Analytics Maturity in Legal Organizations: Lessons from “The Karate Kid”

hbrconsulting.com | info@hbrconsulting.com | 312.201.8400

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Table of Contents

Introduction	1
The White, Yellow, and Orange Belts: Deciding to Pursue an Analytics Strategy	2
The Green Belt: Foundational Analytics	4
The Blue and Purple Belts: Descriptive Analytics	4
The Brown Belt: Diagnostic Analytics	6
The Red Belt: Predictive Analytics	7
The Black Belt: Prescriptive Analytics	8
The Data Collection Imperative	10
What Corporate Law Departments Should Keep in Mind	10
What Law Firms Should Keep in Mind	11
Conclusion: Striving for the Black Belt	12

Introduction

This year marks the 35th anniversary of the 1984 classic, *The Karate Kid*. In the film, a high school student, Daniel LaRusso, is bullied by a gang of students from a vicious dojo, the Cobra Kai. After Daniel is brutally beaten by five of the Cobra Kai, his neighbor, Keisuke Miyagi, intervenes and singlehandedly defeats the attackers. Miyagi then agrees to train Daniel to prepare him for a karate tournament against the Cobra Kai. Under Miyagi's instruction, Daniel reluctantly completes seemingly menial tasks, such as waxing cars and painting fences, which, unbeknownst to him, give him the skills and muscle memory necessary to advance rapidly through the levels of karate training. Ultimately, Daniel bests his opponent, winning the tournament through his progressive mastery of techniques.

This nostalgic reference comes to mind because the legal industry is ready for some Mr. Miyagi-like training on data analytics. Though our beatings are less severe than Daniel LaRusso's, the industry is taking its lumps as it tries to leverage data more broadly. Like Daniel before he began his tutelage with Mr. Miyagi, today's legal organizations often launch haphazardly into ineffective, discordant and fractured efforts, without pausing, learning and recognizing the evolutionary progression required to deliver impactful and creative results.

For too long, guesswork and hunches—most informed, but some less so—have been the touchstone of the legal industry when it comes to responding to key client questions about the future of legal matters. Need to come up with a proposed settlement amount? A lawyer is likely to look back on what she remembers of her individual experience and suggest a figure based in part on gut instinct about the perceived stubbornness of the other side's counsel. Want to assess a client's potential exposure in a dispute? Here, a lawyer might reflect upon his past cases to establish a window of possible outcomes. Hope to negotiate a favorable deal? A lawyer might look at her previous transactional work and follow the strategy that worked in other recent deals. Though these examples are simplified, they are not too far off the mark. Lawyers typically base their advice and approach on individual experience and anecdote, instead of on collective experience or concrete data.

While gut instincts and approximate answers have often sufficed, in the age of "Big Data" clients expect more and lawyers have the ability to give more. After all, guesswork is antithetical to the paradigm of the practice of law: gather evidence, study the rules or applicable framework, and then draw conclusions. Moreover, many businesses are immersed in data, dashboards and trends day in and day out, and they expect the same data awareness from their inside and outside counsel. For law firms in particular, especially those facing competition from nontraditional suppliers such as alternative legal service providers and accounting firms, the increasingly crowded marketplace and downward price pressure are forcing them to take a hard look at ways to become more competitive. They may need to base their decisions and advice on something more than individual experience and expertise to stand out.

Fortunately, lawyers can meet both client and business expectations by delivering data-driven insights. If they collect the right data, deploy the right analytical techniques and leverage the right tools, lawyers can augment existing practices and create new quantitative legal services.

Many corporate law departments and law firms are still legal analytics novices, however: they have not yet developed the ability to ground their guidance in historical data, measurement and statistics. In order to do so, they must incrementally increase their capacity to capture, organize and analyze data related to the practice of law, much like a karate student learns fundamental skills before building upon that knowledge to advance from level to level. As lawyers learn and advance through analytics maturity levels, they become better at spotting opportunities to use analytics techniques and at pairing the right approaches with problems and projects as they arise.

