Legal Technology and Innovation: A Framework and Skills for Success

Daniel W. Linna, Jr.
Professor & Director of LegalRnD – The Center for Legal Services Innovation
Michigan State University College of Law

@DanLinna

• Search and apply for more than 1,000 high-quality legal jobs nationwide
• Upload your resume for review by hundreds of potential employers
• Receive email alerts when new jobs are posted that meet your search criteria
• Or post a job if you have an open position to fill.
• Free monthly webinars offering career development and job search tips
  o Career Advice Series
  o Career Choice Series

Visit CareerCentral.biz today!

Faculty

Professor Daniel W. Linna, Jr.

• Dan is the Director of LegalRnD – The Center for Legal Services Innovation and a Professor of Law in Residence at Michigan State University College of Law. Dan is also an Adjunct Professor of Law at the University of Michigan Law School. Dan teaches legal innovation and technology classes at MSU, including quantitative analysis. At the University of Michigan law school, Dan has taught negotiation for several years. Beginning in January 2018, Dan will teach a Legal Technology & Innovation class at the University of Michigan Law School. Before law school, Dan was an Information Technology manager and a consultant. Dan graduated magna cum laude from the University of Michigan Law School. After law school, he clerked for one year on the U.S. Court of Appeals for the Sixth Circuit. Before joining MSU three years ago, Dan was an equity partner in the litigation department at Honigman Miller Schwartz and Cohn.
Here come the robot lawyers

The lawyers of the future may be less J.D. than R2D2.

Armys of Expensive Lawyers, Replaced by Cheaper Software

JPMorgan Software Does in Seconds What Took Lawyers 360,000 Hours

At JPMorgan Chase & Co., a learning machine is parsing financial records that once kept legal teams busy for thousands of hours.
Innovation and Technology

• Revolutionizing every industry
  Uber -- Taxis
  AirBnB -- Hotels
  Amazon -- Retail

• Traditional services
  — Financial services
  — Medical services

• Should we expect law to be any different?
**Why A Law Firm Partner Became A Chief Data Scientist**

June 25, 2015 | Nick Robertson | Analytics & Assisted Review, Law Firms

Last month, Bennett Bender was named Drinker Biddle & Reath’s first-ever chief data scientist. He’ll lead the firm’s data analytics practice, taking a new approach to legal services in the face of growing data volumes.

The firm has garnered a lot of attention with the move from within the industry and even mainstream media. Recently, we sat down with Bennett to get his perspective on the evolution of new leadership roles in the industry. He also shared some in-depth insights into why the traditional lawyer is quickly going extinct.

Nick: Already a well-respected partner in an AmLaw 100 firm, you felt compelled to go back to school to get a master’s degree in business analytics. What does that say about the changing role of the attorney?


---

**Bryan Cave Launches Technology and Innovation Incubator**

February 7, 2017

The international law firm Bryan Cave LLP announced that it has launched TechNIK, a new incubator designed to grow Bryan Cave’s industry leading technology awareness, depth of expertise, and competitive advantage by centralizing thought leadership and enabling participants to market innovation excellence. The group of forward-thinking attorneys and others professionals extends across multiple offices around the world, and includes many different practice groups and areas of experience. The firm’s dedication and promotion of innovation will lead the way in revolutionizing the practice of law and creating efficiencies for clients along the way.
How is the industry really changing?

• People
• Process
• Technology
People

• Law very people focused
  – Lawyers deliver value
  – Opportunities for others to deliver value

• Very little thought given to
  – Process
  – Technology

Process & Technology

• Disaggregate legal work
  – Discrete tasks and processes

• Who does the work?
  – Make or buy?
  – Outsource?
  – Automate?

• Development of legal supply chain

Legal Departments Driving Change

• Expecting much more from law firms

• RFPs:
  • Technology
  • Process improvement
  • Project management
  • Metrics for efficiency and quality
  • Data analytics

• Convergence – legal departments using fewer law firms
  – Panel firms
  – Collaboration required
MSU Law LegalRnD Courses

• Delivering Legal Services: New Legal Landscape
• Quantitative Analysis for Lawyers
• Litigation (Data, Theory, Practice, & Process)
• Entrepreneurial Lawyering
• Artificial Intelligence and Law
• Legal Analytics
• eDiscovery
• Co-Curricular Activities
  – Lean and Project Management workshops
  – Field work
  – Legal technology workshops
  – Social media workshops
T-Shaped Lawyer

21st Century Legal Services
• Business of law (e.g., legal operations)
• Process improvement
• Project management
• Knowledge management
• Metrics
• Data analytics
• Technology

Business of Law
• Understanding clients & their business
  – clients becoming more sophisticated consumers
• Business of Delivering Legal Services
  – legal aid & courts to legal departments and law firms
“Everyone looks pretty much the same in a blue suit. What am I going to do to differentiate myself?”

