34 percent), (4) late majority (~34 percent), and (5) laggards (~16 percent). With the exception of innovators, the decision to adopt an innovation is based upon the observed experiences of the adjacent reference group. Imitation and copying play a much bigger role than analytical or abstract reasoning.

This insight raises a foundational question—does diffusion theory apply to the legal profession? The short answer is yes.⁸ Lawyers very much value the security of the pack, albeit we may be reluctant to acknowledge its influence on our own judgments. Why? Because it cuts against our self-identity as a smart person. We want to believe we are smart enough to identify the right answer ahead of others; yet we don't want the risk and exposure of being separate from the crowd. Hence, a heavy veneer of reason is layered onto non-adoption decisions that are primarily driven by social proof.⁹ All of this noise invariably slows the pace of innovation for the entire profession.

Yet, here is the crucial insight: in law as in other social systems, the protestations and resistance vary along a continuum. If you want your innovation to be adopted, don't waste time trying to convert the early majority, late majority, or laggards. You have only one audience that matters—early adopters.

B. *Units of Analysis*

Part II of this section presents composite descriptions of adopter types. Each description is written as if the adopter were a person, which makes them relatively vivid and easy to understand. Yet, in the legal industry as in other complex parts of the economy, innovation often requires the engagement and support of an entire organization. Therefore, before getting into adopter types, we need to cover a technical concept called “unit of analysis” (or, for diffusion research, “unit of adoption”).

8. See *infra* Section IV.

9. See Robert B. Cialdini, *Harnessing the Science of Persuasion*, HARV. BUS. REV., Oct. 2001, at 75–79.

1. *Organizations*

People adopt certain kinds of innovations (e.g., telephones, personal computers, smartphones, etc.), but other valuable innovations often depend upon successful adoption by businesses (e.g., health benefits, enterprise software, flex-time) and/or governments (e.g., seat belt laws, environmental legislation, smoking bans, gay marriage).

When the unit of analysis is an organization rather than a person, the dynamics surrounding the innovation decision to accept or reject are much more complex.

To illustrate, imagine the AmLaw 200 grouped along the adopter continuum. A handful of firms would be innovators (~3–7) while others would be laggards (~30–36 firms, or one sixth of the market). Yet, the AmLaw 200 social system is dependent upon a separate social system of corporate clients who also fall into the five adopter types. For an innovator law firm to be successful, it has to find its counterparts among corporate legal departments—i.e., clients willing to pay for something promising even though it's new, novel, and relatively untested.

If left to random chance, this complex dialogue will be a fairly rare event. The 2.5 percent innovator law firms need an audience with the 16 percent innovator-early adopter clients. Without awareness of diffusion theory, the mathematical odds are bleak (2.5 percent x 16 percent = 0.4 percent of buyer-supplier relationships). Once the right pairing occurs, the parties need a dialogue of sufficient depth to plan, build, and execute a successful innovation that benefits both buyer and supplier.

After that, and only after that, will the innovation be picked up and copied by the rest of the social system. This is why the left portion of the diffusion curve is so crucial toward making everything else go.

2. *Organizational Innovation is Harder*

It is extraordinarily difficult to be a true innovator organization, particularly within the legal industry. This is true for several reasons.

- *Wrong Analytical Frame.* Legal organizations are social systems made up of people and subunits that track the five adopter types. Yet we often lack this awareness of the importance of adopter types. As a result, when promoting an innovation, we place excessive faith in reason and data. After all, everyone is a highly educated professional. Our lack of pro-

gress is then blamed on the lawyer stereotype—risk averse, conservative, too focused on precedent, bad at math, etc.—rather than the possibility that we are talking to the wrong group of lawyers. If we are pitching reason and data to early adopter lawyers, things will go better.

- *Consensus Decision-Making.* Legal service organizations tend to make organizational change decisions through committees. That is challenging enough. But the composition of these groups are often designed to manage prideful and contentious lawyers. Optimizing innovation is not even on the table. Think I am just talking about law firms? Not true. David Cambria, Director of Global Legal Operations at ADM, and Jeff Carr, General Counsel of Univar, often use the term “MPR” (massive passive resistance) to describe the most common reaction to in-house change efforts. This is fixable, but it takes time and planning, as the politics can’t be ignored.
- *True Innovators Often Lack a Brand.* I have seen this fact pattern many times. Innovator sees a better way while working inside a large industry leader. The better way is presented to colleagues who cannot yet grasp the advantage. Innovator leaves to form a legal start-up. Yet, the innovator fails to fully appreciate the difficulty of making sales (or even getting a meeting) without the halo of an established legal brand. In turn, the sales cycle lasts forever plus three days. Some innovators have overcome this hurdle (e.g., United Lex, Pangea3, Axiom Law, Radiant Law), and more will in the future. But it’s a brutal road.

There are several more challenges, but that is enough for now. Suffice it to say, it takes tremendous knowledge, skill, persistence, and leadership to create an innovative legal organization. What Legal Evolution (and this article) seeks to do is create a reliable roadmap for legal services innovators—that is the purpose of all this empirically grounded theory.

3. *The Consumer Market is Different*

The market for legal services has two major segments: individual clients (people) and organizational clients (mostly corporations).¹⁰ In the smaller People Law segment (roughly one fourth of the U.S. legal market), the unit of adoption is a person with a legal problem. If the person can understand the innovation and the rela-

10. See HEINZ & LAUMANN, *supra* note 3, at 37, 127–28. See also Bill Henderson, *Lawyers for People Versus Lawyers for Business*, LEGAL WHITEBOARD (Sept. 14, 2016), <http://lawprofessors.typepad.com/legalwhiteboard/2016/09/-lawyers-for-people-versus-lawyers-for-business.html>.

tive benefits are fairly large, the innovation will take hold. Advertising and marketing can often speed this process up. This is the market space occupied by LegalZoom, Avvo, and Wevorce. The diffusion analysis is relatively straightforward and conventional.

However, organizational clients account for three fourths of the legal services market. Further, the organizational market is not merely buyers and sellers—it also includes a complex supply chain that now includes managed service providers, legal tech companies with workflow and automation offerings, and various sourcing consultants. For now, however, it is enough to say that innovation roadblocks are more formidable when all the buyers and sellers are groups of lawyers accustomed to consensus decision-making, than when the decision-maker is an individual client.

C. Adopter Types

The descriptions below draw extensively from *Diffusion of Innovations*.¹¹ I hope you ask yourself the question, “[w]ithin the legal social system, which adopter type am I?”

Innovators place a high value on venturesomeness. Their interest in new ideas leads them out of conventional peer networks into more far-flung social and professional circles. “Communication patterns and friendships among a clique of innovators are common, even though the geographical distance between the innovators may be considerable.” This is certainly true in law. The early days of Legal On Ramp (LOR)¹² revealed the broad geographic dispersion of legal innovators and their desire to communicate with each other. The LOR chat boards circa 2007–2009 were routinely populated with lawyers from three or more continents.

One of the reasons for the far-flung connections is to better accumulate and understand complex technical information that can be applied to difficult problems. Rogers notes that the “innovator must be able to cope with the high degree of uncertainty about an innovation at the time that the innovator adopts” and also be comfortable with occasional failures and setbacks. Although innovators are generally viewed with skepticism by mainstream peers, they play “a gatekeeping role in the flow of new ideas into a system.”¹³

Early adopters are much more integrated into the social system than innovators. They are often the opinion leaders and thus are

11. See ROGERS, *supra* note 5, at 280–290.

12. For a description of Legal On Ramp, see its Wikipedia entry at https://en.wikipedia.org/wiki/Legal_OnRamp (last visited Oct. 13, 2017).

13. ROGERS, *supra* note 5, at 282–83.

influential in getting others to act. As compared to the early and late majorities and the laggards, early adopters tend to be more intellectually curious, favorably disposed to science and data, comfortable with abstraction and uncertainty, and more socially and professionally ambitious.

The early adopter is also aware of his or her favored standing among peers and knows “that to continue to earn this esteem of colleagues and to maintain a central position in the communication structure of the system, he or she must make judicious innovation-decisions.”¹⁴ Rogers notes, “[t]he early adopter decreases uncertainty about a new idea by adopting it, and then conveying a subjective evaluation of the innovation to near peers through interpersonal networks. In one sense, early adopters put their stamp of approval on a new idea by adopting it.”¹⁵ In the logo of Legal Evolution, innovators and early adopters are both represented by the same light gray color. This is because their relationship to each other is fundamentally different than the relationships between other adopters.¹⁶

The early majority adopts innovations faster than the average member of the social system. Although they interact frequently with their peers, the early majority “seldom hold positions of opinion leadership in a system.” Yet, because of their position in the adoption process, they are the group that sets off the tipping point for eventual mass adoption. Rogers quotes Alexander Pope to describe this group: “Be not the first by which the new is tried, nor the last to lay the old aside.”¹⁷

The journalist Geoffrey Moore has characterized the transition between early adopters and early majority as “crossing the chasm.”¹⁸ Moore’s context is primarily Silicon Valley high-tech companies selling enterprise software and similar complex products to corporations. Moore’s analysis is quite relevant to law. I will discuss more on that topic later.

The late majority is skeptical and cautious. They generally will not adopt an innovation until “most others in the system have done so.”¹⁹ By this time, the decision is likely to be either a matter of

14. *Id.* at 283.

15. *Id.*

16. *See supra* Section II.

17. ROGERS, *supra* note 5, at 284 (quoting ALEXANDER POPE, AN ESSAY ON CRITICISM (1711)).

18. *See* GEOFFREY MOORE, CROSSING THE CHASM 20–23 (1st ed. 1991).

19. ROGERS, *supra* note 5, at 284.

economic necessity or necessary in order to avoid the discomfort of being outside the norms of the social system.

Rogers notes that socio-economic status tends to be correlated with adopter type. Thus, the late majority may have fewer resources to take risks and thus may prefer to wait and learn from the experience of others. Yet, the late majority's risk averse mindset might be less an effect of fewer financial resources than its cause. Rogers characterizes this group as followers because the "pressure of peers" is usually a necessary ingredient to get them to adopt.²⁰

Laggards are traditionalists who tend to make sense of the world by reference to the past. Among the five adopter types, they have the fewest connections to others. Many laggards are "near isolates in the social networks of their system" and "interact primarily with others who also have relatively traditional values." Yet, their slow adoption is not merely a function of limited connectivity. Laggards "tend to be suspicious of innovations and of change agents." Thus, once made aware of a new idea or methodology, their time period for adoption is significantly longer than others.²¹

Rogers acknowledges that late adoption may be rational for those in a social system who can least afford to bear the cost of failure. Likewise, laggard "might sound like a bad name" though no disrespect is intended by diffusion researchers.²² Rogers observes that a negative connotation would attach to any label associated with the last group to adopt. This is because the rest of the social system tends to view innovation more favorably.

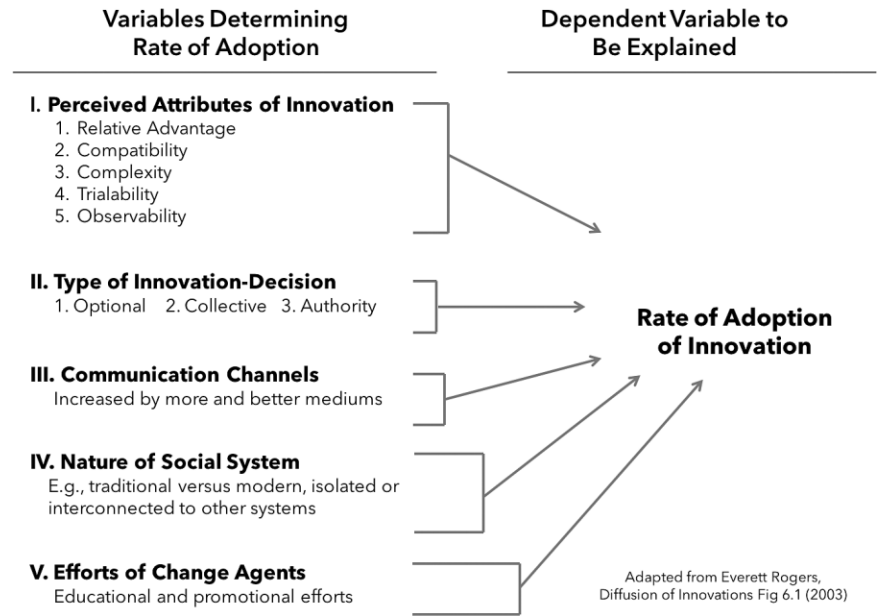
20. *Id.*

21. *Id.* at 284–85.

22. *Id.* at 285.

IV. VARIABLES DETERMINING THE RATE OF ADOPTION OF INNOVATIONS

FIGURE 4. ROGERS RATE OF ADOPTION MODEL



This section examines the practical value of applied research. What is the specific practical value of diffusion theory?

- If you are an innovator, this model can be used as a functional checklist to assess whether your innovation is ready for market; and if so, where to focus your limited bandwidth to maximize the odds of successful adoption.
- If you are an early adopter, this model helps you assess whether you want to cast your lot with a specific innovation or, instead, hold your powder until the innovation is more developed or another innovator produces something better.

The graphic above is adapted from Chapter Six of *Diffusion of Innovations*.²³ As noted earlier, this is one of the most cited books in all of the social sciences. Although the graphic does not look quantitative, it is actually a user-friendly presentation of a multivariate regression model.

The left column of the graphic lists five groups of variables that influence the rate of adoption of an innovation. The rate of adoption is the dependent variable, which is listed in the right column.

23. See *id.* at 222 fig.6-1.

The rate of adoption is a dependent variable because its value depends on the value of the other variables. In the parlance of statistics, the other variables are called “independent” or “predictor” variables. The five groups of variables on the left have been shown by Rogers and others researchers to be valid and reliable predictors of the rate of adoption of an innovation.

If you’re investing a lot of time and money in an innovation, this is a profoundly useful model.

A. *Perceived Attributes of an Innovation*

Among the five categories of predictor variables, the most important is the first category, which is the “perceived attributes of innovation.” Rogers reports that between “49 and 87 percent” of the variance in the rate of adoption can be explained by five attributes: (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability.²⁴

Note that this is a list of perceived attributes. Perceived by whom? The target adopter.

There are many ways to fail as an innovator, but one of the most common is failing to adopt the perspective of the end user. Rogers begins Chapter Six with a telling quote: “If men perceive situations as real, they are real in their consequences.”²⁵ Adopting the perspective of the end user is an exercise in empathy. This can be very difficult for the innovator, who is often deeply immersed in the technical workings of the project. He or she is at grave risk of falling in love with features that are of little practical value to the target end user.²⁶

Rogers distinguishes between “objective rationality” relied upon by the expert who carefully reviews data and “subjective objectivity as perceived by the individual”—in other words, the likely end user.²⁷ The latter is what is relevant to adoption. Most of us try to generalize based on what makes sense to us. Instead, we need to spend all of our time studying someone very different and seeing the world through their eyes. Acquiring this skill set takes effort, self-awareness and humility. What you think or I think as an Innovator does not matter—what matters is the end user.

24. *Id.* at 221.

25. *Id.* at 219 (quoting W.I. THOMAS FLORIAN ZNANIECKI, *THE POLISH PEASANT IN EUROPE AND AMERICA* 81 (1927)).

26. This tendency is sometimes called the curse of knowledge. *See generally*, Jane Kennedy, *Debiasing the Curse of Knowledge in Audit Judgment*, 70 *ACCT. REV.* 249, 273 (1995) (investigating this cognitive bias that afflicts experts).

27. ROGERS, *supra* note 5, at 232.

Here is a summary of each perceived attribute.

1. *Relative Advantage*

Relative advantage is “the degree to which an innovation is perceived as being better than the idea it supersedes.”²⁸ The advantage could take the form of economic benefit, an increase in social status, or both.

It is worth reinforcing the user perspective here. I have seen numerous legal start-ups struggle and fail because the founders were pitching efficiency to law firms. Although clients complain about high legal bills, a law firm that makes a large capital investment in efficiency has a very difficult time capturing a reasonable portion of the value created.²⁹ When a salesperson makes the efficiency pitch, they are generalizing from their world, not the world of the prospective law firm adopter. Quality, on the other hand, has a much stronger appeal to lawyers, primarily because it is associated with lower risk. We’ll go deeper on this issue at a later point. See, for example, the discussion below regarding trialability and Practical Law Company’s successful entry into the U.S. legal market.

2. *Compatibility*

Compatibility is “the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters.”³⁰ The phrase “disruptive innovation” undoubtedly helped Clayton Christensen sell hundreds of thousands of copies of his famous book, *The Innovator’s Dilemma*.³¹ However, it is not a phrase that will endear you to the vast majority of adopters who have zero interest in having their livelihoods disrupted. The touchstone here is familiarity. The closer we hew to what is known and accepted, the lower the levels of perceived uncertainty. That is a zone where your innovation has a chance of getting adopted.

To illustrate this point, Rogers notes that care should be taken in naming an innovation, as the name often carries influential con-

28. *Id.* at 229.

29. See, e.g., William D. Henderson, *The Legal Profession’s “Last Mile Problem,”* LAW.COM, May 26, 2017 (discussing coordination problem of supplier having capability to innovate to benefit buyer but innovation failing to occur because supplier cannot be certain it can recoup its investment).

30. ROGERS, *supra* note 5, at 240.

31. CLAYTON CHRISTENSEN, *THE INNOVATOR’S DILEMMA: WHEN NEW TECHNOLOGIES CAUSE GREAT FIRMS TO FAIL* (1997).

notations that can undermine relative advantage.³² Note that compatibility is often treated as an empirical question. “Positioning” research looks for optimal associations with accepted products or services in the adopters’ environment. Likewise, “acceptability” research seeks to identify factors that tend to make or break an adoption decision. Compatibility research is quantifying the emotional, subjective reactions of potential users. The closest comparison to this in law is focus groups designed to simulate juror reactions. The best trial lawyers use this methodology in preparation for trial.³³

3. *Complexity*

Complexity is “the degree to which an innovation is perceived as relatively difficult to understand and use.”³⁴ Whereas relative advantage and compatibility exert a positive influence on adoption, complexity has a negative effect. The higher the perceived complexity, the lower the rate of adoption. Thus, it is not surprising that successful tech companies obsess over user experience (UX) and user interface (UI). Design thinking often adds value by removing unnecessary and cumbersome complexity.³⁵ The graphic below illustrates this point. The product on the left was designed for the end user; the product on the right stayed too much within the perspective of the engineer.

32. ROGERS, *supra* note 5, at 250–51.

33. For example, the great trial lawyer, Fred Bartlit, once told the author he used eight separate mock juries for a case he was trying. No surprise—he won. See William D. Henderson, *Is a Great Lawyer Born or Made?*, NAT’L JURIST, Jan. 2012, at 6–7.