In karate, students progress through various colored belts that indicate their level of mastery, starting with a white belt and ending with a black belt. In that tradition, each color represents a stage in a plant's journey toward maturity, much like an organization's journey toward analytics maturity. Here is a blueprint for how lawyers, both in firms and in house, can work toward gaining the command and fluency to become analytics "black belts," progressively building on the knowledge gained in each stage along the way.

Classes of Quantitative Analyses

Inter-Matter

- compare common factors across matters

Intra-Matter

- deep, narrow dive seeking trends, patterns within a given matter

The White, Yellow and Orange Belts: Deciding to Pursue an Analytics Strategy

The white belt symbolizes a seed under the snow in the winter, a representation of a student at the start of the journey to learn about karate or, for our purposes, about analytics. At this stage, curiosity and initial interest are the key markers. Data is seen as relevant to improvement. The yellow belt represents organizations that have actively started to learn about potential analytics applications and benefits: they are receiving the first rays of sunlight, or knowledge. Lawyers in organizations that have earned their orange belt are beginning to enjoy the warmth of the sun and welcoming knowledge. They understand the relevance of analytics, have a basic understanding of how analytics can benefit their practice and have opened their minds to how analytics can improve their decision-making.

The current landscape: The most common current uses barely scratch the surface of analytics opportunities. To date, most legal organizations have focused on financial metrics, such as spend and revenue. That emphasis reflects pressure on corporate law departments to make prudent and calculated financial decisions that align with other parts of the business and on law firms to maintain their margins despite calls from clients for greater budget predictability and lower overall costs. Indeed, in the 16th annual *HBR Law Department Survey*, 21 percent of respondents reported that they planned to implement spend analytics within the next one to two years, while 57 percent stated that they had already implemented some form of these analytics.

Types of analysis: Legal organizations have used both *intra*-matter and *inter*-matter analysis in their work. For example, legal organizations have also emphasized *intra*-matter analysis in areas such as M&A, e-Discovery and investigations. In these matters, organizations take a deep, narrow dive into a large volume of documents, facts or activities looking for trends and patterns, such as signals of fraud in billing data. To the extent that organizations perform *inter*-matter analysis—comparing features across matters—many have begun to dabble by examining financial data such as fees, profitability and realization rates across similar matters. But organizations moving to the yellow and orange belt levels are realizing that opportunities for broader analysis exist across matters, enabling them to better understand the nature of the risk and craft better legal strategies.

Possible approaches: For white belt legal organizations, where (and how) should they begin earning their analytics maturity belts? Organizations have two options on how to focus their efforts: global, enterprise-wide effort or local, practice- or client-specific analytics endeavors.

A *global* approach could look like this: a law firm's CIO might want to look at solutions that apply across practice areas, such as building data management capabilities and creating consistency in core data elements. Here, the CIO might audit the firm's data and determine how best to structure it for consistency and to support future analysis, such as through data warehousing, data marts, master data management and visualization. This cross-organizational assessment lays the foundation for an enterprise-wide approach to analytics. The more global the nature of a project, the more it tends to support inter-matter analysis.

Legal Analytics Approaches

Global

- enterprise-oriented projects
- focus across multiple practice areas/functions, largely exploring commonalities at a high level

Local

- focus on a single class of legal work (e.g., practice area, matter-type)
- may be directed at deeper points of comparison within a target population of matters or could be focused on analyzing trends or patterns within a given matter
- analysis may not be applicable or appropriate to other areas, but value can be high within a given category of legal work

A deeper and more focused *local* approach, on the other hand, would examine targeted opportunities on behalf of a specific practice area or client. For example, the labor and employment team might want to look for ways to better predict when it should take matters to trial or settle them. This vertical analysis would apply only to this practice area, exploring dimensions that are particular to this type of practice and not the rest of the firm. Expansion within the firm would come from multiple practices exploring specific aims and then synchronizing across common needs and architecture as usage increased. A local project can apply either inter-matter or intra-matter analysis, or both.