- @GMGCraigGlidden

#LegalRnD

The Business Model Canvas

Process Improvement
Process of Legal Matters

- Legal matters vary, yet consist of similar components
- Processes can be perfected
- Can develop best practices and standard work

Evolution of Legal Processes

- Bespoke
- Standardized
- Systematized
- Packaged
- Commodified

Harvard Business Review

Lean Knowledge Work
Lean (Toyota Production System)

What is Lean?

Lean is getting the most **value** for the customer using the least amount of resources with the shortest overall lead time.

- Customer defines value
- Scientific method for knowledge creation
- Respect for people

More than efficiency; Quality & better outcomes

THE FOUR STEPS OF THE IMPROVEMENT KATA

1. Get the Direction or Challenge
2. Grasp the Current Condition
3. Establish your Next Target Condition
4. Conduct Experiments to get there
Lean? Design Thinking? Six Sigma?

- Customer focus
- Scientific method
- Learning organizations
  - Lead & empower everyone to
    - Continuously improve
    - Innovate
    - Deliver greater value
Project Management

• What is a project?
  – a temporary group activity designed to produce a unique product, service, or result.

• What is project management?
  – the application of knowledge, skills, and techniques to execute projects effectively and efficiently.


Project Management

• Initiate
• Plan
• Execute
• Close
  – Lessons Learned (Retrospective)
Knowledge Management

- Capturing, organizing, and recalling:
  - who you know
  - what you know
  - how you do what you do

Metrics, Data, & Technology

Legal Technology

- Basic
  - E.g., Word, Excel, PDFs, metadata, eDiscovery, cloud computing, case management systems
- Intermediate
  - E.g., Document automation, expert systems
- Advanced
  - E.g., Machine learning, natural language processing, artificial intelligence
Data

- "Big Data" and Technology
  - Automation
    - Expert Systems and document automation
    - Artificial Intelligence (e.g., Machine Learning)
  - Data Analytics (aka, prediction)
    - Litigation, Compliance, Transactions, etc.
- Data-driven decision making
  - Metrics
    - Benchmarks
    - Efficiency
    - Quality
  - Small data

Prediction

- Experts
- Crowds
- Algorithms

Algorithm

“a step-by-step procedure for solving a problem or accomplishing some end especially by a computer” – *Merriam-Webster*
Rules-Based Artificial Intelligence

Expert Systems

How do you want to enter your business income?

Guide me
- Walk you through all income sections, one at a time
- Best if you want us to take you through all situations

I'll explore on my own
- Choose specific types of income you want to work on
- Best if you know which situations apply to you
Data-Driven Artificial Intelligence
AI – Machine Learning

<table>
<thead>
<tr>
<th>Type</th>
<th>Categorical</th>
<th>Continuous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervised</td>
<td>Classification</td>
<td>Regression</td>
</tr>
<tr>
<td>Unsupervised</td>
<td>Clustering</td>
<td>Dimension Reduction</td>
</tr>
</tbody>
</table>

An Introduction to Statistical Learning: with Applications in R (Springer Texts in Statistics)
AI - Machine Learning Applications

- Technology Assisted Review
  - eDiscovery & Diligence
- Compliance
- Quantitative Legal Prediction
  - Litigation
  - Transactions

TAR 1.0

Source: Catalyst TAR for Smart People at https://catalystsecure.com/tarforsmartpeople
Predicting a Lawyer’s Rate

- Firm Size
- Location
- Partner Status
- Experience
- Practice Area

- Regression?
Can We Predict Case Outcomes?
Before “Big Data,” Small Data

• Create a data-driven culture
  – Establish Metrics
  – Capture Data (Do you have a data plan?)
  – Keep Score
• Setting the stage for quantitative prediction and Artificial Intelligence