34. ROGERS, *supra* note 5, at 257.

35. See, e.g., Jon Kolko, *Design Thinking Comes of Age*, HARV. BUS. REV., Sept. 2015, at 66–71.

FIGURE 5



The iOS Human Interface Guidelines are available online.³⁶

4. Trialability

Trialability is “the degree to which an innovation may be experimented with on a limited basis.” Rogers continues, “[n]ew ideas that can be tried on the installment plan are generally adopted more rapidly than innovations that are not divisible.”³⁷

Several years ago, the original U.S. sales team of Practical Law Company (PLC) shared with me how they successfully established their U.S. operations. PLC sells annotated forms and practice guides for sophisticated corporate work. Although PLC dominated the British market, they had no American customers when they began doing business in New York in 2007. Through trial and error, they soon discovered that the single best way to overcome the skepticism of American lawyers was to put them in front of a computer and let them use the PLC product. After experiencing the product’s immense utility, subscriptions were relatively easy to close. By the time PLC was sold to Thomas Reuters in 2013 (for a price between \$300–450 million),³⁸ PLC had 700 legal departments and 86 percent of the AmLaw 200 as customers.³⁹

Trialability was certainly relevant to PLC’s rate of adoption. However, the PLC product line also had a huge relative advantage

36. See iOS Design Themes, APPLE, <https://developer.apple.com/ios/human-interface-guidelines/overview/themes/>.

37. ROGERS, *supra* note 5, at 258.

38. See Ben Harrington, *Thomson Reuters Buys Practical Law Company*, TELEGRAPH (Jan. 3, 2013), <http://www.telegraph.co.uk/finance/newsbysector/mediatechnologyandtelecoms/media/9779041/Thomson-Reuters-buys-Practical-Law-Company.html>.

39. See Press Release, Thomson Reuters, Thomson Reuters to Acquire Practical Law Company (Jan. 3, 2013), online at <https://www.thomsonreuters.com/en/press-releases/2013/thomson-reuters-to-acquire-practical-law-company.html>.

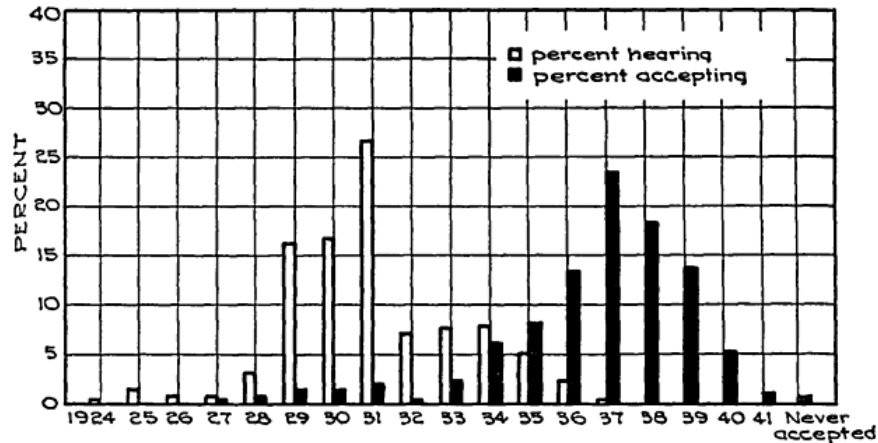
over the incomplete, out-of-date, and unannotated internal forms they were replacing. Trialability enabled perspective adopters to experience the quality difference. To enable high quality decision-making, it is important to keep analytically distinct each of the five perceived attributes of an innovation. Trialability is different than overall relative advantage, though both levers are important.

5. Observability

Observability is “the degree to which the results of an innovation are visible to others.”⁴⁰ Observability is very much related to relative advantage and trialability. If an innovation is trialable for early adopters, its relative advantage can be more easily observed by other parts of the social system.

The importance of observability is documented in an early and influential diffusion study that focused on adoption of hybrid seed corn in two communities in Iowa.⁴¹ What drove adoption for the vast majority of farmers was not the technical sales pitch made by college-educated agronomists. Rather, it was the observably better corn growing on their neighbor’s land. The technical pitch was primarily relevant to the innovators and early adopters in the social system who set the adoption cycle in motion. The average time between “knowledge awareness” and the “adoption decision” (technical terms of art in diffusion research) was a fairly lengthy six years. See Figure 6.

FIGURE 6



Source: Ryan, B., & Gross, N. C. (1943). The diffusion of hybrid seed corn in two Iowa communities. *Rural Sociology* 8:15-24.

40. ROGERS, *supra* note 5, at 258.

41. See generally Bryce Ryan & Neal C. Gross, *The Diffusion of Hybrid Seed Corn in Two Iowa Communities*, 8 *RURAL SOC.* 15 (1943).

I believe the above chart is very relevant to all the hype regarding how artificial intelligence (“AI”) is going to revolutionize the legal field. AI does not have a relative advantage that is easy to observe. Mere efficiency (an obvious and potentially observable advantage) is not good enough for many lawyer-adopters, as efficiency currently creates collateral business problems that most clients fail to acknowledge.⁴² AI is also very complex. These perceived attributes are going to impede AI’s rate of adoption in law. Many smart people in legal start-ups are trying to use design principles to solve or mitigate these issues. Yet, the best of them know they are climbing a very steep mountain.

6. *Summary of Perceived Attributes*

As noted earlier, the five factors above explain 50 percent or more of the variance in adoption rates. Stated another way, if you have an innovation you would like others to adopt, focus your attention on these five factors. This simple, empirically-derived piece of guidance is one of the reasons that applied research can be so powerful.

Four other categories of variables influence the rate of innovation adoption (II to V in Figure 4, *supra*). Most of these variables cannot be significantly influenced by the efforts of innovators, though they are highly relevant because they enable an innovator or early adopter to handicap or evaluate the odds of market acceptance. In other words, they bear on practical questions like, “should I put more money in?”; “should I sell now?”; “should I fold the business?”; “how long is adoption likely to take compared to other business contexts?” Thus, let’s finish the model with a eye toward how it applies to the legal industry.

B. *Types of Innovation Decision*

At some point after a potential adopter becomes aware of an innovation and weighs its relative advantages, a decision will be made to accept or reject the innovation. There are three types of innovation decisions.

1. *Optional*. Basically everyone in the social system is free to decide for themselves. This is market-based. Examples include smartphones, healthier foods, and Facebook.
2. *Collective*. Through agreement or strong cultural norms, adoption requires a consensus of the entire group. This

42. See, e.g., Henderson, *Last Mile Problem*, *supra* note 29 (discussing last mile problem).

mechanism has the most negative impact on rate of adoption. It is also the mechanism that best describes the typical law firm partnership.

3. Authority. One decision-maker makes the decision for the entire social system such as a corporate executive or government official. Although authority innovation-decisions are generally the fastest, they run the risk of being “circumvented by members of a system during their implementation.”⁴³

The type of innovation decision involved is very relevant to the legal industry. Back in 2015, I organized a panel of legal innovators for the ABA Center on Professional Responsibility. One of the panelists was a venture capitalist (“VC”) who was an investor in Modria, an online dispute resolution service that uses an automated dispute resolution methodology similar to those used by eBay and PayPal. As a former associate at a prominent Silicon Valley law firm, the VC helped pioneer some of the early investment in legal tech, albeit not all investments worked out well. In front of an audience of 300 law firm lawyers, the VC stated that he would never again invest in a technology that was designed to be sold to law firms because “law firms don’t make decisions like rational businesses.”

Placed into the Rogers decision framework, the VC was frustrated by the collective decision-making process of law firm partnerships. From far away, it looks irrational. Up close, however, it’s justified as culture.

That said, it is very easy to confuse the long sales cycle in law with the more fundamental issue of relative advantage. For example, many partners hear their clients clamoring for greater efficiency, and hence are willing to listen to sales pitches. Yet, the partners don’t know how to honor the clients’ wish because it requires them to simultaneously (a) pay for, and learn how to use, expensive, complex innovations, and (b) endure a loss in revenues because the clients insist on using hourly production to measure value. Insistence on hourly billing, or shadow billing of alternative fee arrangements or AFAs, is a great example of a compatibility restraint that impedes innovation. The legal profession has a very serious “last mile” problem.⁴⁴ However, unlike the last mile in the telecom industry, which centered on the technology necessary to bring high-speed data from the street lines into the home, the legal

43. ROGERS, *supra* note 5, at 29.

44. See Henderson, *Last Mile Problem*, *supra* note 29 (discussing last mile problem).

industry's last mile is the high switching costs and lack of business models designed to implement labor-saving innovations.

I am confident that the rise of the legal operations role within legal departments is substantially due to the advantages that come from using the authority model of innovation-decision making. The authority model has a single general counsel who possesses traditional executive prerogatives. That authority is increasingly being delegated to legal operations professionals who have a clear directive to obtain better, faster, and less expensive results.⁴⁵

Yet, in the best of circumstances, change of process in legal departments is no cakewalk. Jeff Carr, formerly General Counsel of FMC and now at Univar, acknowledged the challenge of “massive passive resistance” (MPR) in implementing necessary change. Having achieved remarkable financial results through his ACES model,⁴⁶ Jeff became a fierce proponent of general counsel as leader, a discipline and topic completely foreign to most lawyers.

If you ask Jeff about the key to successful implementation of change—requiring every in-house lawyer in his department to regularly score outside counsel using a standard grading rubric—he is likely to point to his face: “See this look. This is the look of me not caring [if you object]. These metrics are necessary for the functioning of the company. Please do your job.”⁴⁷ Another prominent general counsel who successfully transitioned a large legal department away from the billable hour, and has served as an influential advisor to many general counsel, acknowledged to me that such a transition could easily entail the resignation or dismissal of roughly 30 percent of the department—that was the volume of turnover in his department and other successful legal department transitions he has observed. Change is hard, even for highly educated professionals.

Suffice it to say, whether it's collective innovation-decisions, or the reluctance of lawyer-leaders to stay the course because we have little training or experience as managers or leaders, the legal indus-

45. See Bill Henderson, *Six Types of Law Firm Clients (005)*, LEGAL EVOLUTION (May 9, 2017), <https://www.legalevolution.org/2017/05/six-types-of-law-firm-clients-005/> (discussing CLOC and the rise of the Type 6 client).

46. For a description of the ACES model, see ACC Value Challenge Tool Kit Resource, *Alternative Billing by Paying for Performance: Focus on FMC Technologies' ACES (Alliance Counsel Engagement System) Program*, ASS'N CORP. COUNS. (Sept. 2008), <http://www.acc.com/advocacy/valuechallenge/toolkit/upload/Value-Practice-FMC-Alternative-Billing.pdf>.

47. This quote is based on several conversations between the author and Jeff Carr.

try presents special challenges for innovation adoption and diffusion.

C. *Communication Channels*

The rate of innovation is positively influenced by the number and quality of communication channels. This is true in two ways. First, early adopters may become aware of an innovation through a new communication channel (e.g., the trade press or an industry conference). Second, more and better communication channels make innovations more observable to the rest of the social system. Not only does this facilitate economically driven adoption decisions based on relative advantage, it also works to set and reinforce group norms. Thus, a subset of adoption decisions will be socially driven by a desire to fit in or avoid feeling left behind or out of date. Again, diffusion of innovations is a social process; incentives are present, but they are often more social than economic.

Not surprisingly, the proliferation of multiple communication channels like print journalism, radio, television, and the Internet have all increased the pace of innovation adoption. The rise of mass media is one of the most important areas of study in diffusion research. Following the publication of the first edition of *Diffusion of Innovations* in 1962, Rogers, who was a sociologist by training, joined the faculty of the Department of Communications at Michigan State University. At the time, MSU was the leading institution in this fledgling academic discipline.⁴⁸

Communication channels are important to innovation because they increase the flow of information. Yet, factors that influence total flow are different from the factors that influence the persuasiveness of the information content. For the latter, relative advantage, compatibility, complexity, trailabilty, and observability remain the touchstones.

One of the reasons why I started the Legal Evolution blog was to provide a new communication channel in order to help accelerate the pace of legal industry innovation. As noted in Section 1, the Legal Evolution blog (and this article) are experiments in applied research.⁴⁹

48. See generally, Everett M. Rogers, *The Department of Communication at Michigan State University as a Seed Institution for Communication Study*, 52 COMM. STUD. 234 (2001).

49. See *supra* Section I.

D. *Nature of the Social System*

In Rogers's model, the nature of the social system is the fourth category of variables that can impact the rate of adoption of an innovation.

For the legal industry, the nature of the social system generally impedes innovation adoption. The most established, influential, and prestigious portions of the legal profession—large law firms, the federal judiciary, legal academia, and the ABA—tend to be tradition bound and skeptical of change that does not initiate with them.

Part of this conservative ethos may be the product of Rule 5.4,⁵⁰ which has been adopted in some form by every state. Rule 5.4 prohibits lawyers from co-venturing with other professionals in any business that involves the practice of law. If lawyers can't be business partners with accountants, engineers, software developers, process experts, and data scientists, etc., there will be fewer opportunities to learn from them. This makes our social system much more isolated from other innovative parts of modern information economy.

E. *Efforts of Change Agents*

The fifth variable in Figure 4 is the change agent. Chapter Nine of *Diffusion of Innovations* is focused on the change agent. It begins with the following quote:

One of the greatest pains to human nature is the pain of a new idea. It . . . makes you think that after all, your favorite notions may be wrong, your firmest beliefs ill-founded. . . . Naturally, therefore, common men hate a new idea, and are disposed more or less to ill-treat the original man who brings it.⁵¹

This is harsh but also has a ring of truth to it. To avoid a hostile reception, effective change agents seek out individuals more disposed toward their message, a group disproportionately comprised of innovators and early adopters. After the change agent assists this group in obtaining a large advantage that others can observe, the change agent will become more accepted within the broader social system, but probably not until then.

50. MODEL RULE OF PROF'L CONDUCT R. 5.4 (AM. BAR ASS'N 2016) (titled, Professional Independence of a Lawyer) [*hereafter* MODEL RULE 5.4].

51. ROGERS, *supra* note 5, at 365 (quoting WALTER BAGEHOT, PHYSICS AND POLITICS 169 (1873)).

Change agents can be university field specialists trying to disseminate agricultural best practices for the good of the state economy. They might also be public health professionals seeking to curb a longstanding but harmful cultural practice that is increasing the spread of disease. The biggest challenge facing change agents tends to be “heterophily”—i.e., they are often conspicuously different than members of the social system in terms of background and technical expertise. Hence, they struggle to communicate effectively with prospective adopters. Successful change agents find ways to overcome this hurdle. Rogers writes, “[a]s a bridge between two differing systems, the change agent is a marginal figure with one foot in each of two worlds.”⁵²

In the legal industry, change agents are most likely to take the form of technical sales people who are trying to get onto your calendar to sell you a new technology or service. At industry events, these folks are typically called “vendors.” The connotation associated with vendors is often negative. In my opinion, this is a parochial way of viewing the world that cannot be squared with our poor record on client service, innovation, and access to justice. In light of these issues, perhaps we should be more gracious and open-minded to those offering tools for improvement.

That said, change agents also exist in established law firms and legal departments—they are quixotic lawyers and other professionals convinced there has to be a better way. In turn, they forge ahead without an empirically grounded theory to guide their actions. As a result, their courage and good intentions are too often wasted.

As editor of *Legal Evolution*, I’ll acknowledge my own desire to serve as a change agent. After 15 years of study, it is clear to me that traditional methods of legal problem-solving are underserving clients and the broader society. This systemic breakdown can only be shored up through innovations that improve legal productivity—combining lawyerly judgment with better people systems, process, data, and technology. Higher productivity will enable more legal output to be afforded by more people and businesses. I realize this entails a value judgment on my part—I generally favor the innovators. But it is also a judgment informed by a lot of data and field research. I am also motivated by the longterm welfare of my students at Indiana Law. I need to be part of a system that works for them and their clients.

52. *Id.* at 368.

My change agent role at Legal Evolution has a very simple formula. After explaining the basics of diffusion theory in foundational posts I present finely drawn examples of innovations that appear to be working in the field. In each case, I provide as much context as possible, as the goal is to enable the success of legal innovators and early adopters.

V. FAST VERSUS SLOW INNOVATIONS

Are rapidly adopted innovations more valuable and important than innovations that take a long time to take hold? Not necessarily. Speed of adoption is not a reliable guide for an innovation's importance. In fact, competitive advantage is much more likely to lie among slower ideas where innovators focus on several key factors to accelerate the rate of adoption.

It is difficult to accept an insight this counterintuitive. Thus, we need an illustration.⁵³

A. *A Life and Death Illustration*

Consider the following real world example of two important innovations, both in the field of medical surgery.

The first innovation is the use of ether as a surgical anesthetic. With patients unconscious and insensitive to pain, doctors were able to complete their work without patients screaming in agony. Reports of initial trials were first published in the *Boston Medical and Surgical Journal* (now *The New England Journal of Medicine*) in 1846. Within a half year, similar experimentations rapidly spread throughout the United States and Europe. Within seven years, ether-based anesthesia had become standard operating procedure in hospitals throughout the world. By any standard, this innovation spread very rapidly.

The second innovation is the use of antiseptic procedures to eliminate microorganisms from the operating room. During the 19th century, post-surgical infections were the biggest source of mortality for major operations, claiming up to half of all patients. In 1867, the British surgeon Joseph Lister published his theory of antiseptics and promising clinical results in a series of reports in *The Lancet*.

Since Lister's innovation curbed patient death—likely the most important objective in the medical field—one would think that antiseptic procedures would have spread as quickly as ether. Yet, that

53. These vignettes are drawn from Atul Gawande, *Slow Ideas*, NEW YORKER (July 29, 2013), <https://www.newyorker.com/magazine/2013/07/29/slow-ideas>.

is not what happened. In contrast to ether, antiseptic procedures were relatively difficult to try out: hands needed to be washed, surgical instruments needed to be sterilized, surgical sponges couldn't be reused, and gowns and gloves had to be changed after each procedure. Thus, despite the incredibly high stakes for patients, it took a full generation before Lister's recommendations took hold.

The above vignettes illustrate that speed of adoption is not synonymous with what is socially and economically valuable. In fact, these are distinct constructs. We confuse the two because innovations that diffuse faster are generally easier to try out and understand. Thus, with a small investment, the end user can experience their value. Not surprisingly, we favor fast ideas.

B. Empirically Grounded Principles

The difference between speed of adoption and an innovation's benefits can be seen in the prediction model summarized in Figure 4 above. Recall that for most innovations, between "49 and 87 percent" of the variance in rate of adoption is explained by just five factors related to the perceived attribute of innovation: (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability.⁵⁴

In Rogers's model, rate of adoption is the attribute we want to influence (the "dependent" variable). The social and economic value of the innovation is the "relative advantage" factor that influences the rate of adoption (an "independent", or predictor, variable). Note that relative advantage is but one factor that influences the rate of adoption. The innovator/early adopter/change agent who fails to understand this is flying blind and faces enormous risk of failure.⁵⁵

C. Application

To illustrate the power of the first five factors of the model related to perceived attributes, let's apply them to the case of ether and antiseptics. For ease of calculation, each factor is measured along a seven-point scale that runs -3 to +3. The following interpretative rules apply:

- Positive numbers (+1 to +3) speed up the adoption rate
- Negative numbers (-1 to -3) slow it down

54. ROGERS, *supra* note 5, at 221.

55. See *supra* Section III (describing adopter types); *supra* Section IV (discussing sources of adoption failure).

- Mild effect = -1 or 1; moderately strong = -2 or 2; very strong = -3 or 3
- No effect on rate of adoption = 0

We then total the scores for all the variables. Innovations with a total score > 0 will tend to diffuse faster, in a relative sense, than innovations with a total score < 0 .⁵⁶

The table below summarizes the scores for ether and antiseptics. The relative advantage is divided into two scales to reflect the differences in benefits flowing to doctors versus patients.