There is no right answer as to which approach an organization should take first; it depends on the desired results, the stakeholders involved and the perspective on growth and scale. Local efforts can create discernable impact, but risks of splintering and isolation exist. Global efforts can yield long-term impact and support an array of efforts, but projects are slower and investment requirements are more material. Once you have committed to analytics, chosen an approach and determined how best to collect the relevant data, it is time to chart a path toward earning your black belt in analytics and begin navigating the five levels of analytics sophistication and maturity: foundational, descriptive, diagnostic, predictive and prescriptive.

The Green Belt: Foundational Analytics

Law firms and in-house teams seeking their green belt are like sprouting seeds, just starting their growth trajectory. They are learning and strengthening their basic understanding of their data and beginning to consider the possibilities of what they can do with that data.

This stage is planning-oriented and may be short-lived. Whether the perspective and focus is horizontal or vertical, the organization is taking stock of what skills and tools are necessary and further defining the initial queue of projects.

Signals of activity and resources for this stage: The focus in this stage is largely on data inventory, data collection, data management, and capability and tool assessment. The chief questions organizations in this stage will ask are as follows: Do we have the data necessary to achieve our objectives? Where does this data reside? How can we access that data? How can we better structure or normalize that data to make it useful for future analysis?

The Blue and Purple Belts: Descriptive Analytics

Legal teams seeking their analytics blue belt are like plants stretching for the sky and growing taller; the light, or the knowledge of analytics, fuels their development as they start down the path of analytics maturity by exploring descriptive analytics. As they mature in this phase, they earn their purple belt, representing the dawn, as they start to appreciate the greater value of analytics maturity.

Descriptive analytics are generally backward facing or, at best, a current snapshot: they tell you what has happened or what is happening right now. Many law departments and law firms already capture these analytics in reports—but all too often, these reports are not actionable or interactive, and their warnings are not well-heeded.

Most spend-analytics solutions offer various types of historical descriptive data in reports. Common examples include summary reports that show the number of hours billed by a firm or on a matter, the deviation in spend compared to an organization's budget or the average spend on a certain type of matter.

Analyzing existing "low-hanging fruit" like this will naturally lead to deeper questions. The insights gleaned and value provided will encourage more questions about data and stimulate interest in the next stage, diagnostic analytics. If you start a reporting rhythm that regularly delivers helpful insights, even based on the simplest of metrics, you can improve transparency and achieve buy-in for greater efforts. A report or, better yet, an interactive visualization in an easy-to-read display can summarize a legal organization's accomplishments and its opportunities for improvement, such as the number and type of commercial agreements signed within a set period or a comparison of outside counsel spend with set budgets. Using this type of dashboard also translates the legal world into a more commonly understood (and thus more accessible) format that firm and business leaders alike will appreciate, creating parity with other business departments.