Data-Driven Decisions

Asking, for each decision:
1. What do we want to accomplish?
2. What data do we have?
3. What other sources of data can we use?
4. What action do we take?
Transactions - Risk Assessment

- Identification
- Estimation (likelihood and value)
- Evaluation
- Treatment

Estimation & Evaluation

<table>
<thead>
<tr>
<th>Probability</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rare</td>
<td>Low</td>
</tr>
<tr>
<td>Unlikely</td>
<td>Low</td>
</tr>
<tr>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Likely</td>
<td>Medium</td>
</tr>
<tr>
<td>Very likely</td>
<td>Medium</td>
</tr>
</tbody>
</table>

Source: Just Get PMP

Contract Risk Assessment

- Specify scope and target
  - Client objectives?
  - How will risk be documented and measured?
  - Criteria for risk evaluation?
- Risk identification
  - For each clause:
    - How will subsequent facts and decisions negatively affect objectives?
- Risk estimation and evaluation
  - likelihood and value
- Risk treatment and cost-benefit analysis
Decision Trees

- Systematic approach
- Identify uncertainty—legal and fact issues
- Conduct sensitivity analysis
- “Level set” lawyers and clients

---

Decision Trees

- Systematic approach
- Identify uncertainty—legal and fact issues
- Conduct sensitivity analysis
- “Level set” lawyers and clients
Litigation “Small Data” Examples

- Matter type
- Claim type
- Jurisdiction
- Judge
- Lead lawyer
- Exposure
- Expected value at Early Case Assessment
- Fees estimated at Early Case Assessment
- Settlement amount
- Days to decision (Motion to Dismiss, Summary Judgment, Trial)
- Total fees

Example: Basic Litigation Metrics

- Keep score: predicted versus actual
  - Total cost to prosecute or defend
  - Amount to resolve
  - Duration

Data-Driven World

- “Without data, you’re just another person with an opinion.”
  — W. Edwards Deming
Career Pathways

• Traditional Lawyers
  – Manage legal work (process & project management)
  – Develop business
    • Understand clients’ business
    • Understand clients’ legal supply chain
  – Lead legal organizations
    • Law Firm CEO, General Counsel, Chief Judge, Prosecuting Attorney
  – Emerging Technologies
    • Blockchain, artificial intelligence, information privacy & security, 3D printing, Big Data, drones, virtual reality

Career Pathways

• Nontraditional Lawyers
  – Legal Solutions Architect
  – Legal Data Scientist
  – Legal Startup Founder
• Alternative Careers
Daniel W. Linna Jr.
Professor & Director of LegalRnD – The Center for Legal Services Innovation
Michigan State University College of Law

Blog: www.LegalTechLever.com
Research: www.LegalTechInnovation.com
LinkedIn: https://www.linkedin.com/in/danlinna/
Twitter: @DanLinna

Upcoming Career Advice Series Webinars

– Thursday, November 9, 2017, 1-2pm ET, 5 Ways for Associates to Prepare for Partnership

– Friday, December 8, 2017, 1-2pm ET, Keeping Up with LinkedIn

http://ambar.org/careers
https://www.linkedin.com/company/aba-legal-career-central
https://www.facebook.com/ABALCC/
https://twitter.com/abalcc
http://ambar.org/jobs
https://www.youtube.com/channel/UCgleqg8YUPO-44Uwz3eYAA

LET’S CONNECT!
Check out [http://www.abalcc.org/about/](http://www.abalcc.org/about/) to meet the LCC Board.

**ABA LCC Board Members:**
- Liz Stone, Stone Legal Search, San Francisco
- Emily Roschek, Chicago

**ABA LCC Staff:**
- Dan Binstock, Garrison & Sisson, Washington, DC
- Avery Blank, Avery Blank Consulting, Philadelphia, PA
- Derek Davis, Harvard Law School, Cambridge, MA
- Judith Gordon, LeaderEd, Los Angeles, CA
- Cheryl Rich Heider, LUNTERNATIVES, Chicago, IL
- Fiona Trevelyan Hornblower, Boston University School of Law, Boston, MA
- Skip Horne, Santa Clara University School of Law, Santa Clara, CA
- Betsy Munnell, EHMunnell, Boston, MA
- Samorn Selim, Samorn Selim Coaching, San Francisco, CA
- Bob Young, English, Lucas Priest and Owley, LLP, Bowling Green, KY