TABLE 1

Factor affecting adoption rate	Ether	Score	Antiseptics	Score
1a. Relative Advantage (for patients)	Patients are spared excruciating pain	3	Patients spared death caused by post-operative infections	3
1b. Relative Advantage (for doctors)	Doctors can methodically complete their work without patient screaming	3	Virtually all procedures altered; surgeons must operate in a mist of carbolic acid	-3
2. Compatibility	Completely new and foreign	-2	Completely new, foreign, and intrusive	-3
3. Complexity	Obtain right compound, construct inhaler, administer right dosage	-2	Extensive changes in all procedures	-3
4. Trialability	Assemble right equipment and conduct one or two operations	1	Change everything in operating room for weeks; calculate improved survival rate against historical data	-3
5. Observability	Benefits could be immediately observed and experienced by doctor and patient	3	Benefits only seen through data calculated weeks or months later	-3
Totals	Fast diffusion	6	Very slow diffusion	-12

In Table 1 above, the factors with the largest numerical gaps are the factors that are exerting the largest impact on diffusion rates. Why did ether diffuse so much faster than antiseptics? With the benefit of an empirically grounded model, we can boil down the differences to three key factors.

- Relative advantage (for doctors): 6 points (+3 to -3)
- Observability: 6 points (+3 to -3)

56. Readers trying to apply this model are encouraged to use simple scales, at least initially. Although simple scales like the -3 to +3 entail some subjectivity and do not capture quantum effects (for example, impact of 1-2 may be less, or more, than the impact of 2-3, etc.), the results can be very useful, particularly when making simple comparisons.

- Trialability: 4 points (+1 to -3)

In narrative form, antisepsis was slow to diffuse because it required an enormous imposition on doctors, both to try out and to implement. Further, its benefits could only be observed through data generated weeks or months later. As a result of this adoption failure, hundred of thousands if not millions of people died of post-operative infections.

D. Slow but Valuable Innovations

Within the legal industry, there are many valuable innovations that have a very high relative advantage but will tend to diffuse slowly. Using Rogers's model, we can isolate the reasons: the innovations are: (a) culturally incompatible with lawyer norms and practices; (b) technically complex in areas outside lawyers' core technical training; (c) difficult to pilot; and/or (d) difficult to observe, often only through data that must be calculated over time.

Examples of slow but valuable innovations include:

- Project management and process improvement, including integration of AI into workflows
- Alternative Fee Agreements (AFAs) that reward efficiency and innovation
- Enterprise-level workflow management
- Talent management based on behavioral science
- Construction of client-facing self-help solutions

Despite being slow innovations, their relative advantage is steadily increasing over time because more and more legal clients cannot afford legal services that rely upon artisan methods of production.⁵⁷

In the legal profession, we tend toward fatalism when it comes to change management. Is it possible that this fatalism is the product of pervasive underinvestment in planning and implementation? One fast innovation we have all lived through is the diffusion of the smartphone. It diffused so quickly because Apple engineers took a decade to eliminate any feature that would detract from the end

57. See Bill Henderson, *Fast Versus Slow Innovations (011)*, LEGAL EVOLUTION (June 21, 2017), <https://www.legalevolution.org/2017/06/fast-versus-slow-innovations-011/> (discussing connection between historically low levels of law school graduates and 75 percent of cases in state courts with an unrepresented plaintiff or defendant).

user experience.⁵⁸ The development costs, both financial and human, were enormous. Yet, by making these investments, Apple obtained staggering returns on the backend.

The key point of this section has been that the rate of adoption is an attribute that can be altered through planning and effort. I would encourage readers to reflect on slow but valuable innovations. Thanks to years of research, this is no longer an unstructured exercise. We increase rate of adoption by increasing cultural compatibility, reducing complexity, running low cost pilots, and making the benefits of the innovation more observable.

From far away, the success of this approach will look like luck or genius. From up close, however, it is just a high quality empirical framework plus hard work.

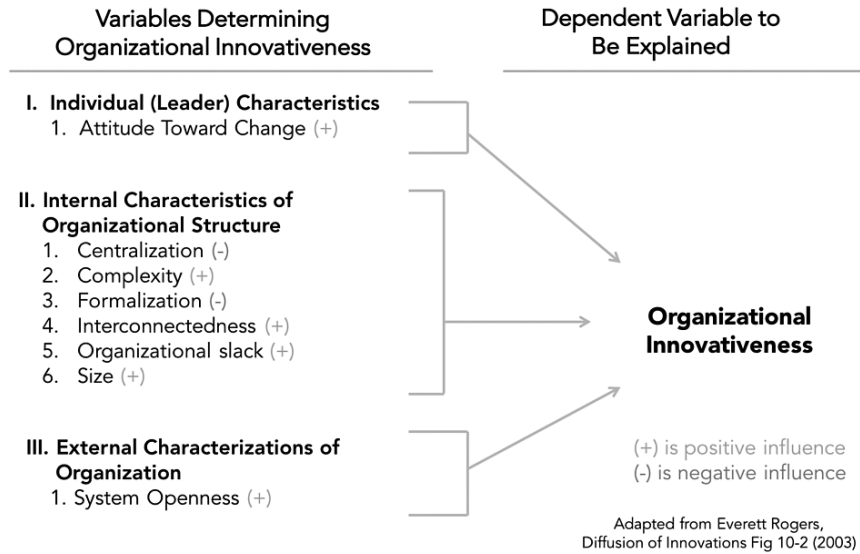
VI. INNOVATIONS IN ORGANIZATIONS

Every legal innovator, early adopter and change agent shares a common, unifying desire: to speed up the pace of innovation within their organization.

This statement is true whether the context is a law firm, legal department, government agency, bar association, or law school. Over the years, I have commiserated with them all. Although they don't know it, their disappointment is rooted in the fact that organizations are much harder to influence than individuals. For better or worse, organizations are everywhere within the legal ecosystem. Thus, it would be extremely useful to understand what levers to pull that can make them more innovative. Figure 7, which appears below, provides a way to consider this issue.

58. See generally BRIAN MERCHANT, *THE ONE DEVICE: THE SECRET HISTORY OF THE IPHONE* (2017) (discussing hardships endured by Apple engineers as part of the creation of the iPhone).

FIGURE 7. ROGERS ORGANIZATIONAL INNOVATIVENESS MODEL



The model above, drawn from Chapter Ten of *Diffusion of Innovations*, summarizes several factors that positively or negatively affect an organization's level of innovativeness.⁵⁹ The model aggregates the results of numerous empirical studies that utilize multivariate regression analysis. However, just like the "rate of adoption" model discussed in Section IV, Rogers conveys the key findings using words rather than numbers. This is because, as an applied researcher, Rogers wants his analysis to be understood and used by a smart lay audience.⁶⁰

In the graphic above, the left side lists several independent variables while the right side contains a single dependent variable. Thus, it can be said that the level of organizational innovativeness *depends* upon the values of several specific independent variables. In very practical terms, the model tells us what categories of change we should focus on to increase innovativeness within our organizations. And, by implication, it tells us what not to do. It is very hard to overstate how useful this is. In the early days of any innovation, Rogers's models (above and in Section IV) can serve as both a map and a compass. It is just plain foolish not to learn how to use them.

That said, to have a fair chance of success, readers need additional background knowledge on the challenges of organizational innovativeness. Thus, I am breaking this topic into three parts.

59. See ROGERS, *supra* note 5, at 411 fig.10-2.

60. See *supra* Section I (explaining difference between applied and academic research).

Part I reviews the reasons why organizations tend to become bottlenecks for innovations that are crucial to their long-term survival. Part II discusses a very counterintuitive fact—that organizational innovativeness is strongly correlated with size, even in law firms. With this background information in place, Part III dives into the details of Rogers’s innovativeness model (above) with special emphasis on how it applies to legal service organizations.

A. *Organizations as Bottlenecks to Innovation*

Innovators and early adopters are very interested in speeding up the rate of adoption of innovations. Rogers’s rate of adoption model, which was set forth as Figure 4 in Section IV, sets forth many factors that positively or negatively influence this outcome. The model groups these factors into five distinct categories: (I) perceived attributes of innovation, (II) type of innovation-decision, (III) quantity and quality of communication channels, (IV) nature of social system, and (V) efforts of change agents.⁶¹

As noted earlier, the first category, “Perceived Attributes of Innovation,” contains the biggest levers for change.⁶² This is because the five attributes identified in the research—higher relative advantage, lower complexity, greater compatibility, use of pilot trials, and increased observability for prospective adopters—explain the majority of variation in rate adoption. With sufficient quantities of time, money and effort, innovators, early adopters, and change agents can alter these factors in the right direction.⁶³

Yet, for those of us working in the legal industry, “Type of Innovation-Decision” is *equally important*. This is because Type of Innovation-Decision is essentially distinguishing between individual and organizational adopters. And the latter are (a) much more common and economically influential within the legal industry, and (b) more likely to result in adoption failure, particularly in the absence of significant planning and intervention.⁶⁴

As noted in Section IV there are three types of innovation adoption decisions: (1) optional, (2) collective, and (3) authority. If the adoption decision is optional, it’s akin to market forces: indi-

61. See *supra* Figure 4.

62. See *supra* Section IV.

63. See *supra* Section IV (urging those favoring innovation to “focus your attention on these five factors”); *supra* Section V (explaining “slow innovations” based solely on these five factors).

64. See ROGERS, *supra* note 5, at 405 (noting that innovation occurs “all the time in most organizations,” but “many barriers and resistance to change exist in an organization” as “[r]ules are enforced overzealously and applied to all cases in an impersonal and inappropriate way”).

viduals are free to take it or leave it (think Smartphone, Uber, or wearables). In contrast, when an organization is the adopter, either collective or authority adoption decisions apply.

Collective is the most problematic decision type, as a collective adoption decision requires some level of group consensus (think law firm partnership or law school faculty). Authority adoption decisions are, in theory, easier because a single authority can decide (think CEO or GC). But successful implementation still depends upon overcoming the opposition of the laggards and late majority.⁶⁵

In summary, if you work in the legal industry and want to bring about beneficial change, your success largely depends upon your ability to work with, or within, organizations. This is because good ideas, unsheltered by a well-informed sponsor, are no match for the strong anti-change headwinds created by organizational decision-making. This is a structural feature of the legal services industry that consistently impedes organizational innovation. On the other hand, it is important to remember that innovation is never foreclosed—not unless you and others give up. For this ultramarathon journey, Rogers's models are essential survival tools.

That said, an important caveat is in order. The predictive power of Rogers's organizational innovativeness model is much lower than the predictive power of the rate of adoption model. One of the main reasons for the lower predictive power is that factors that make an organization more likely to innovate are simultaneously factors that tend to undermine successful implementation. Specifically, the likelihood of an organization deciding to adopt an innovation is positively correlated with (i) lower centralization of authority, (ii) higher complexity of work, and (iii) less formalization of procedures. Yet, these three attributes are negatively correlated with successful implementation.

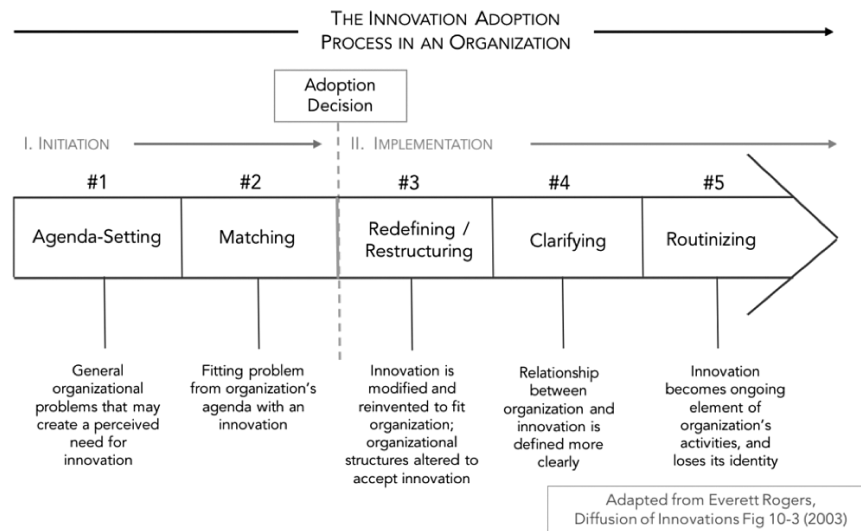
Obviously, very few organizations have the level of self-awareness necessary to make appropriate mid-stream adjustments. Instead, leaders try to power through obstacles with a one-size-fits-all management approach. In legal organizations in particular, when an innovation fails, we place the blame on lawyers' contentious, skeptical, autonomy-loving nature. This is a bogus, uninformed analysis. Fortunately, this pathetic cycle can be broken through careful planning and leadership.

65. *See supra* Section III (defining adopter types). Indeed, “massive passive resistance” (MPR) awaits the executive who underinvests in team buy-in. *See supra* Section IV (defining MPR and discussing its pervasiveness in corporate legal departments).

B. Recognizing the Different Factors that Promote Initiation versus Implementation

Below is a graphic that summarizes the five stages of an innovation adoption process in an organization.⁶⁶ Notice that the adoption decision is made only after a period of agenda-setting (Stage #1) and matching (Stage #2). Thereafter, the painstaking work of implementation begins.

FIGURE 8



Note also that the model above essentially *assumes* that the innovation process is managed by an existing bureaucracy, ostensibly just one of many managerial duties. The process begins with “Initiation,” which consists of “all of the information gathering, conceptualization, and planning for the adoption of the innovation, leading up to the decision to adopt.”⁶⁷ After the leadership makes the adoption decision, the organization commences the “Implementation” phase. This consists of “all the events, actions, and decisions involved in putting the innovation to use.”⁶⁸ When the innovation is so integrated in the organization that it becomes routinized, it “loses its identity” as something new. In essence, the innovation has merged into the status quo.

As noted above, several organizational attributes that support successful initiation become sources of weakness during implemen-

66. See ROGERS, *supra* note 5, at 421 fig.10-3.

67. *Id.* at 420-21.

68. *Id.* at 421.

tation. This should be very humbling to legal innovators and early adopters who likely excel at initiation but are prone to underestimate the hardships and complexities of successful implementation. This tendency is explicitly discussed in the Silicon Valley classic *Crossing the Chasm* by Jeffrey Moore.⁶⁹ Moore's solution is simple: when the time comes, replace the innovator/early adopter management team with more mainstream operators whose skill set is execution rather than ideation.⁷⁰ For the opposite situation—when an organization is very good at setting and following procedures but struggles to innovate—Rogers suggests a “skunkworks project” as a potential solution.⁷¹

Unfortunately, there is good reason to believe that law firms, which are the longstanding cornerstone of the legal industry, reflect the worst of both worlds. The partnership structure hinders both successful initiation and implementation, not to mention making a timely adoption decision.⁷² Yet, this is less a reason for hopelessness than cause for careful study and preparation, at least among those who intend to stay in the industry beyond the short to medium-term. Society has many hard problems. This one belongs to lawyers.

69. See MOORE, *supra* note 18, at 203 (noting that “pioneers” who can identify and develop great ideas “become a potential liability” once a company crosses the chasm as “[t]heir fundamental interest is to innovate, not administrate”).

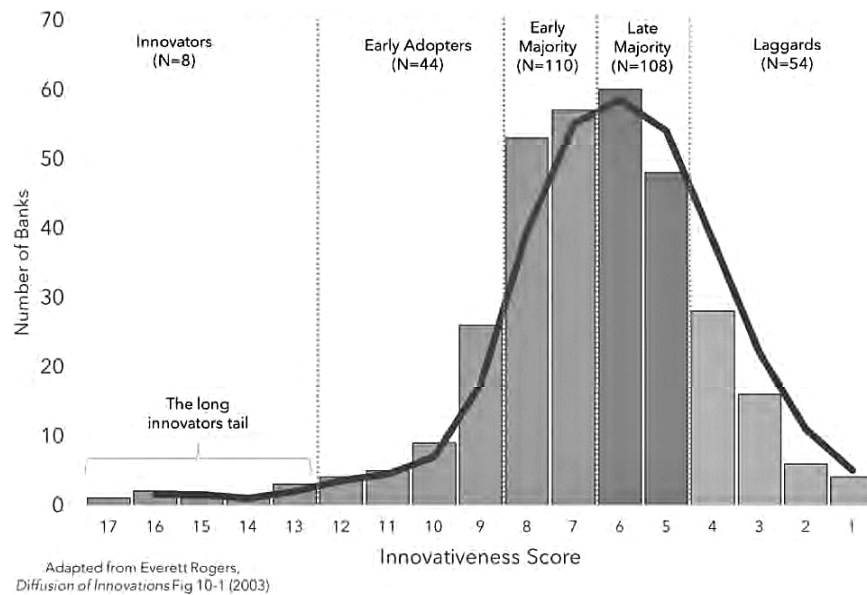
70. See *id.* at 203–09 (discussing necessity and process of replacement in both manager and sales roles).

71. A skunkworks project is a project developed by a small and loosely structured group of people who research and develop a project primarily for the sake of radical innovation. See ROGERS, *supra* note 5, at 149.

72. See generally BRUCE MAC EWEN, TOMORROWLAND: SCENARIOS FOR LAW FIRMS BEYOND THE HORIZON (2017) (discussing at length the business liabilities of governing a law firm as a partnership; suggesting that the partnership model will become a source of numerous law firm failures).

C. *The Correlation between Organizational Size and Innovativeness*

FIGURE 9



The graphic above, adapted from *Diffusion of Innovations*, shows the distribution of innovativeness among 324 German banks.⁷³ The innovativeness scale is a count of innovation adoptions from a universe of 12 interactive telecom innovations that were diffusing through the German banking sector during the early 1990s. To help distinguish the early adopters, more recent innovations were weighted more heavily. The distribution is a textbook example of the Rogers Diffusion Curve. The long innovators tail exists because innovators are typically greater than two standard deviations from the mean on innovativeness.⁷⁴

Rogers uses this German bank study to illustrate numerous factors associated with higher levels of organizational innovativeness. One factor is size.

Specifically, the largest German banks accounted for a large proportion of the innovators and early adopters. In Rogers's dataset, the correlation between innovativeness and total assets was

73. See ROGERS, *supra* note 5, at 410 fig.10-1.

74. See *id.* at 280–81 & fig.7-3 (presenting graphic and discussion where innovators are “two standard deviations” from mean).

a remarkable 0.75 ($p < 0.01$).⁷⁵ Likewise, the correlation between innovativeness and employee headcount was an equally stunning 0.70 ($p < 0.01$).⁷⁶ If readers are wondering why I am surprised, it is because the results are contrary to the standard trope that larger, more mature, and more financially successful companies—be it manufacturing, pharmaceuticals, or technology—struggle with innovation. Indeed, this is the very problem Clayton Christensen is trying to solve in the *Innovator's Dilemma*.⁷⁷ The sections that follow explain why this counterintuitive fact is true.