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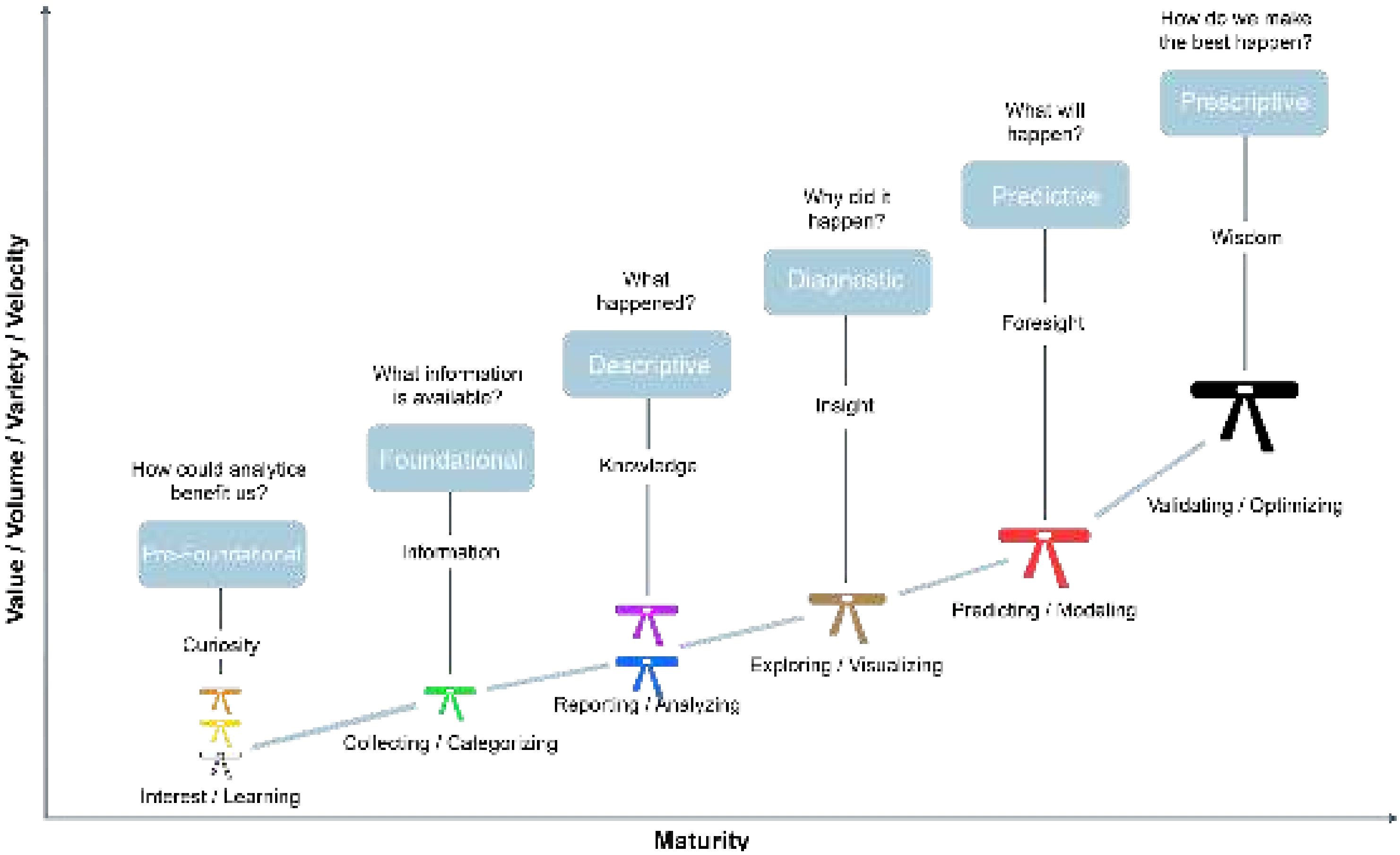
Signals of activity and resources for this stage: Descriptive analytics, which are typically financially oriented, can be supported through basic tools like Microsoft Excel and SQL and made accessible through visualization tools such as MS Power BI, Tableau or Qlik. For instance, using a simple spreadsheet and basic math, you could assess whether the legal department's efforts to bring more e-Discovery processes in house helped the organization reach its goal of reducing overall litigation spend by five percent year over year. Visualization tools are optimal in a legal environment, as they offer the easiest way to rapidly convey insights to busy lawyers and business leaders, who may not have the time or inclination to interpret complex tabular data or text-heavy reports. They are also ideal because many lawyers in this stage possess neither mathematical skills nor well-developed data-interpretation muscles. Because visualizations are more appealing, they encourage lawyers to further explore analytics.

DATA ANALYTICS MATURITY MODEL



The Brown Belt: Diagnostic Analytics

In this stage, progress is clear: in analytics, like in karate, maturity is beginning to ripen, with an eye toward harvesting the results of the student's labors. Organizations are starting to see the growing fruits of their hard work as they develop a more robust analytics program.

When the legal organization is ready to analyze the underlying reasons behind an event or statistic, it needs diagnostic analytics. Diagnostic data takes descriptive analytics to the next level, drilling down into the basic assumptions revealed by descriptive data to explain the factors that have caused a certain outcome.

For instance, a law department could use diagnostic analytics to assess which variables, such as a compliance audit or a whistleblower complaint, might portend litigation, or what drove the average settlement value of product-related matters to double in four years' time. Similarly, a law firm that sees from descriptive analytics that utilization rates have dropped can use diagnostic analytics to examine what variables influenced that reduction. An organization might also analyze its demand letters to look for early signals of future disputes.

Signals of activity and resources for this stage: Factor analysis is the key here: what factors explain a given response, and to what degree does each factor apply? The organization is also looking intently toward what drives its financials, which requires additional contextual, practice-oriented data. In addition to tools from earlier stages, legal organizations will require slightly more advanced tools to best deploy diagnostic analytics, including statistical programming languages, such as R, Python or SAS, for regression, classification and feature analysis.

The Red Belt: Predictive Analytics

In this stage, organizations are beginning to feel the red-hot heat of the sun, given their mastery of the earlier analytics stages. But danger may lurk ahead, if organizations are not cautious in deploying their analytics knowledge and capabilities.

Predictive analytics—those that explore what may happen—remain uncharted territory for most legal organizations. These probability-driven analytics signal a shift from reactive to proactive data analysis. Here, lawyers can use historical data to glean insights about future events that might otherwise remain obscured, using the resulting information to offer more value to clients and to better protect their own organizations. So, while descriptive analytics might show when a spike in litigation occurred, and diagnostic analytics might shed light on why the spike occurred, predictive analytics will offer an informed estimate of when the next spike might happen and the magnitude of that spike. These analytics can inform legal advice, refine a case strategy, suggest likelihood of success in a transaction, enable better risk forecasting or predict matter outcomes.

Data collection and aggregation are essential for organizations hoping to gain their red belt. Generally, the larger their data sets, the more accurate (and valuable) the assessments they can return. For instance, law firms or in-house counsel might want to assess how long it will take to close a deal or predict the potential settlement amount for an employment dispute. In the latter example, a valid prediction will be based on a variety of factors, such as the amount of the demand, the claims asserted, the length of time the plaintiff worked for the company or the protected classes that the plaintiff belongs to. All of these data points help inform the prediction. Therefore, in these cases, having more data is critical: organizations need the right inputs to ensure that they can have confidence in their outputs. Legal teams need not only “tall tables” (large numbers of observations) but also “wide tables” (many columns describing each row or record). Typically, a good predictive model will allow for an accuracy of at least 80 percent, though context matters when assessing the accuracy levels, viability and ways to use predictive models.

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Signals of activity and resources for this stage: In addition to tools from the earlier maturity stages, organizations that want to apply predictive analytics will need access to machine learning-based regression and classification as well as clustering tools. Some examples include the use of Python and R through integrated development environments or the use of web-based analytics services and offerings available on Google Cloud, Amazon Web Services and Microsoft Azure. This stage often requires lots of custom work, technical expertise and a certain mathematical fluency. Ensemble models are the typical output, sometimes combining multiple approaches, whether integrated or in sequence.

The Black Belt: Prescriptive Analytics

Organizations that achieve a black belt, which represents the darkness beyond the sun, have a deep, comprehensive understanding of the various types of analytics and how best to deploy them to reach their goals. They continually seek more profound knowledge to inform their decisions.

Prescriptive analytics use data-driven insights to suggest not only what might happen but also what legal organizations should do to influence those outcomes. It is naturally focused on narrower practice areas and contextual to an area of law, a category of risk or a specific organization. To date, the most useful work in prescriptive analytics has occurred in online dispute resolution forums, apps to challenge traffic tickets or similar disputes, or automated exchanges supporting simple transactions. Using prescriptive analytics, however, a law department may rely on an algorithm to optimize its resource allocation, determining which of its outside counsel are best at handling risk and lowering costs. Similarly, a law firm might decide that it makes sense to accept a settlement offer or pursue a case, or it might choose a specific lawyer who is best equipped to face a particular opposing counsel. The key is heavy reliance on the output of an analytical process in lieu of traditional human decision making. In the distant future, lawyers could even use prescriptive tools to automate decisions about whether to pursue trial or settlement in specific matters.