1. *Deft Minds and the Size Effect*

Everett Rogers had a remarkably deft mind that could puzzle through seemingly contradictory data and, with enough time and reflection, derive the most plausible causal story. Chris Zorn, my fellow co-founder at Lawyer Metrics (now LawyerMetrix), has a similar rare ability, which is to say I have some hands-on experience in this area. Drawing upon this experience, let me gently set reader expectations: what is important in this section is analytically subtle in a way that is not intuitive for most lawyers.

Let's start with the size effect, which is present in Rogers' study of German banks. The size effect is relevant to lawyers because (a) there is credible, recent evidence that size is correlated with innovativeness in law firms; and (b) as Rogers acknowledges, the higher levels of innovativeness are, in most cases, substantially driven by the "covariants" of size, rather than size itself. It is this second point that requires the deft researcher's mind, but it can definitely be grasped by patient, smart people. So, hang in there.

2. *The Altman Weil Law Firms in Transition Survey*

Recent credible evidence of the size effect, which supports Rogers' German bank data, comes from the Altman Weil Law Firms in Transition 2017 survey.⁷⁸ The survey polled managing partners and chairs at 798 U.S. law firms with 50 or more lawyers. The response rate was 48 percent, including 50 percent of the NLJ 350 (ranking based on lawyer headcount) and 50 percent of the AmLaw 200 (ranking based on gross revenues).

75. See Alwin Mahler & Everett Rogers, *The Diffusion of Interactive Communication Innovations and the Critical Mass: The Adoption of Telecommunications Services by German Banks*, 23 TELECOMM. POL'Y 719, 734 (1999).

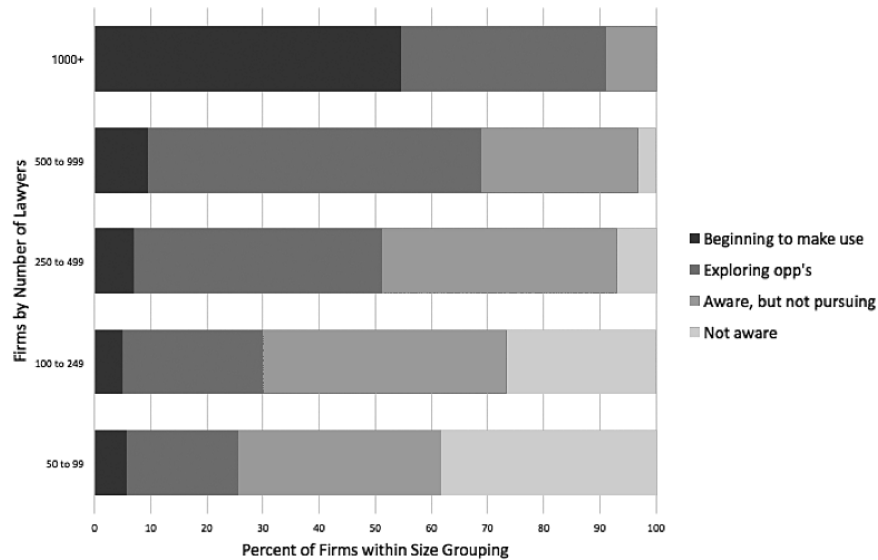
76. See *id.*

77. See generally CHRISTENSEN, *supra* note 31.

78. See *2017 Law Firms in Transition: An Altman Weil Flash Survey*, ALTMAN WEIL (2017), http://www.altmanweil.com/dir_docs/resource/90D6291D-AB28-4DFD-AC15-DBDEA6C31BE9_document.pdf.

The knowledge management consultant Ron Friedmann conducted a masterful secondary analysis of the survey results.⁷⁹ One of the survey questions asked law firm leaders, “[t]echnology tools that incorporate artificial intelligence (AI) and machine learning—like Watson and Ross—are beginning to be adopted by some law firms. What is your firm’s stance on the use of legal AI tools?”⁸⁰ From the response data, Ron generated the chart below⁸¹:

FIGURE 10



This graphic shows a very strong relationship between law firm size and the use of AI. Over 50 percent of the 1,000+ lawyer firms claim to have begun adoption. Further, the effect is clearly linear, with the level of use and exploration steadily declining with firm size. Drawing upon what we learned in Part I of this section, the orange bars reflect the “initiation” phase and the blue bars reflect “implementation.” (Keep in mind that the implementation phase is fraught with difficulties and often ends in failure.)

Further, the relationship between size and innovation is not limited to AI. We observe the same size/innovation effect in results that show the linkage between alternative fee agreements or AFAs

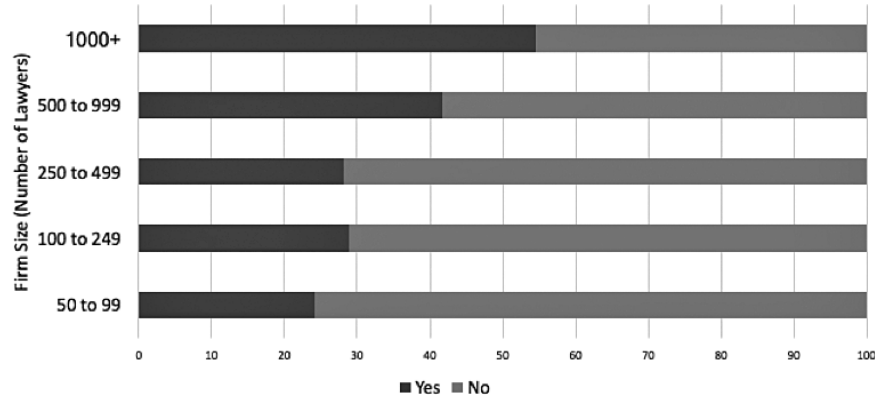
79. Ron Friedmann, *Law Firm Profitability + Service Delivery: What the Altman Weil Survey Says*, PRISM LEGAL (June 21, 2017), <http://prismlegal.com/law-firm-profitability-service-delivery-what-the-altman-weil-survey-says/>.

80. *Survey*, *supra* note 78, at 84.

81. Friedmann, *supra* note 79.

and changes in how work is being staffed and delivered. The graphic below was also generated by Ron Friedmann:⁸²

FIGURE 11



The reader may be asking, “[w]hy is linking AFAs to staffing and service delivery so innovative?” The answer is “[b]ecause the real value of alternative fees is to incentivize a re-design of workflow that (i) increases quality, (ii) speeds up delivery, and (iii) decreases cost.” Otherwise, alternative fees become either a price discount or a gamble with poor or unknown odds. Stated another way, there is no point in hiring a pricing specialist unless you’re also going to hire specialists in project management and process improvement.

3. *Covariants to Size, not Size Itself*

The graphics above reveal a clear and meaningful relationship between size and innovativeness. Yet, it does not necessarily follow that increasing size will increase innovation. Correlation, as they say, is not causation. Instead, it may be the case that other actions or activities need to be taken to improve or enable innovation; and for a variety of reasons, those actions or activities are more likely to occur in a larger firm.

To illustrate, let’s return to Rogers’s Organizational Innovativeness model presented in Figure 7. In category II, which is entitled Internal Characteristics of Organizational Structure, there are six factors (i.e., independent variables) listed, with size being number six. In *Diffusion of Innovations*, Rogers asks the question, “[w]hy do researchers consistently find that size is one of the best

82. *Id.*

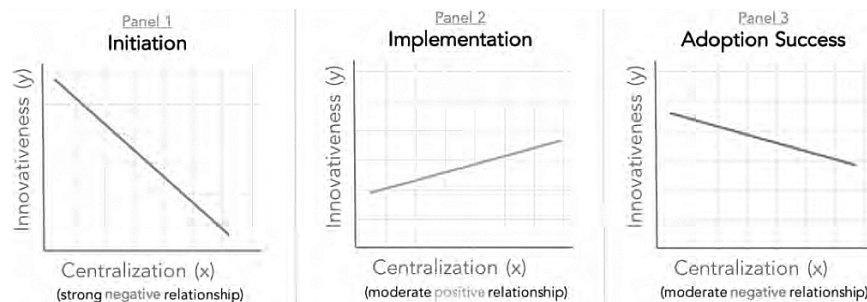
predictors of organizational innovativeness?”⁸³ The first reason, writes Rogers, is that size is easy to measure with precision and thus “is included for study in almost every organizational innovativeness investigation.” Rogers continues:

Second, size is probably a surrogate measure of several dimensions that lead to innovation: total resources, slack resources (defined as the degree to which an organization has more resources than those required for ongoing operations), employees’ technical expertise, organizational structure, and so on. These unidentified variables have not been clearly understood or adequately measured by most studies. These “lurking” variables may be a fundamental reason for the common finding that size and innovativeness are related.⁸⁴

These “lurking” variables are covariants—i.e., attributes that *generally* move in a linear relationship with one another, either positively (height and weight) or negatively (age and memory). Although there will be counter examples, covariants *generally* move in a linear relationship with one another. Thankfully, when we have a lot of potentially meaningful variables that are correlated with one another, we can sort out what matters, by direction of effect and magnitude, through multivariate models. In this case, factors one through five in Rogers’s Figure 4 model reveal the more valuable insights. We will carefully review those factors in Part III.

D. Applying and Interpreting Rogers’s Organizational Innovativeness Model

FIGURE 12



The graphic above reflects three different types of innovation “outcomes”:

83. ROGERS, *supra* note 5, at 411.

84. *Id.*

Panel 1 shows INITIATION of an innovation adoption process that results in an organization making a decision to adopt an innovation.

Panel 2 shows IMPLEMENTATION of the adoption decision, which entails planning, change management, and redefining/restructuring and clarifying the innovation in the field so that it delivers its intended benefits.

Panel 3 shows ADOPTION SUCCESS, which presumes success in both initiation and implementation.

As we look at the patterns presented by these three panels, we observed a very difficult organizational challenge. Centralized management decision-making impacts the three innovation outcomes differently. During the initiation phase, centralization has a strong negative correlation with the outcome (Panel 1). During implementation, the relationship is moderately positive (Panel 2). The two opposing effects are then netted out in Panel 3. The result is a statistically weak and moderately negative relationship between centralization and overall adoption success.

So, what does this mean? If we want more innovation in our organizations, we need to forgo a one-size-fits-all approach to management in favor of a staged approach. The staged approach is necessary because several factors in Rogers's organizational innovativeness model, introduced in Part I and reproduced below, have this peculiar flipping effect between initiation and implementation: (i) Centralization, (ii) Complexity, and (iii) Formalization. This is one of the primary reasons that Rogers's model has relatively low predictive power.⁸⁵

Yet, we can adjust to these limitations through the application of our reasoning ability. Consistent with the staged strategy discussed above, this analysis assumes that organizational innovation requires successful initiation (agenda setting and matching) and successful implementation (redesigning/restructuring, clarifying, and routinizing) as presented in Figure 8 above. An analysis of Rogers' data and conclusions provides clear prescriptive guidance on how to increase successful innovation adoption in legal organizations. To the extent possible, the analysis that follows uses specific legal industry examples.

85. See *supra* Section VI (A) (“The predictive power of Rogers's organizational innovativeness model is much lower than the predictive power of the rate of adoption model”).

Rogers's models focus on applied research. This means we mine empirical models for usable insights while taking careful note of their constraints and limitations. Thereafter, we use the resulting superior knowledge as part of a reasoning process to solve practical problems.⁸⁶

Below is the superior knowledge provided by Rogers's organizational innovativeness model.

1. *Category I: Individual (Leader) Characteristics—Champions*

The first category of variables that influences organizational innovativeness is the presence or absence of *innovation champions*. An innovation champion is “a charismatic individual who throws his or her weight behind an innovation, thus overcoming indifference or resistance that the idea might provoke in the organization.”⁸⁷

The champion could be a leader in a formal position of authority (president, vice-president, manager, etc.), but not always. As Rogers notes, “The general picture of an innovation champion emerges not as a particularly powerful individual in the organization, but rather as someone particularly adept at handling people.”⁸⁸ Roger cites research showing the effective champions (1) tend to occupy a “linking” position in their organization; (2) possess analytical and intuitive skills in understanding various individuals' aspirations; and (3) demonstrate well-honed interpersonal skills in negotiating with others.

It is easy to imagine how a smart, well-connected person with high EQ could be very effective in rallying enthusiasm during initiation and thereafter managing conflict and mediating solutions during implementation. Although the presence of such champions does not guarantee organizational innovativeness, Rogers suggests that their absence likely forecloses it, particularly in cases involving non-incremental change. “The new idea either finds a champion or it dies.”⁸⁹

86. See *supra* Section I (explaining difference between applied and academic research).

87. ROGERS, *supra* note 5, at 414.

88. *Id.* at 415.

89. *Id.* at 414 (quoting Donald Schon, *Champions for Radical New Inventions*, 41 HARV. BUS. REV. 77, 84 (1963)).

2. *Category II: Internal Characteristics of Organizational Structure*

Various internal characteristics of organizational structure comprise the second category of variables that affect organizational innovativeness.

a. Centralization (-)

Centralization is “the degree to which power and control in a system are concentrated in the hands of a relatively few individuals.”⁹⁰ As noted in Parts I and II, higher levels of centralization tend to have a negative impact on initiation. Yet, if centralized management can nonetheless manage to adopt an innovation, centralized decision making can aid its implementation. The overall net effect, however, is negative. This is because senior organizational leaders tend to be too far removed from operational-level problems to identify relevant and workable innovations.

In my work with law firms, I have been surprised to find several examples of law firms that flourish economically because leaders have adopted a strategy of “letting partners do what they want.” In most cases, the resulting innovations take the form of specialized practices where partners command premium rates for providing fast, high-quality solutions that solve difficult client problems. The entrepreneurship consists of paying close attention to how substantive legal issues are impacting clients’ business needs and being the first to create a novel legal solution. Although this decentralized approach can result in a sizable collection of lucrative niche practices, it likely undercuts potentially important firm-wide innovations such as project management and process improvement.

To cite another legal example, the decentralization of faculty governance in legal education results in many symposia to generate new ideas. However, we are completely lacking in effective central mechanisms for coordinating implementation. Hence our reputation for being stuck in the past.

b. Complexity (+)

Complexity is “the degree to which an organization’s members possess a relatively high level of knowledge and expertise, usually measured by the members’ range of occupational specialties and their degree of professionalism (expressed by formal training).”⁹¹ Rogers notes that a highly educated workforce is more likely to

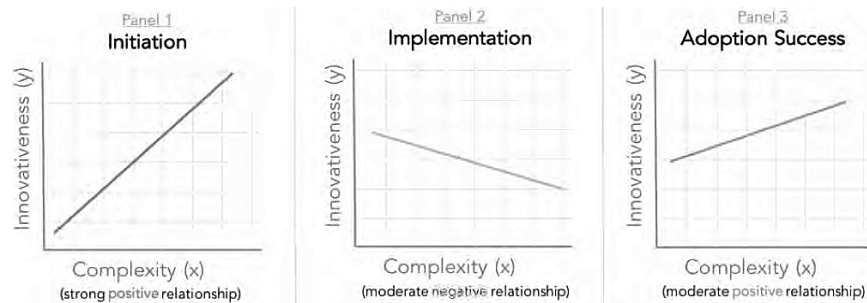
90. *Id.* at 412.

91. *Id.*

grasp the value of innovations. However, the higher levels of complexity make it more difficult to reach consensus on implementation. Thus, the net effect of complexity on organizational innovativeness is positive but not particularly strong.

Below is a graphic that shows the complexity relationship by phase.

FIGURE 13



In law firms and legal departments, there is a strong movement to hire allied professionals trained in a wide range of useful disciplines. This trend of mixing of professional perspectives is bound to raise the quality of innovative thinking and responses to complexity. Translating these new ideas into effective action will be the core challenge of the next generation of legal professionals.⁹² To cope with the Panel 2 complexity challenge, the legal industry is undoubtedly headed into an era of standard-setting and standardization. This is going to produce a cultural sea change within the organized legal profession.

c. Formalization (-)

Formalization is “the degree to which an organization emphasizes its members’ following rules and procedures.”⁹³ This internal organizational attribute has an impact that is very similar to centralization—strongly hindering initiation, aiding implementation, and overall having a net negative impact on successful adoption.

In the legal industry, we see the highest levels of formalization among the managed service providers. In this context, new entrants come on the scene with a core competence in designing and following process. The high level of formalization results in legal work with fewer errors, lower cost, and faster delivery time. This empha-

92. See Henderson, *Six Types*, *supra* note 45 (discussing growing size and complexity of corporate legal departments and the rapid growth of CLOC).

93. ROGERS, *supra* note 5, at 412.

sis on process also enables more predictable schedules and greater work-life balance. This is a valuable differentiator to attract and retain talent.⁹⁴

d. Interconnectedness (+)

Interconnectedness is “the degree to which the units in a social system are linked by interpersonal networks.”⁹⁵ The more interconnected the interpersonal networks are, the greater the organizational innovativeness will be. This is because interpersonal networks tend to be very influential channels for sharing information, as trust and credibility levels are high. An organization can broaden and deepen these networks through the architecture of its office space and by investing in regular inter-office meetings.

Interconnectedness is probably an attribute that legal service organizations tend to undervalue, wanting to avoid the lost time and expense of bringing professionals together for learning and socializing. Yet, I was recently surprised to learn that one of the major benefits of Milbank@Harvard, an intensive annual business training program for Milbank associates that lasts for several years, is that associates in the United States, Europe, and Asia offices get to know one another in ways that spur trust, collaboration, and innovation. Ironically, these benefits were not part of the original business case for the program. They are just a welcomed second-order effect.⁹⁶

e. Organizational slack (+)

Organizational slack “is the degree to which uncommitted resources are available to an organization.”⁹⁷ The greater the organizational slack, the higher the level of organizational innovativeness, “especially for innovations that are higher in cost.”⁹⁸ Rogers speculates that larger organizations may be more innovative because the

94. See Bill Henderson, *World Class Innovation and Efficiency, Billed by the Hour (010)*, LEGAL EVOLUTION (June 18, 2017), <https://www.legalevolution.org/2017/06/world-class-innovation-efficiency-billed-hour-010/> (“In addition to a professional wage, a collegial work environment, and freedom from business development pressures, lawyers in the managed service sector can refuse work outside the bounds of a 40-hour workweek.”).

95. ROGERS, *supra* note 5, at 412.

96. For additional information on Milbank@Harvard, see Bill Henderson, *An Update on Milbank’s Big Bet*, LEGAL WHITEBOARD (Nov. 13, 2013), <http://lawprofessors.typepad.com/legalwhiteboard/2013/11/an-update-on-milbanks-big-bet.html>.

97. See ROGERS, *supra* note 5, at 412.

98. *Id.*

aggregate levels of downtime are bound to be greater. To use a sports metaphor, taking more shots usually results in more baskets.

Companies like 3M, Google, and HP have all adopted innovation strategies based on unstructured free time for knowledge workers.⁹⁹ However, in most of the legal world, 100 percent utilization is the perennial holy grail. Exceptions are hard to find.

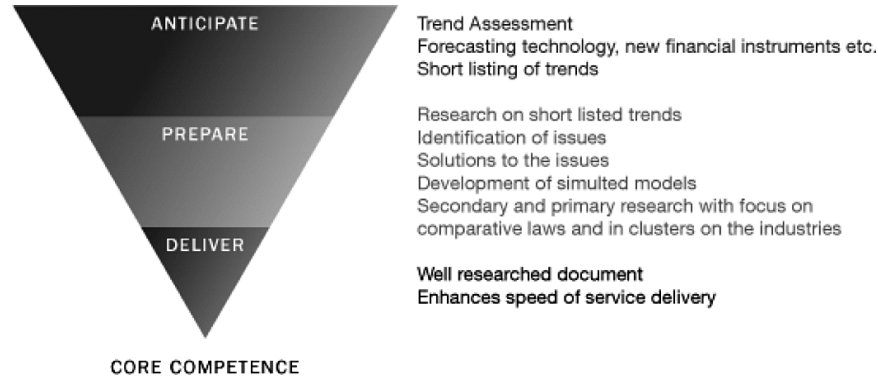
That said, the law firm Bryan Cave is an interesting accidental example. In the late 1990s, John Alber, the firm's longtime innovation partner, returned to the firm after the sale of his logistics company. After fixing the firm's failing IT system, Alber assisted on a client request for an expert system on international trade regulations (albeit no one called it that at the time). Although Alber had no formal staff, he found someone in the IT department with free time to help. The client was very happy with the resulting technology-based solution, thus starting a John Alber/Bryan Cave winning streak that lasted 17 years and resulted in numerous industry awards for innovation. The IT staffer with free time was Chris Emerson, who went on to get an MBA. Emerson now runs Bryan Cave's renowned Practice Economics Group (or PEG).

Another law firm example (from India, not the United States) is Nistith Desai & Associates (NDA), a firm with numerous FT Innovative Lawyer awards in the Asia-Pacific bracket.¹⁰⁰ Founded in 1989, the 200+ lawyer firm is based on the principle of continuous learning. Every lawyer, including the firm's founder, is expected to be involved in the firm's daily hour-long educational programming, both as a student and content provider. NDA essentially mandates slack time in service of creative solutions. While virtually all law firms are reactive to client problems, NDA's model is based on the proactive anticipate/prepare/deliver model shown below. Not surprisingly, NDA uses value-based billing.

99. See, e.g., Kaomi Goetz, *How 3M Gave Everyone Days Off and Created an Innovation Dynamo*, CO.DESIGN (Feb. 2, 2011), www.fastcodesign.com/1663137/how-3m-gave-everyone-days-off-and-created-an-innovation-dynamo.

100. See Long List, available at rankings.ft.com/asianlawyers/nishith-desai-associates.

FIGURE 14. NISTITH DESAI PRACTICE MODEL



In late 2017, NDA unveiled its new R&D facility on a four-acre, state-of-the-art campus located on the outskirts of Mumbai. The new facility is referred to as the Blue Sky Thinking Center. The founder of the firm, Nistith Desai, claims to have built NDA based on a composite of the very best professional services firms, including Wachtell Lipton.¹⁰¹

f. Size (+)

Section VI(C), *supra*, focused on the relationship between an organization's size and its organizational innovativeness. Rogers viewed size as mostly a proxy or surrogate for other important factors, such as overall resources, complexity, and organizational slack.¹⁰²

Although increased size means additional layers of bureaucracy and higher communication overhead, the benefits can often outweigh the costs. The highly innovative Corporate Legal Operations Consortium (CLOC) was certainly enabled by the size and scale of modern legal departments.¹⁰³ Section VI(C) also presented compelling evidence that larger firms are ahead on AI and other practice management innovations. This is almost certainly the result of more resources.

101. For an interesting discussion of the firm's origins and operating principles, see Nistith Desai, *Management by Trust in a Democratic Enterprise: A Law Firm Shapes Organizational Behavior to Create Competitive Advantage*, 28 GLOBAL BUS. ORGANIZATIONAL EXCELLENCE 7 (Sept./Oct. 2009).

102. ROGERS, *supra* note 5, at (explaining that "size is probably a surrogate measure of several dimensions that lead to innovation" including "total resources", "slack resources", and "employees' technical expertise").

103. See Henderson, *Six Types*, *supra* note 45 (observing that many legal departments have become "the equivalent of a specialized law firm embedded inside a large corporation").

To drive home this point, imagine a firm allocating two percent of revenues to invest in people, process, technology, and data. In a firm with \$1.7 billion in revenues (the average of AmLaw 1–20), that amounts to \$34 million. In a firm of \$100 million (the average of AmLaw 181–200), two percent equals \$2 million. Whatever the benefits of being smaller and more nimble, smaller firms are not well-positioned to attract and retain a critical mass of specialized talent.¹⁰⁴

Yet, in my experience, size very much interacts with firm scope. Specifically, when a firm narrows its areas of substantive practice, the innovation quotient can skyrocket despite not having AmLaw 1–20 revenues. Littler Mendelson (labor and employment), Fragomen (immigration), and Chapman & Cutler (financial services) all fit this profile. Higher levels of innovation are enabled by focus and partner alignment—the firm rises and falls by its dominance in a single practice area.¹⁰⁵

3. *Category III: External Characteristics of Organization—System Openness (+)*

This category of variables is very simple conceptually: does the organization proactively open itself to new ideas that could solve or mitigate important strategic problems? Compared to other industries, legal service organizations score low on this dimension.

Roger writes, “[m]ost organizations engage in an opportunistic surveillance by scanning the environment for new ideas that might benefit the organization.”¹⁰⁶ When it’s working well, “[a]nswers often precede questions.”¹⁰⁷ What Rogers is getting at is *awareness-knowledge*, defined as “information that an innovation exists.”¹⁰⁸ Awareness-knowledge is obviously impeded by closed systems. Lawyers are disadvantaged here on several fronts:

- **Ban on outside investment.** The Rule 5.4 prohibition on non-lawyer investment means that lawyers cannot co-venture with

104. See, e.g., Update from Baker & McKenzie’s Chief Strategy Officer in Germany, LINKEDIN, July 2017, online at <https://www.linkedin.com/feed/update/urn:li:activity:6295731864103714816/> (during a day of onboarding, welcoming a “diverse group of lawyers, paralegals, business professionals, economists, data analysts, data visualizers, digital marketing experts”).

105. Cf. Lizzy, McLellan, *Fragomen to Launch Unique Tech Development Center in Pittsburgh*, LEGAL INTELLIGENCER (July 3, 2017), <https://www.law.com/thelegalintelligencer/almID/1202792153605/> (suggesting that all companies, including law firms, are destined “to become a tech company in some capacity”).

106. ROGERS, *supra* note 5, at 422.

107. *Id.*

108. *Id.* at 173.

other professionals, thus cutting lawyers off from valuable perspectives and learning.¹⁰⁹

- **Culture of immediate productivity.** The legal industry, particularly in the United States, is strongly oriented toward production. As a result, eclectic reading, conference travel, and sustained high-level training and programming is often viewed as extravagant, as budget targets are high and the time is non-billable. Unfortunately, this ethos carries over into many legal departments. In-house counsel are largely firefighters. All too often, they lack the time, resources, and mindset to prevent fires.
- **Lawyer-centricity.** All too frequently, lawyers refuse to accord legitimacy to the views of people who don't possess a law degree (and hence are "non-lawyers"). This is a recurring theme among allied professionals who work in the legal industry. Pros: high pay. Cons: routinely ignored or dismissed by lawyers.

If a legal organization wants to be more innovative, it can change some of these factors through enlightened leadership. In the long run, lower levels of innovations are ruinous to entire organizations and industries. A fiduciary cannot responsibly ignore these issues.

Finally, whatever I've just written about law firms and legal departments (the topic is organizations) applies to legal education. To this day, I am struck by the lack of academic participation in organizations and events on the front lines of change, such as CLOC, ILTA, and LegalWeek. The economic rules of modern practice are poised to get rewritten. Once this happens, a lot of cheese is going to get moved.¹¹⁰

4. *Relative Importance of Rogers's Organizational Innovativeness Model*

Assuming you're an innovator or early adopter who wants to use Rogers's models to improve your organization, the following question is relevant: What is the relative importance of the organizational innovativeness model (analyzed above) compared to the rate of adoption model in Section IV, Figure 4?

We don't have systematic empirical data to answer this question, but we do have one article worthy of mention. In a study of 25

109. See MODEL RULE 5.4, *supra* note 50.

110. For one of the all-time best-selling change management books, see generally SPENCER JOHNSON, WHO MOVED MY CHEESE? AN AMAZING WAY TO DEAL WITH CHANGE IN YOUR WORK AND IN YOUR LIFE (1998).

hospitals that were adopting 12 new technologies in a midwestern city, the dependent variable (outcome) was a nine-point scale ranging from “staff being aware of an innovation (one point) through adopting and using the innovation regularly (eight points) to expanding and upgrading the new technology (nine points).”¹¹¹ In effect, the scale is measuring the progression through the entire innovation adoption process, from the early stages of initiation to complete implementation success.¹¹² This is an ideal dependent variable.

The study authors found:

- 40 percent of the variance explained by the perceived attributes of the innovations, with observability, low risk, and low complexity being key.
- 11 percent of the variance explained by organizational innovativeness factors, with CEOs as innovation champions and larger hospitals with more aggressive marketing strategies being the most influential attributes.¹¹³

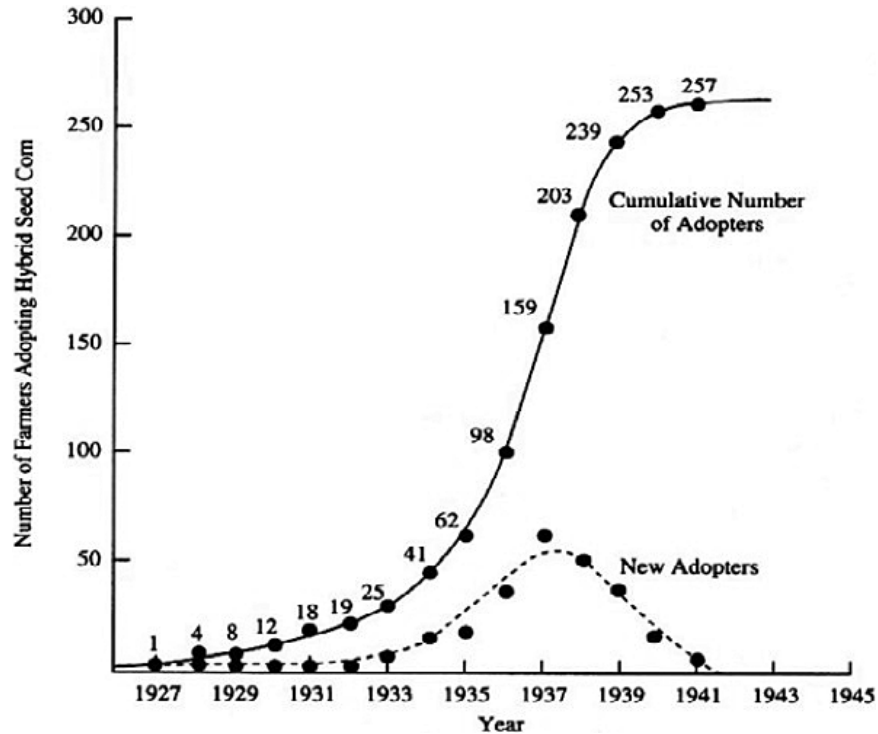
What’s my advice? In both models, systematically explore cost-effective ways to influence every variable in the direction that will make success more likely. This is how applied research works.

111. ROGERS, *supra* note 5, at 414.

112. *See supra* Figure 8.

113. *See* ROGERS, *supra* note 5, at 414 (citing Alan D. Meyer & James B. Goes, *Organizational Assimilation of Innovations: A Multilevel Contextual Analysis*, 31 *ACAD. MGMT. J.* 897 (1988)).

FIGURE 15 THE NUMBER OF NEW ADOPTERS EACH YEAR, AND THE CUMULATIVE NUMBER OF ADOPTERS, OF HYBRID SEED CORN IN TWO IOWA COMMUNITIES



VII. CHANGE AGENTS AND OPINION LEADERS

The chart above, drawn from *Diffusion of Innovations*, shows the adoption of hybrid seed corn by farmers in two Iowa communities.¹¹⁴ The dashed line on the bottom shows the number of adoptions by year. The solid line on top shows adoption on a cumulative basis. The first farmer in the sample adopted hybrid seed corn in 1927. Fifteen years later, in 1941, the last four farmers made the switch.

The dashed line is a real-world example of a Rogers Diffusion Curve.¹¹⁵ Likewise, the solid line is a real-world example of the S-shaped curve. The farmers switched to hybrid seed corn because it was more bountiful, disease resistant, and drought resistant than traditional methods. The chart above is useful because it shows the common diffusion pattern of (1) a prolonged period of slow adop-

114. *Id.* at 273 fig.7-1.

115. See *supra* Section II (discussing curve); *supra* Section III (discussing adopter types).

tion, even for a highly advantageous innovation; and (2) a short period of rapid adoption.¹¹⁶

In the case of the Iowa farmers, the prolonged period of slow adoption was not a random event. Few if any farmers would have adopted hybrid seed corn but for agronomists from Iowa universities. The agronomists were necessary to help the innovator and early adopter farmers understand and use this new technology. When some of the more influential early adopter farmers met with success, they shared their experiences with other farmers. As the benefits of the innovation were experienced by the early majority farmers, adoption spread like a social contagion through the two Iowa communities.

In this real-life example, the university agronomists were the change agents. And the influential early adopter farmers were the opinion leaders. This section explains the crucial role played by these two types of actors. It also emphasizes how these concepts apply to the current challenges facing the legal industry.

Readers seeking to influence innovation within the legal industry will be more successful if they obtain and apply the background knowledge found in this section. I have taken care to make this information non-technical and accessible.

A. *Awareness-Knowledge*

Before the farmers could adopt hybrid seed corn, they needed “awareness-knowledge,” which is knowledge that such a technology exists. However, there can be a considerable lag between awareness-knowledge and actual adoption of a new innovation. This dynamic is captured above in Figure 6, which was based on the same study of Iowa farmers. It was presented earlier to illustrate Rogers’s rate of adoption model.

For the typical farmer, roughly six years elapsed between hearing about hybrid seed corn and adopting it. In addition to inexperience and uncertainty with hybrid seeds, the lag time was due to the sheer novelty of the innovation, which was rooted in laboratory science and was at odds with longstanding views regarding how to grow the best corn.¹¹⁷

In the early 20th century, agricultural production was a matter of national security, as World War I had driven home the importance of a secure and bountiful domestic food supply. Farmers had

116. See *supra* Figure 9 (showing histogram with long innovator tail).

117. See *supra* Section IV (discussing how complexity and cultural incompatibility can impede adoption of innovations).

also become a formidable legislative lobby. Thus by 1920, there were more than 3,000 agricultural extension workers funded by a mix of federal, state, and county agencies.

Remarkably, despite the benefit of a large and well-financed change establishment delivering an innovation that was an unalloyed benefit to farmers, the uptake was far from rapid. The key sociological question was “why?” The parallel applied research question was “can the rate of adoption be accelerated?” The answer to the latter question was yes, thus creating foundational research that would eventually result in a general theory for how innovation diffuses.

B. Early versus Middle-Late Diffusion: The S-shaped Curve

Diffusion theory is part of an applied research tradition that seeks to enable change strategies that work in a controlled and predictable way. The core insight is that the diffusion of an innovation is a *process* that occurs through a *social system*.¹¹⁸ In most cases, the process begins with a need or problem and a desire by some members of the social system to find and implement a solution.

For the purposes of this section, we can divide the diffusion process into two stages: an early stage, characterized by a relatively long period of slow adoption (base of the S-shaped curve in Figure 15 that starts with the long innovators tail); and a middle-late stage, characterized by rapid adoption over a relatively short period (the steep portion of the S-shaped curve followed by a plateau).

Between these two stages, the early stage is far more tenuous and fragile. This is because it requires a member of the social system to (1) obtain knowledge of an innovation; (2) evaluate its relative benefits and costs; (3) make an affirmative adoption decision; (4) successfully implement the innovation; and (5) confirm the existence of the desired results. In substance, this is a time-consuming and potentially expensive experiment that could fail. Obviously, only a sub-segment of any population would be willing and/or able to bear this risk.

In Figure 15, the early stage would roughly correspond to the 1924 to 1933 time period. Many farmers had heard about hybrid seed corn, but only a handful had adopted it. The early stage typically comes to an end when the social system’s opinion leaders become part of the adopter group and can vouch for the innovation’s effectiveness. Rogers writes, “the [cumulative] diffusion curve is S-shaped because once opinion leaders adopt and begin telling others

118. See *supra* Section IV (discussing Rogers Diffusion Curve).

about an innovation, the number of adopters per unit of time takes off in an exponential curve.”¹¹⁹

The middle-late stage of diffusion begins with the rapid ascension of the S-shaped curve (1934 to 1941). In *Diffusion of Innovations*, Rogers discusses the concept of “critical mass,” which is the point at which enough adoption has occurred and further adoption becomes “self-sustaining.”

[T]he heart of the diffusion process is the modeling and imitation by potential adopters of their near peers’ experiences with the new idea. In deciding whether or not to adopt an innovation, individuals depend mainly on the communicated experience of others much like themselves These subjective evaluations of an innovation flow mainly through interpersonal networks.¹²⁰

On a micro-level, change is occurring because individuals are observing each other and responding to social proof. Each individual in the social system has a “threshold” of proof needed to spur change. Once the middle-late stage of diffusion is reached—i.e., the steep part of the S-shaped curve—the adoption process becomes less deliberative and more imitation of people in their close social network. Thus, adoption moves like dominoes from early adopters to the early majority to the late majority to the laggards. Although thresholds operate at an individual level and vary by adopter type, at a system level, their aggregate effect is to create a critical mass that leads to a tipping point.

In the case of culturally novel and complex innovations, critical mass is seldom reached without the participation of opinion leaders. Thus, it is important to understand their characteristics and attributes.

C. *Opinion Leaders*

Opinion leaders are rarely innovators and are not necessarily early adopters. Their relative position among the five adopter types depends upon the norms of the social system. Within the tradition-bound legal industry, opinion leaders may be members of the early majority, refusing to adopt change without a very high standard of proof.

Rogers defines opinion leadership as “the degree to which an individual is able to informally influence other individuals’ attitudes or overt behavior in a desired way with relative frequency.”¹²¹

119. ROGERS, *supra* note 5, at 300.

120. *Id.* at 330–31.

121. *Id.* at 388.

Thus, among corporate law firms, Cravath Swaine & Moore is clearly an opinion leader.¹²² Likewise, Harvard Law leads the way in legal education.¹²³ Yet, neither institution is widely viewed as an early adopter. In less conservative social systems, however, the overlap between opinion leaders and early adopters would be significantly larger.¹²⁴

A key feature of opinion leaders—and one that usually renders innovators unfit for the role—is their strong conformity to social system norms. Respect for norms is necessary to obtain the trust and allegiance of other adopter types. Note that the value at play here may be less about innovation than power and influence, as opinion leaders can be disregarded or toppled. Rogers writes:

The interpersonal relationships between opinion leaders and followers hang in a delicate balance. If an opinion leader becomes too innovative, or adopts a new idea too quickly, followers may begin to doubt his or her judgment. One role of the opinion leader in the social system is to help reduce uncertainty about an innovation To fulfill this role, an opinion leader must demonstrate prudent judgment decisions about adopting new ideas. So the opinion leader must continually look over his or her shoulder and consider where the rest of the system is regarding new ideas.¹²⁵

On balance, however, opinion leaders tend to be distinguished by several attributes, at least as compared to other members of the social system. Opinion leaders tend to have:

1. greater connections to the outside world (more “cosmopolite”)
2. greater exposure to diverse media
3. higher levels of social engagement
4. higher socioeconomic status
5. higher innovativeness than followers
6. greater exposure to change agents

Regarding point six, below is a bar chart showing the average number of change agent contacts per year for a group of farmers in

122. See, e.g., Sara Randazzo, *Cravath Raising Starting Salaries to \$180,000*, WALL ST. J., June 6, 2016 (reporting that “[c]hange is likely to spawn a wave of copycat moves”).

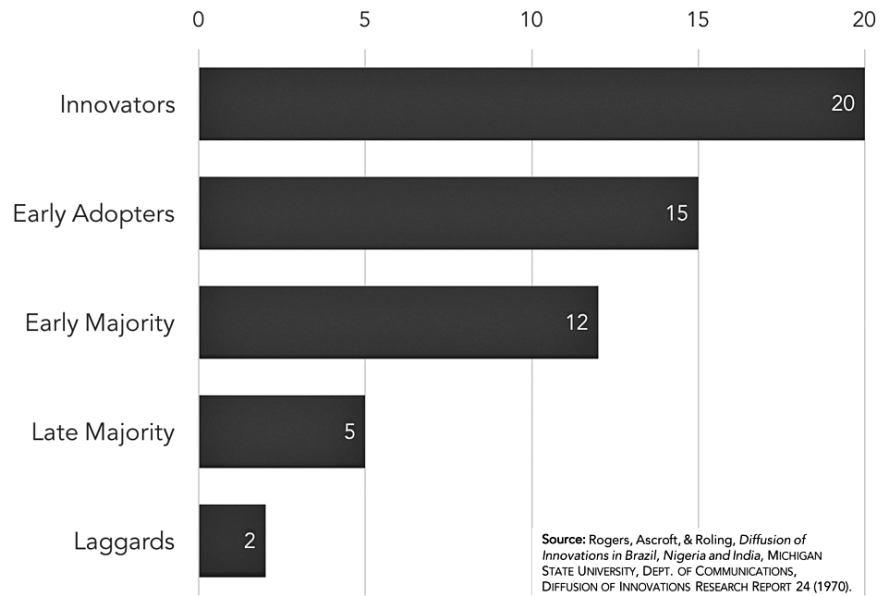
123. See Michael Levenson, *Harvard Law is Now Accepting the GRE. Could Other Schools Follow?*, BOSTON GLOBE, Mar. 21, 2017.

124. Cf. *supra* Section VI (discussing the influence and sway of early adopters).

125. ROGERS, *supra* note 5, at 319.

Brazil. It is drawn from an agricultural diffusion study conducted by Rogers and other researchers.

FIGURE 16 Averages Number of Contacts with Change Agents per Year



The key takeaway from this chart is that change agents are sources of innovative ideas. Rogers demonstrates the empirical connection between Mark Granovetter’s Strength-of-Weak-Ties theory and access to high-impact information.¹²⁶ In Granovetter’s well-known study of how people found employment,¹²⁷ connections to far-flung cliques and social groups, albeit weak, were far more powerful than local networks of friends and family. Thus, peripheral “weak” ties tend to be more informationally rich than the dense connections at the center of the social system.

Change agents and their ideas enter a social system through these weak ties. Although change agents find the greatest receptivity with innovators, their success often hinges upon their ability to influence opinion leaders.

126. See *id.* at 339–41 (discussing relevance of Granovetter’s work to diffusion theory (citing Mark S. Granovetter, *The Strength of Weak Ties*, 78 AM. J. SOC. 1360 (1973))).

127. See MARK S. GRANOVETTER, *GETTING A JOB: A STUDY OF CONTACTS AND CAREERS* (1974).

D. *Change Agents*

A change agent is defined as “an individual who influences clients’ innovation-decisions in a direction deemed desirable by a change agency.”¹²⁸ Their biggest impact is felt during the tenuous early stage of diffusion.

In the agricultural study, the change agents were government-funded university agronomists who were hired to help farmers adopt new technology. The goal was to boost agricultural production. However, in other contexts, change agents could be public health workers trying to reduce the spread of HIV; teachers introducing new curricula and materials to public schools as part of a broader “new math” movement; or salespeople selling enterprise software to large organizations. Indeed, this last example became the basis for the Silicon Valley classic, *Crossing the Chasm*,¹²⁹ that I’ll discuss in the next and final section.

In cases of complex or novel innovations, change agents are necessary to fill gaps in technical knowledge and know-how. These change agents typically have a significantly greater technical competence than members of the “client” social system. Unfortunately, this superior know-how often creates communication and cultural gaps that are difficult to bridge. This phenomenon is very much present in the legal industry circa 2018 as lawyers and legal educators struggle to learn new work methods grounded in data, process, and technology. The gap is undoubtedly the most visible with artificial intelligence.

E. *The Tradeoff between Information Impact and Communication Ease*

Communication and cultural gaps are most likely to occur when change agents are very dissimilar from members of the social system. A straightforward example would be lawyers needing to learn technical information from data scientists, software developers, and process engineers. This dissimilarity is referred to as “heterophily.”¹³⁰ Although there is an enormous breadth of knowledge in these pairings, and thus the latent potential for high-impact knowledge transfer, communication tends to be slow, arduous, and uncomfortable. Thus, except among innovators and early adopters, persistence in heterophilous pairings is rare.

128. ROGERS, *supra* note 5, at 27.

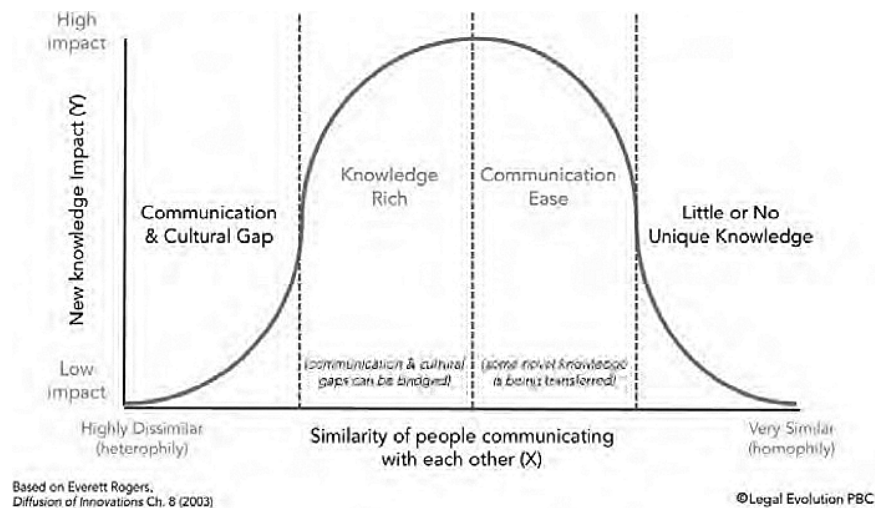
129. See MOORE, *supra* note 18.

130. See text accompanying note 52, *supra* Section IV(E).

Conversely, when two individuals are very similar (homophily), such as two lawyers who attended the same law school and work in the same area of law, any communication gap is likely to be small or non-existent. Unfortunately, that pairing is unlikely to transmit high-impact information, as their base of knowledge is too similar.¹³¹ Thus, in a very real sense, law firms, legal departments, and law faculty cannot be leaders in innovation if their information gathering and strategizing is substantially limited to high-level meetings among lawyers. Remarkably, many will try.

The diagram below illustrates the conundrum.

FIGURE 17



On the far left side of the diagram, the transfer of high-impact information is impeded by significant communication and cultural gaps between change agents and members of the social system. Simply stated, they are too dissimilar to connect. On the far right side, communication is easy and fluid, but there is little or no novel information to share. However, when an effective change agent works with innovators and early adopters and, eventually, receptive opinion leaders, a knowledge-rich exchange is possible (center left). After that, diffusion continues, with the early majority, late majority, and laggards adopting based on interactions within the social system (center right).¹³²

131. Cf. SCOTT E. PAGE, *THE DIFFERENCE: HOW THE POWER OF DIVERSITY CREATES BETTER GROUPS, FIRMS, SCHOOLS, AND SOCIETIES* (2008) (economist demonstrating that diverse teams outperform homogenous teams on tasks requiring creativity and innovation).

132. See *supra* Section III (profiling the five adopter types).

F. *Effective Change Agents*

The theory of change agents may seem relatively simple. However, when the desired change is complex and impinges on social and cultural norms, the change agent's job is enormously difficult. Rogers observes:

In addition to facing this problem with social marginality, change agents also must deal with the problem of *information overload*, the state of an individual or a system in which excessive communication inputs cannot be processed and utilized, leading to breakdown. . . . By understanding the needs of the clients, the change agent can selectively transmit to them only information that is relevant.¹³³

My own interest in diffusion theory was borne of my six years at Lawyer Metrics.¹³⁴ As an applied research company, we created data analytics tools for legal service organizations. Although the company had PhD social scientists who could build highly sophisticated quantitative models, our biggest challenge was finding ways to present data that lawyers could process, understand, and accept. On many occasions, we quipped that the statistical work was simple by comparison.

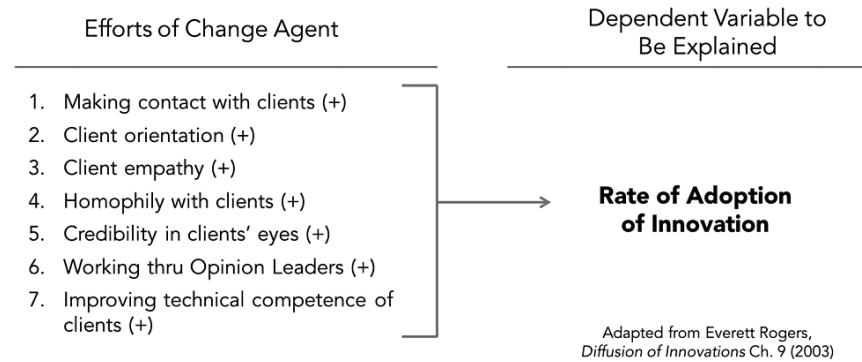
As I survey the legal landscape in 2018, I see the same challenges affecting many legal tech start-ups. Most early stage entrepreneurs emphasize the technical features of their product because they know and love its full range of capabilities. Yet, this perspective places them at a high risk of failure.

Below is a model of change agent effectiveness based on Chapter Nine of *Diffusion of Innovations*. Suffice it to say, it fully aligns with my professional experience.

133. ROGERS, *supra* note 5, at 368–69.

134. *See supra* Section II (discussing time at Lawyer Metrics).

FIGURE 18



The original rate of adoption model in Figure 4 listed five categories of variables that influence the rate of innovation adoption. The fifth category was “Efforts of Changes Agents.” The model in Figure 18 provides additional detail for that category.¹³⁵

1. **Making contact with clients (+).** Frequent contact builds familiarity and creates opportunities to establish credibility and trust.
2. **Client orientation (+).** Is the change agent trying to solve the clients' problem or trying to advance their own agenda (e.g., make a sale)? If the change agent is listening, they can learn ways to modify and improve their innovation.
3. **Client empathy (+).** A change agent is more effective when it can see the world through the eyes of the client.
4. **Homophily with clients (+).** Can the change agent look and act like an insider? In the legal industry, change agents with law degrees generally have an easier time because of a common experience and background with most clients.
5. **Credibility in the clients' eyes (+).** Can you fluidly answer tough questions? If the client must trust the change agents' judgment, do the change agents possess the credentials and background to understand the underlying innovation?
6. **Working thru Opinion Leaders (+).** Rogers observes, “[t]he time and energy of the change agents are scarce resources.”¹³⁶ Engaging opinion leaders is the most efficient path to systemwide success.
7. **Improving technical competence of clients (+).** Clients dislike long-term dependency on change agents. Thus, effective change agents often make education the cornerstone of their

135. *Cf. supra* Section V (discussing importance of the first category, “Perceived Attributes of Innovation,” to explain the difference between fast and slow innovations, even when the innovations at issue can save human life).

136. *See* ROGERS, *supra* note 5, at 338.

efforts, which builds trust and enables clients to make future adoption decisions on their own.

G. Recap—The Legal Productivity Problem

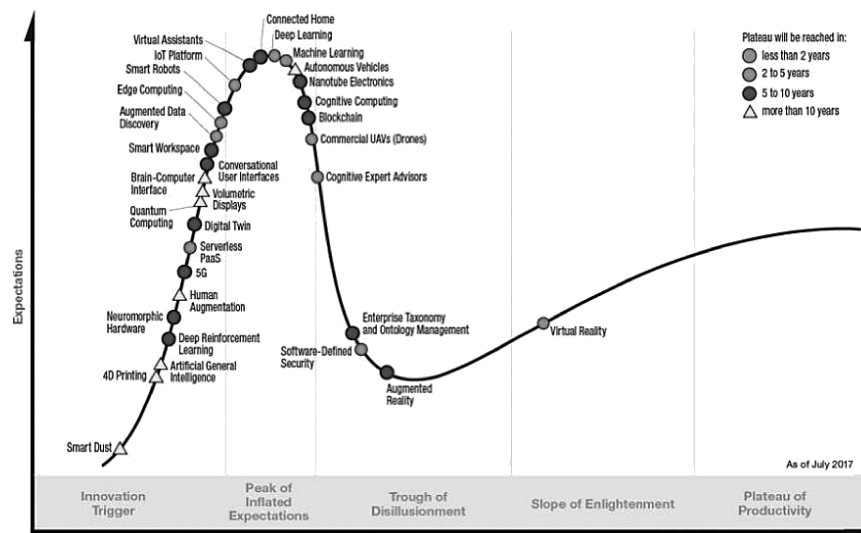
I started the Legal Evolution blog because I believe the legal industry has a very serious problem of lagging legal productivity. This problem is (a) causing ordinary citizens to forgo access to legal advice; (b) fraying relationships between corporate clients and outside counsel; and (c) causing a collapse in demand for law school graduates.¹³⁷ From a social welfare perspective, this is a very precarious position.

Solving the legal productivity problem is going to require the uptake of new innovations. If you want to be an effective change agent, perhaps in support of your own innovation, you would benefit from learning the basic principles of diffusion theory and deploying them in an analytically rigorous way.

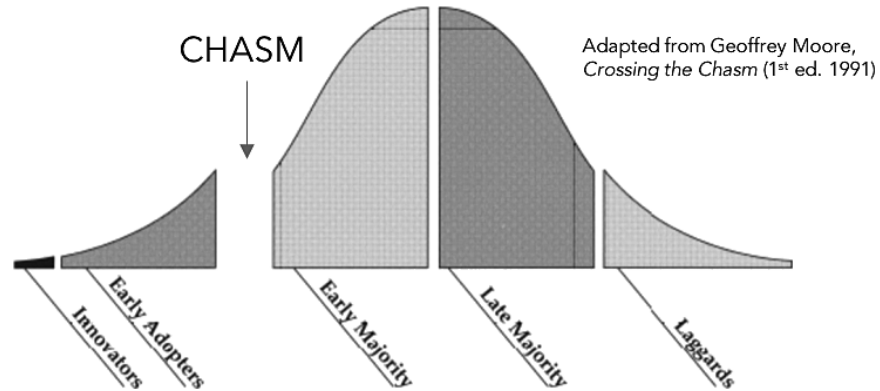
The next and final section discusses *Crossing the Chasm* and Hype Cycle, which are topics highly relevant to law in the year 2018.

VIII. “CROSSING THE CHASM” AND THE “HYPE CYCLE”

FIGURE 19 HYPE CYCLE FOR EMERGING TECHNOLOGIES, 2017



137. See *supra* Section I.

FIGURE 20 THE *REVISED* TECHNOLOGY ADOPTION LIFE CYCLE

The two figures above reflect frameworks that are widely used within the technology industry to grapple with the treacherous nature of high-tech product development.

Figure 19 is the 2017 Hype Cycle, which is published by Gartner, a large international research company that helps chief information officers (CIOs) and other IT professionals understand and evaluate emerging technologies. The Hype Cycle has been published every year since 1995, always with the same shape and the same five stages, beginning with the “innovation trigger” and ending with the “plateau of productivity.” The only changes are the technologies and their relative placement on the Hype Cycle.

At the “peak of inflated expectations” for 2017, we see several types of artificial intelligence that are now widely discussed in the legal press, often with headlines that foreshadow the replacement of lawyers by machines. According to Figure 19 and Gartner’s 2017 Hype Cycle, such a threat is premature, overblown, or both.

The second figure (Figure 20) looks like a Rogers Diffusion Curve, but with a large gap between the early adopter and early majority segments. The gap is the “chasm” discussed in Geoffrey Moore’s Silicon Valley classic, *Crossing the Chasm*.¹³⁸ Figure 20 is titled “The *Revised* Technology Adoption Life Cycle” because Moore added a gap in order to reflect the crucial transition from early adopters to the early majority. (Prior to Moore’s book, the high-tech community relied heavily upon the unrevised model—i.e., a model identical to the Rogers Diffusion Curve.)

Moore’s core thesis is that most high-tech ventures fall into this chasm between early adopters and early majority. These ventures die because they fail to grasp the many moving parts that must be

138. See MOORE, *supra* note 18.

fashioned and coordinated to move from the early market to the mainstream market—i.e., to cross the chasm. Moore’s book provides very detailed prescriptive advice about how to cross this chasm. Once on the other side of the chasm, a company has a much higher probability of ascending the upward-bound S-curve and thus producing a large financial return for company founders and investors.

Moore’s book is essentially a practitioner’s manual, far removed from academic theory or empirical validation. Yet, it is now in its third edition and has sold more than 300,000 copies.¹³⁹

This section of the article, which is entitled, “Crossing the Chasm” and the “Hype Cycle” examines topics that are not part of diffusion theory, at least not directly. Nonetheless, these two frameworks have long guided decision-making in the tech industry; and tech is indisputably where the legal industry is headed. Therefore, those working in legal innovation need to understand what these concepts mean and how these two concepts fit into diffusion theory. This final section is divided into three parts:

- Part I summarizes the key features of Geoffrey Moore’s widely used and powerful chasm framework. It is very important for readers to understand these ideas from the perspective of Moore and his audience—i.e., as practical business advice being dispensed to entrepreneurs. Surely practicing lawyers ought to be sympathetic to this approach.
- Part II applies Moore’s framework to a real-world example of high-tech companies selling to legal departments. Part II then finishes the chasm framework and explains the special challenges of applying it to the legal industry.
- Part III reveals the unusual intellectual origins of *Crossing the Chasm* and how those origins illustrate several of the key concepts of diffusion theory in ways that are surprising and ironic. Part III also returns to the Gartner’s Hype Cycle as a lens for viewing technologies at the industry rather than the company level.

More so than the prior sections, this section speaks to the specific challenges of legal start-ups and technology companies. Law firms are discussed, albeit primarily as part of a “distribution channel” that controls valuable client relationships. For a variety of reasons, most law firms will be reluctant partners. It is unclear whether in the long run that will prove to be a wise strategy.

139. See *Crossing the Chasm*, WIKIPEDIA, https://en.wikipedia.org/wiki/Crossing_the_Chasm (last visited on Nov. 2, 2017).

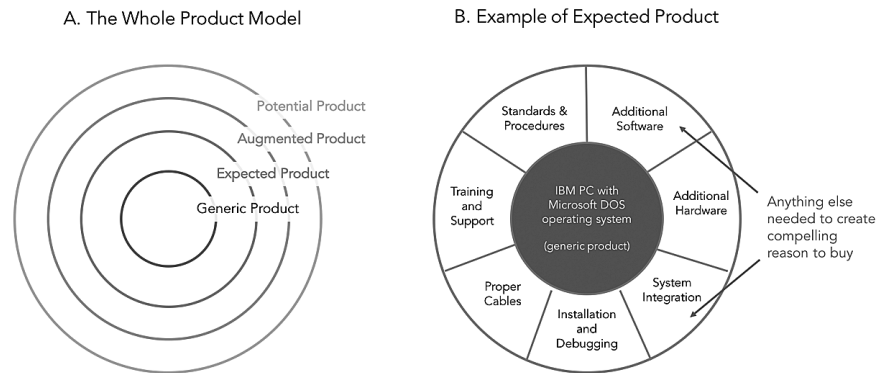
A. Part I. The “Crossing the Chasm” Framework

An entrepreneur “crosses the chasm” by turning a fledgling start-up into a high-growth business built around a new technology. Much to the chagrin of technology inventors, the technology itself is not sufficient to reach this goal. Instead the technology must become part of a “whole product solution” that anticipates and overcomes a wide range of potential obstacles to adoption.

Building a whole product is less a technical feat than an extended exercise in commercial empathy. Several market competitors may have similar technology. But according to Moore, the first to build and communicate a whole product solution will be the first to cross the chasm and capture the mainstream market.¹⁴⁰

Below in Figure 21 are two graphics that reflect different aspects of the whole product solution.

FIGURE 21



Adapted from GEOFFREY MOORE, CROSSING THE CHASM Ch. 5 (1991)

Figure 21A is what Moore refers to as the Whole Product Model. It shows four products: the generic product; the expected product; the augmented product; and the potential product. At the center is the Generic Product, which is “what is shipped in the box and what is covered by the purchasing contract.”¹⁴¹ However, end users make buying decisions based on the “expected product,” which Moore describes as “the minimum configuration of products and services necessary to have any chance of achieving the buying objective.”¹⁴² For example, if the generic product is an IBM PC equipped with a Microsoft DOS operating system—a product on

140. See MOORE, *supra* note 18, at 114 (“[W]inning the whole product battle means winning the war.”).

141. *Id.* at 111.

142. *Id.*

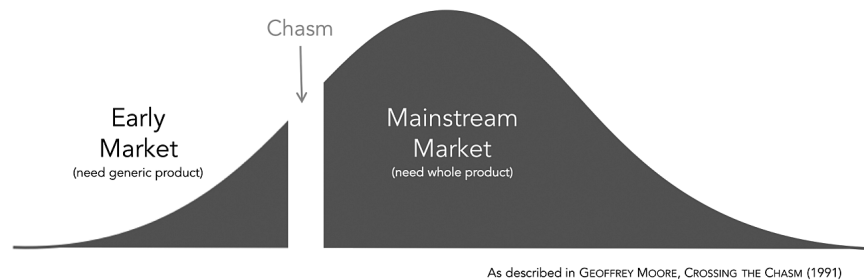
the market when Moore was writing the first edition of *Crossing the Chasm*—Figure 21B is a reasonable depiction of the ancillary products and services that make up the expected product.

A company has crossed the chasm when it has become a market leader in a niche portion of the mainstream market. Although the foothold is not large, it is the ideal place to develop the “augmented” and “potential” products (the third and fourth rings in Figure 21A). If the expected product was the IBM PC shown in Figure 21B, the augmented product might include a customer hotline, advanced training, accessible service centers, and expanded software offerings. Likewise, the potential product might include what we see today—a platform for streaming entertainment and playing complex, interactive games.

1. *The Early Market versus the Mainstream Market*

According to Moore, it is not the underlying technology that separates winners and losers. Rather, it is a failure of both entrepreneurs and investors to realize that the market is divided into two parts—an early market, where a promising generic product is sufficient; and a mainstream market, where customers will not buy without overwhelming evidence that they are, in fact, buying the whole product. This division is depicted in Figure 22.

FIGURE 22



Success in the early market comes in the form of major sales to visionary clients who see the technology’s breakthrough potential. This market evidence is often sufficient for venture capitalists to provide another round of financing in anticipation of rapid growth. This is because VCs—more so in the days before Moore’s book—bought into the smooth continuous shape of the Technology Adoption Life Cycle (Figure 22 above, but without the chasm). All too often, however, the S-curve adoption never materializes.

The recurring mistake, according to Moore, is that customer expectations are dramatically different in the early versus the main-

stream market. In the early market, “visionary” early adopter customers are drawn to the potential breakthrough implications and have the imaginative capacity to envision the whole product as something real and inevitable. Yet, visionary buyers are relatively rare. But Moore argues that the problem runs deeper than that—these “visionary” early adopters are unsuitable as reference clients.

Moore refers to the early majority (the leading edge of the mainstream) as “pragmatists” because their buying requirements are so practical and stringent. “When pragmatists buy, they care about the company they are buying from, the quality of the product they are buying, the infrastructure for supporting products and services and systems interfaces, and the reliability of the service they are going to get.”¹⁴³ In other words, they want either the expected product or an augmented product. When the company’s sales team points to visionaries, the pragmatists are unimpressed, distrusting the visionary’s risk-taking, flaunting of convention, excessive attention given to early stage technology, and the “overall disruptiveness” they impose on others.¹⁴⁴

If a tech start-up is not aware of the chasm, it runs the risk of being lulled into complacency by a few large sales to visionary clients. But more problematic is the resulting “catch-22.” As Moore notes, “[t]he only suitable reference for an early majority customer . . . is another member of the early majority.”¹⁴⁵ This is the problem that *Crossing the Chasm* is trying to solve.

2. *How Does a Company Cross the Chasm?*

A company transitions from the early market to the mainstream market—i.e., crosses the chasm—by focusing on a niche market where, by sheer dint of preparation and focus, it becomes “the only reasonable buying proposition.”¹⁴⁶ The narrow focus is necessary to conserve limited resources and increase the odds of delivering a whole product solution. This “big fish, small pond” strategy enables the start-up to “secure a beachhead in a mainstream market—that is, to create a pragmatist customer base that is referenceable.”¹⁴⁷

Moore provides tremendous guidance on how to find the right niche market. The difficulty is that a technology start-up only has a few significant clients in the early market, none of whom are repre-

143. *Id.* at 43.

144. *Id.* at 58–59.

145. *Id.* at 21.

146. *Id.* at 110.

147. *Id.* at 68.

sentative of the mainstream. Because better information is time and cost prohibitive, pre-chasm companies operate in a “low data, high risk” environment. Thus, the only option is to engage the management team’s imaginative faculties to anticipate the needs, preferences, and objections of the various stakeholders employed by your target clientele. This is the extended exercise in commercial empathy mentioned earlier—and it’s extremely difficult, particularly for left-brained technical types (lawyers as well as engineers).

The next section illustrates the importance of commercial empathy by applying Moore’s methodology to a contemporary legal industry example.

B. Part II: Applying the “Crossing the Chasm” Framework

Imagine that we are part of a legal tech start-up that has developed a machine-learning AI capability with the potential to be a best-in-class solution for many time-consuming and important activities inside a large legal department. We’ve made a few sales to some visionary legal innovators/early-adopter types, but the work has mostly been custom. As of yet, we don’t have a turn-key solution that is scaleable. Further, none of us has focused on the humdrum details of successful implementation. In fact, we have no reference customers that would satisfy a pragmatist buyer. In short, we are a pre-chasm company.

To keep the team believing in the cause and to avoid running out of cash, we have three short-term objectives:

1. Dramatically reduce our sales cycle
2. Limit the amount of customization (ideally to zero)
3. Obtain a base of satisfied pragmatist clients.

Following Moore’s chasm playbook from Part I, these three objectives are only possible by overwhelming a niche market segment with our commitment to their problem set and making our company “the only reasonable buying proposition.”¹⁴⁸

Thus, the task on our plate is to correctly identify the right niche market and, through intense focus, successfully deliver a whole market solution. Otherwise, we are going to fall into the chasm.

148. *See id.* at 110.

1. Which Market Niche?¹⁴⁹

As noted in Part I, the only tools we have to cope with our “low data, high risk” environment are imagination and empathy.

We start by developing composite profiles of characters working inside our typical buyer and evaluate, as objectively as possible, how our product positively and negatively affects each of their lives. If the buyer is a legal department, the cast of characters would likely include the GC, the Director of Legal Operations, line in-house counsel, paralegals and administrative staff, CEO, and CFO, etc.

If we are like other founders and technical types, we’re likely very self-satisfied regarding the versatility of our technology, claiming it can solve many problems well. That may be true, but what product application is going to have the biggest impact across multiple internal stakeholders? If we can deliver a whole product solution in that specific niche, the resulting word-of-mouth buzz will create the enormous tailwind we need to get to the other side of the chasm.

We identify the starting point by building a matrix of stakeholders and applications and scoring each combination on a 1 to 5 scale. Table 2 uses Moore’s scoring system, where 1= “not usable” and 5= “must have.”

TABLE 2

Score	Impact
1	Not usable
2	Unusable , but with no obvious benefits
3	Nice to have – the end user will appreciate these benefits although they are not strategic to the organization sponsoring the purchase
4	Should have – the end user receives strategic benefits, although these benefits can readily be achieved by other means as well
5	Must have – the end user receives benefits that are strategic to the sponsoring organization and cannot be achieved by any other reasonably comparable means.

Adapted from Geoffrey Moore, *Crossing the Chasm* ch. 4 (1991)

What are some the applications for machine-learning AI? Based on what I’ve seen at CLOC, ILTA, the ACC Legal Ops meetings,

149. The exercise below is based on Chapter 4 “Target the Point of Attack” of the first edition of Geoffrey Moore’s *CROSSING THE CHASM*. The original exercise, now more than 25 years old, used a pen-based laptop as the innovative new technology. See *id.* at 101–08.

and general networking within the industry, there are many. Each of the applications in Table 3 below reflect real use cases currently being pitched to large legal departments. In other words, the fate of numerous pre-chasm companies hangs in the balance. The assigned numbers are based on the composite sketches of how the application would impact the daily lives of specific personnel. Following Moore's methodology, we are always looking for "must haves."

TABLE 3

Application	Customer Stakeholders / Endusers					
	General Counsel	Dir. of Legal Ops	Deputy GC	Line Counsel	Paralegal / Staff	CEO / CFO
M&A Due Diligence	4	4	4	5	5	3
Outside Counsel Selection	4	5	2	2	1	4
Legacy Contract Scoring	4	4	3	3	3	4
Compliance Monitoring	4	3	2	2	2	5
Automated Legal Review	4	4	4	4	4	3

Adapted from Geoffrey Moore, *Crossing the Chasm* ch. 4 (1991)

Note that the scores inevitably vary based on the stories we construct, albeit we want to construct the most balanced and plausible story possible. Indeed, the entire point of this exercise is to prime the right side of our brains so we can see the world through the eyes of prospective customer stakeholders and end users and accurately identify who would most benefit from our product. Once identified, we'll do everything in our power to adapt it into something they must have.

For example, regarding the first application, M&A due diligence, a corporate acquisition can be a heavy burden on in-house corporate counsel and paralegals. Thus, they might welcome the automation of a large volume of boring scut work. Yet, how much internal juice do they have to influence decision-making? If, however, the company is a serial acquirer where the typical targets involve complex IP or environmental issues that warrant the extensive use of outside counsel, then the score assigned to the GC, Director of Legal Ops, or the CEO/CFO might reach a five, particularly if the whole product solution reveals a large quality advantage (i.e., the machine makes fewer mistakes than people; the machine aids corporate integration). This has become Kira Systems's value proposition.¹⁵⁰

150. To learn more about Kira Systems, Inc., see website at <https://kirasystems.com/>.

Note how the search for “must haves” in the example above has the effect of narrowing the niche market—to serial acquirers with due diligence that is voluminous and legally complex.

The second AI application, outside counsel selection, can also be narrowed. For example, if legal is a significant cost in a thin-margin business (e.g., insurance, retail, transportation), the GC and CEO/CFO scores might reach the must-have level. This might compensate for the fact that lawyers and staffers who regularly work with outside counsel aren’t going to like the disruption of changing firms.

Likewise, for the fifth AI application, automated legal review, there are products entering the market that score the legal risks of a proposed contract against desired terms in the company’s playbook, essentially doing the reading and analyzing normally done by lawyers. In most legal departments, this will score a three or four, as it adds no strategic value and the AI machine might make a mistake that will make decisionmakers look bad. Yet, in complex industries where in-house staff is already at 100 percent capacity, automated first-level legal review of low-risk, high-volume contracts may be a better long-term solution than more FTEs. Thus, this might become a “must have” for a GC or Director of Legal Ops who needs more lawyer bandwidth focused on high-value company legal work. I know this because Cisco’s legal department is experimenting with this technology in conjunction with Kim Technologies.¹⁵¹

The above exercise can be uncomfortable for those of us in the technical crowd who helped build the generic product. We wonder, “why can’t they see what we see?” Thus, reflexively, we tout data and the technical features of our product, often repeating ourselves. Yet, if we can endure the discomfort of getting inside the head of people very different than us, we’d see how our offering is often a mixed bag when second-order and third-order effects are factored in.¹⁵²

To boil it down, if this exercise is faithfully performed, we dramatically increase our odds of locating a niche mainstream market where a specific application of our product is a must have. But all too often, the temptation is to double-down on sales. “We don’t have time for theories. We don’t have time for books.”¹⁵³

151. To learn more about Kim Technologies, see website at <http://ask.kim/>.

152. Cf. *supra* Section VII (reporting “client orientation” and “client empathy” as key attributes of effective change agents).

153. See MOORE, *supra* note 18, at 68 (“The consequences of being a sales-driven during the chasm are, to put it simply, fatal.”).

2. *How to Position (i.e., Describe) our Product*

Buyers have different agendas than sellers, particularly in the mainstream market. As Moore notes, the lead buyers in the mainstream are pragmatists who want to make a safe choice that will enable them to look good and hit their numbers. Pragmatists also have other things on their plate besides making a purchasing decision. Thus, to save time and avoid mistakes, they're going to categorize our product based upon their current frame of reference.

According to Moore, this will be done by placing us within a competitive bracket based upon other vendors and products. Such categorization takes mental work. If we leave all of this work to the pragmatist, the comparisons will be too simplistic and unfavorable to us. Thus, as much as possible, we should pre-package a comparison to aid our prospective customers.

Moore calls this "positioning" and offers the following plug-and-play formula to make sure we get it right. Moore instructs the reader to "just fill in the blanks":

- For (target customer)
- Who (statement of need or opportunity)
- The (product name) is a (product category)
- That (statement of key benefit—that is, compelling reason to buy)
- Unlike (primary competitive alternative)
- Our product (statement of primary differentiation)¹⁵⁴

How useful is this? Moore offers the following example of Microsoft's positioning of Windows 3.0 in the early 1990s:

For IBM PC users who want the advantages of a Macintosh-style graphical user interface, Microsoft Windows 3.0 is an industry-standard operating environment that provides the ease of use and consistency of a Mac on a PC-compatible platform. Unlike other attempts to implement this type of interface, Windows 3.0 is now or will very shortly be supported by every major PC application software package.¹⁵⁵

In a profoundly concise format, this positioning statement gives the pragmatist everything he or she needs to make a purchasing decision.

By proper positioning, we boil everything down so we can pass what Moore calls "the elevator test." Specifically, if our product can't be easily described in the time it takes to travel from floor to

154. *Id.* at 160–61.

155. *Id.* at 162 (emphasis added).

floor in an elevator, then our product will never get the enormous tailwind of a word-of-mouth campaign within the mainstream market.¹⁵⁶ Until we get this distillation right, we're stuck with an impossibly long sales cycle and the likelihood that our competitors will do our positioning for us.

3. *What our Customers Say about Us*

When crossing the chasm, there is (a) the positioning statement we communicate to our target customers before the sale, and (b) what our customers say about us after they've experienced our product. The subtitle of Moore's book may lull lawyers into believing that Moore is only talking about (a) how to position the product. Yet, Moore seems no less worried about (b). Moore writes:

In the simplified [whole product] model there are only two categories: (1) what we ship and (2) whatever else the customers need in order to achieve the compelling reason to buy. The latter is the marketing promise made to win the sale. The contract does not require the company to deliver on this promise—but the customer relationship does. Failure to meet this promise in any business-to-business market has extremely serious consequences. As the bulk of the purchases in this marketplace are highly reference-oriented, such failure can only create negative word-of-mouth, causing sales productivity to drop dramatically.¹⁵⁷

A careful reading of Moore reveals that the “big fish, small pond” strategy is as much about conserving bandwidth and resources by not overpromising as it is about finding a market segment with a must-have customer need.

Ironically, as difficult as it is to enter the mainstream market—have a great generic product, pick the right market niche, position the product so it's easy to buy, and then deliver on the whole product solution—the rules seem to operate in reverse once a company gets to the other side of the chasm. Moore notes, “the more you spend time with mainstream customers, the more you see how relentlessly they pursue this conspiracy to sustain market leaders.”¹⁵⁸ Thus, crossing the chasm is a one-time event that permanently alters the financial fortunes of a company—a game that is very much worth the effort.

156. *See id.* at 159 (“Since we have already established that word of mouth is fundamental to success in high-tech marketing, you must lose [if you can't pass the elevator test].”).

157. *Id.* at 115.

158. *Id.* at 75.

4. *Selling and Law Firms as Distribution Channels*

Returning to our AI-enabled legaltech start-up, what's our sales plan?

Most of the context of *Crossing the Chasm* is based on enterprise-level technology solutions sold to large corporate clients—that is, the same posture as most legaltech start-ups. Moore lists out several options for making sales along a spectrum of “demand creators” (a direct sales force using consultative sales) to “demand fulfillers” (retail outlets). The more novel and innovative our product, the more we'll need a direct salesforce to prime the pump.

The problem is that direct sales is expensive. Moore notes, “[t]o support a single consultative salesperson requires a revenue stream of anywhere from \$500,000 to several million dollars (in 1991 dollars), depending upon presales and postsales support provided.”¹⁵⁹ As good as a direct sales team can be at educating prospective customers and creating demand, Moore argues that a direct sales force is probably not viable unless the minimum sales is at least \$50,000—again, in 1991 dollars.

As a more cost-effective alternative, Moore suggests a “selling partnership” with another company that already has a business relationship with the target clientele. Here, law firms come to mind, either as a bundled offering with the firm's consultative legal services or as a preferred vendor when the firm cannot get the work without adding an external capability that the client is demanding. Under this approach, law firms could become an invaluable distribution channel. Although Moore acknowledges that this approach may dramatically cut into pricing power—“he who owns the customer owns the profit margin and the future of the product”—he nonetheless endorses it as a way to reduce risk and avoid the grief of managing a salesforce not fit for purpose.¹⁶⁰

For many legaltech and NewLaw start-ups, this approach sounds good in theory but has seldom worked well in practice. Perhaps the reason can be found in the must-have value proposition that mainstream pragmatist buyers find most irresistible. According to Moore, this is a product offering that “radically improves productivity on an already well-understood critical success factor.”¹⁶¹ No disruption; just a quantum improvement in what we already know. Unfortunately, so often the business opportunity of

159. *Id.* at 173.

160. *See id.* at 175.

161. *Id.* at 103.

legaltech and NewLaw is reducing the inefficiencies and quality constraints of the traditional practice of law billed by the hour.

I know several start-up founders who wish they could get back the thousands of hours invested in trying to strike a deal with law firms. Whether it's short term self-interest or the consensus decision-making of law firm partnerships,¹⁶² law firms have yet to see the benefits of being a distribution channel for new products or services that could significantly help their clients. Unfortunately, this is a major bottleneck to innovation diffusion within the legal industry.

C. *Part III. The Origins of Chasm Framework and back to the Hype Cycle*

Do academics and practitioners believe they have much to learn from each other? If we look for evidence of meaningful exchange—shared conferences, the prevalence of journals that appeal to both groups, or just the quantity and quality of listening that occurs when both are in the same room—the answer appears to be “not much.” Why is that?

Part of the reason likely turns on status. The academy and practice have different reward systems, with little reserved for plowing the middle ground. Yet, what happens when two groups of smart people working on the same problem set effectively tune each other out, not necessarily out of disrespect, but just so they can finish what they perceive as their real work?

Part III offers some insight into this question by exploring the origins of Geoffrey Moore's chasm framework.

1. *Origins of Crossing the Chasm*

During the 1980s, Geoffrey Moore was a partner at Regis McKenna, Inc., a Silicon Valley marketing firm. In the 15 years prior to Moore's arrival, the firm's legendary founder, Regis McKenna, had provided counsel to an extraordinary roster of technology start-ups that went on to become industry giants (e.g., Apple, Compaq, Intel, Lotus, Microsoft, National Semiconductor, Silicon Graphics, and 3COM).¹⁶³

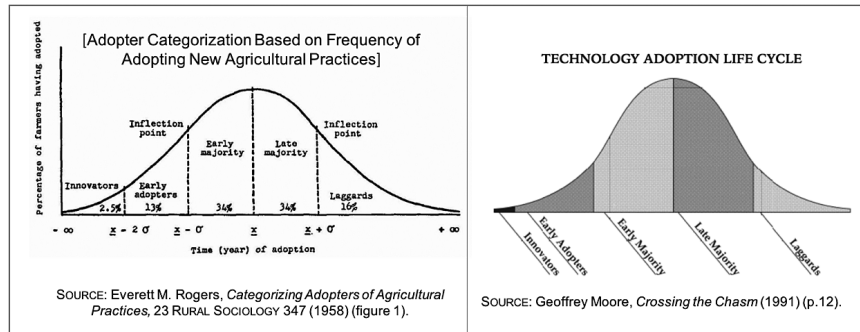
According to the account given by Moore in *Crossing the Chasm*, the dominant business framework relied upon by the Silicon Valley start-up crowd was the Technology Adoption Life

162. See *supra* Section IV.

163. See *Regis McKenna*, WIKIPEDIA, https://en.wikipedia.org/wiki/Regis_McKenna (last visited Nov. 28, 2017).

Cycle. Although there's no reason to doubt Moore when it comes to Silicon Valley terminology, the Technology Adoption Life Cycle is, in fact, the Rogers Diffusion Curve. Original copies of both curves are placed side by side in Figure 23.

FIGURE 23



Although Everett Rogers is not cited anywhere in the first edition of *Crossing the Chasm* (or in the third edition published in 2013), Moore apparently had some vague knowledge of the model's origins. In the first chapter, Moore writes, “[p]eople are usually amused to learn that the original research that gave rise to this model was done on the adoption of new strains of seed potatoes among American farmers.”¹⁶⁴ (The underlying research involved mostly corn farmers.)¹⁶⁵ Moore continues, “[d]espite these agrarian root . . . the model has thoroughly transplanted itself into the soil of Silicon Valley.”¹⁶⁶

Ironically, the core thesis of Moore’s book is that the Technology Adoption Life Cycle model (aka the Rogers Diffusion Curve) contains a serious flaw. Moore writes, “[t]he basic flaw in the [Technology Adoption Life Cycle] model . . . is that it implies a smooth and continuous progression across segments over the life of a product, where experience teaches us the opposite.”¹⁶⁷ Hence, Moore’s insertion of the chasm to create the “The *Revised* Technology Adoption Life Cycle” model. See Figure 24 below.

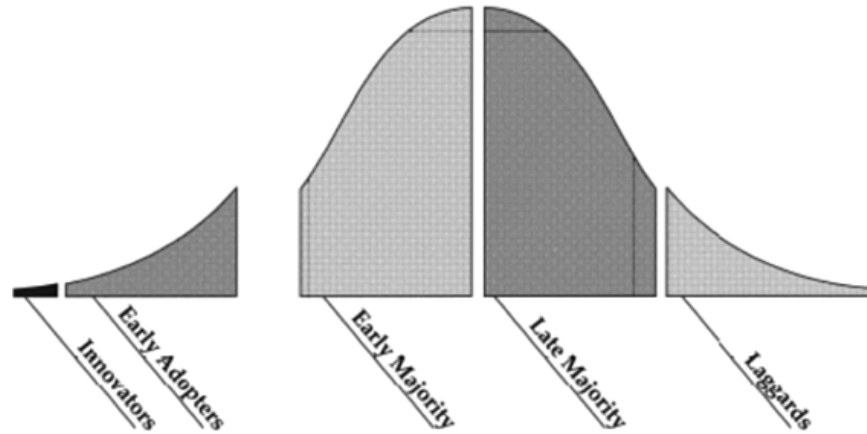
164. MOORE, *supra* note 18, at 11.

165. See Everett M. Rogers, *Categorizing the Adopters of Agricultural Practices*, 23 RURAL SOC. 346 (1958) (discussing research based on corn farming practices).

166. MOORE, *supra* note 18, at 11.

167. *Id.* at 56.

FIGURE 24



SOURCE: Geoffrey Moore, *Crossing the Chasm* (1991) (p.17).

In making this change, Moore was not the slightest bit burdened by the decades of empirical research that backed up the original model. We know this to be true from the acknowledgements at the beginning of the first edition of *Crossing the Chasm*. Moore, who has a PhD in English Literature, writes:

Prior to the world of high-tech, I was an English professor. One of the things I learned during this more scholarly period of my life was the importance of evidence and the necessity to document its sources. It chagrins me to have to say, therefore, that there are no documents or summary of evidence anywhere in the book that follows. Although I routinely cite numerous examples, I have no studies to back them up, no corroborating witnesses, nothing.¹⁶⁸

If Moore has no awareness of the original source material, how was Rogers's work transmitted to Silicon Valley? In fact, the most likely route is a textbook example of Rogers's own theory in action.

In 1975, Everett Rogers joined the faculty of Stanford University, where he stayed for approximately a decade. During this time, Rogers became interested in how the distinctive high-tech culture shaped the region's business and academic norms. Thus, Silicon Valley got incorporated into Rogers's research.¹⁶⁹

168. *Id.* at xv.

169. See, e.g., EVERETT M. ROGERS & JUDITH K. LARSEN, *SILICON VALLEY FEVER: THE GROWTH OF THE HIGH-TECHNOLOGY CULTURE* (1984); EVERETT M. ROGERS, *THE HIGH TECHNOLOGY OF SILICON VALLEY* (1985).

What seems likely is that the basics of diffusion theory, including the diffusion curve, were shared with some of Rogers's research subjects and other professional acquaintances. In turn, some—likely the innovators and early adopters—applied Rogers's ideas to the problems of high-tech marketing. Because the diffusion curve proved to be quite useful, it was shared throughout Silicon Valley's "social system" as the Technology Adoption Life Cycle, a title that fit its purpose.

Several years later, Moore, reflecting upon his experience and desiring to communicate a strategy that (a) his clients could understand, and (b) would cause them to avoid financial ruin, came upon the chasm as a better description of his clients' core dilemma. Ironically, this adaption of Rogers's own ideas is what diffusion researchers call "re-invention."¹⁷⁰

Eventually Moore's re-invention came to Rogers's attention. In the fifth edition of *Diffusion of Innovations*, Rogers writes:

The five adopter categories . . . are *ideal types*, concepts based on observations of reality that are designed to make comparisons possible. . . . Pronounced breaks in the innovativeness continuum do not occur between each of the five categories, although some scholars claimed that a discontinuity exists between the innovators and early adopters versus the early majority, late majority, and laggards (Moore, 1991). Past research shows no support for this claim of a "chasm" between certain adopter categories. On the contrary, innovativeness, if measured properly, is a continuous variable and there are no sharp breaks or discontinuities between adjacent adopter categories[.]¹⁷¹

As an academic, I understand that the chasm is not supported by data. Yet, as someone who spent several years in a data analytics start-up company, I know there is a second question worth asking: is there benefit in having the team *believe* there is a chasm so, in an effort to avoid it, we adopt a laser-like focus on end users very different from us? Based on my professional experience, I would answer the question with an emphatic yes.

2. *Theory and Practice*

As I describe the origins of the Technology Adoption Life Cycle and the chasm framework, I hope it is obvious that I am not

170. See ROGERS, *supra* note 5, at 180 (defining re-invention as "the degree to which an innovation is changed or modified by a user in the process of its adoption or implementation").

171. *Id.* at 282.

passing judgment on Geoffrey Moore or his Silicon Valley peers. In fact, the opposite is true.

Crossing the Chasm is a best selling business book because it addresses an important problem—generating sufficient sales before start-up funds are exhausted—in a lucid, non-technical way that is loaded with industry context. It is noteworthy that solving important problems in a simple, culturally compatible way is the precise advice that flows from Rogers’s empirical work.¹⁷² In fact, the guidance provided by *Crossing the Chasm* is remarkably consistent with *Diffusion of Innovations*. This is a testament to Moore’s powers of observation and his effectiveness as a business counselor.

Yet, does Moore’s example prove that practitioners have little to learn from academics? Or, stated another way, do the most valuable lessons have to be learned in the trenches and communicated as business lore? I am skeptical of this claim, particularly as it applies to lawyers. If the slow pace of innovation is now threatening the viability of our organizations and the legal profession as a whole, we don’t have time to sort out whose “more practical” ideas to follow or, for that matter, whether any of them really work. Instead, we need to seek out valid, reliable data.

FIGURE 25



The attenuated connection between Rogers (a university academic specializing in applied research) and Moore (a marketing practitioner) illustrates a tension experienced by those of us “in the field” doing either applied research or working as change agents. Applied research is generally not esteemed by university colleagues, primarily because it’s viewed as problem-solving (what practitioners do). University professors are supposed to create knowledge.¹⁷³ Yet, among practitioners, the work of applied researchers is often perceived as too academic and a distraction from keeping a paying client happy. As a result, the middle ground tends to be pretty barren.

It’s a long journey from pure university research to innovations that can be packaged and sold to demanding private sector clients at a profit. That journey is made longer, however, because people

172. See *supra* Section IV (listing high relative advantage, low complexity, and cultural compatibility as key factors in rate of adoption).

173. See *supra* Section I (discussing difference between applied and pure research, with pure research, or knowledge creation, favored in universities).

in different camps are reluctant to invest the time to listen to one another, as it takes effort to overcome communication and cultural gaps.¹⁷⁴ The great psychologist Amos Tversky once quipped, “[t]he secret to doing good research is always to be a little underemployed. You waste years by not being able to waste hours.”¹⁷⁵

Innovation is advanced when disparate social systems—like Rogers’s and Moore’s respective professional networks—remain connected with one another. Although the information exchanges will tend to be more cognitively taxing than exchanges with peers, the resulting insights justify the effort.¹⁷⁶ In the case of Rogers and Moore, the contact was incidental rather than planned. Nonetheless, the power of the underlying ideas was sufficiently great to leave an indelible mark on the high-tech industry.

IX. CONCLUSION—NOTHING LEFT TO CHANCE

As a concluding observation, I’ll reinforce what I hope is an obvious point: in the year 2018, innovation in the legal services market does not need to be left to chance. There is a well-developed science of innovation diffusion. As we struggle with the many problems created by lagging legal productivity,¹⁷⁷ we can use diffusion theory—and Geoffrey Moore’s brilliant metaphorical conceits—to accelerate the adoption of innovation. Further, we can do it at a lower cost and with significantly less risk.

The price of admission is investing the time to learn a seeming academic theory. Many of your colleagues will think this is a dumb and impractical use of their time, albeit they don’t see the world through the eyes of an innovator or early adopter. As a result, these difficult problems and opportunities fall to people like you.

I would like to end this article and the foundational work for the Legal Evolution blog by looking at emerging technology not from the perspective of an entrepreneur trying to turn a technology into a successful business, but as a buyer evaluating a confusing landscape of emerging technology and trying to sort out what is strategic (potentially affects my company’s survival) versus operational (potentially affects my bonus). This is what IBM used to call

174. See *supra* Section VII (discussing challenges of change agents).

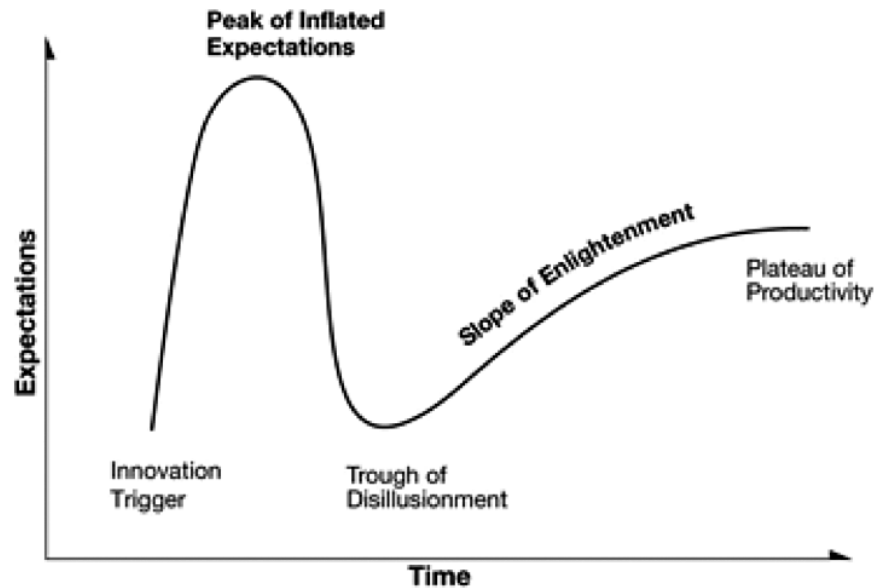
175. MICHAEL LEWIS, *THE UNDOING PROJECT* (2016) (quoting Tversky).

176. See *supra* Section VII (noting that innovation travels through “weak ties” on the social system’s periphery with innovators and early adapters serving as connectors).

177. See, e.g., Bill Henderson, *Supply of Law Graduates is Shrinking, But So is Demand (006)*, LEGAL EVOLUTION (May 14, 2017), <https://www.legalevolution.org/2017/05/supply-law-graduates-shrinking-demand-006/> (discussing how lagging legal productivity is affecting court systems and the demand for law grads).

the FUD factor—the fear, uncertainty, and doubt that surround high-stakes decisions on relatively new and unproven technology.¹⁷⁸

FIGURE 26. FIVE STAGES OF GARTNER HYPE CYCLE



As discussed *supra* in Section VIII(A), managers and executives struggling with the FUD factor have long looked to Gartner's annual Hype Cycle of emerging technologies. As shown in Figure 26 above, the Hype cycle is divided into five stages, which Gartner describe as follows:¹⁷⁹

1. **Innovation Trigger:** A potential technology breakthrough kicks things off. Early proof-of-concept stories and media interest trigger significant publicity. Often no usable products exist and commercial viability is unproven.
2. **Peak of Inflated Expectations:** Early publicity produces a number of success stories—often accompanied by scores of failures. Some companies take action; many do not.
3. **Trough of Disillusionment:** Interest wanes as experiments and implementations fail to deliver. Producers of the technology shake out or fail. Investments continue only if the surviving providers improve their products to the satisfaction of early adopters.

178. See Regis McKenna, *Foreword to MOORE, supra* note 18, at xii (explaining FUD factors and its origins).

179. See *Gartner Hype Cycle*, GARTNER, <https://www.gartner.com/technology/research/methodologies/hype-cycle.jsp>.

4. **Slope of Enlightenment:** More instances of how the technology can benefit the enterprise start to crystallize and become more widely understood. Second-and third-generation products appear from technology providers. More enterprises fund pilots; conservative companies remain cautious.
5. **Plateau of Productivity:** Mainstream adoption starts to take off. Criteria for assessing provider viability are more clearly defined. The technology's broad market applicability and relevance are clearly paying off.

What makes the Hype Cycle so tricky for law firms is that some of the technology coming online is not operational IT that can be safely put off until stage five. Rather, it's "discontinuous innovation" that has the potential to fundamentally change how legal problems are solved—hence the growth in the number of legal start-ups and NewLaw companies who see the opportunity. This suggests that there are real consequences to arriving late to the party. These dynamics move law firms closer to their clients in terms of needing to continuously innovate.¹⁸⁰ This is a sea change that is steadily gathering force.

Lawyers, law firms, and those working in the legal services space overlook these changes and the clients' perspective at their peril. Although the challenge can be daunting, it is important for legal services innovators to realize that they are not alone. The *Legal Evolution* blog is one example of ongoing efforts to create communication channels in which legal services innovators, as well as other on the diffusion curve, can communicate with one another and share their experiences. The goal of this article and the foundational blog posts for analyzing and understanding both the successes—and the failures—of legal services innovations and to create an environment that increases the chances of widespread diffusion of worthy innovations.

180. See, e.g., McLellan, *supra* note 105 (quoting legal industry expert: "Every company is going to become a tech company in some capacity. That ultimately is going to be true of professional service firms and law firms as well.").