The full impact of predictive and prescriptive analytics is yet to come. Innovators and leaders at the technological forefront of the legal industry have not really tapped into the potential in these classes of analytics. While a few teams have explored some narrow applications, most organizations have not even contemplated them. First, they lack the practical skills and awareness—the foundations built through incremental achievement of our analytics belts—to spot opportunities and implement these tools. Furthermore, most are culturally unprepared to use them. Organizations will encounter many challenges at this stage, but one hurdle, known as “algorithm aversion,” will require careful consideration. Research shows that people are reluctant to trust an algorithm’s results, even if the algorithm demonstrably outperforms what people can do. For example, in the e-Discovery field, some lawyers remain hesitant to adopt predictive coding and adhere to the idea that linear manual review is the gold standard, even though the coding algorithm may be more accurate than human reviewers and not susceptible to fatigue or inconsistency.

Signals of activity and resources for this stage: These next-level analytics require all the tools and techniques mentioned above, as well as customized applications and robotic process-automation tools. They also benefit from optimization methods, anomaly detection, neural networks and deep learning techniques.

LEGAL ANALYTICS MATURITY MARKERS/INDICIA**

Level	Analytical Techniques	Tools	Projects	Notes
Foundational	Pre-analysis phase	Data management focus (what do we collect, where does it live, how do we access it, how do we structure/normalize it)	Data diagnostics, MDM, warehousing, experience management	Organizations don't need to wait to have all of these tools and projects in place before continuing; needed when prioritizing global efforts, rather than focused, local efforts
Descriptive	Aggregating data (summing, averaging, etc.), basic time dimension analysis	Excel, SQL, MS Power BI, Tableau, Qlik	Matter dashboards, client-facing dashboards	Visualization-heavy, largely summation and basic math; often financially-oriented
Diagnostic	Those above + statistical regression, classification, factor analysis	Those above + Python, R and your favorite IDE	Factor analysis, feature definition and review	Lots of "factor analysis" (what factors explain a given response, and to what degree per factor); now looking heavily towards what drives financials – which requires other contextual, practice-oriented data
Predictive	Those above + machine learning-based regression and classification, clustering	Those above + web-based engines/ functions on Google Cloud, AWS, Azure, etc.	Matter pricing, settlement prediction, clause extraction, outlier detection	Typically requires lots of custom work; ensemble models are typical output, combining multiple approaches sometimes in sequence, sometimes integrated
Prescriptive	Those above + optimization; anomaly detection, neural networks and deep learning	Those above + custom application; decision/process automation	Settlement advice, negotiation automation	Optimization and decision automation here; culturally difficult (in legal, especially) and technically challenging (data quality and volume crucial)

**Not an exhaustive list/audit

The Data Collection Imperative

Typically, there is a massive data-availability problem in legal organizations, so purposeful data collection must be the cornerstone for any analytics strategy. To progress through the belts, organizations must collect an increasing—and increasingly well-organized—volume of practice-oriented data.

Corporations and law firms alike need to think about what data they have—or want—that relates to the core risks faced by their organizations or their clients. Some law departments have more information at their disposal than law firms do, particularly if they have implemented a matter management system or have a robust reporting relationship with other business units. Often, however, law departments have not captured this data strategically. Instead, they may capture helpful data based on functional need rather than strategic aim, because they must provide business units and accounting teams with data such as matter settlement amounts, for example. Now, law departments must think about collecting data that supports their own strategic goals, including those having a nexus with the practice of law.

Law firms rarely collect much in the form of practice data; their systems are primarily designed to capture only that information that is necessary to open a matter, check for conflicts, bill clients and compensate their lawyers. Furthermore, because law firms often store a mix of documents and information made up of unstructured or semi-structured data, it can be hard for them to access discrete, meaningful data that can be used to power their ideal analytics project.

To attain progressively advanced belts in analytics maturity, legal organizations need to develop thoughtful data models—beyond spend data—that describe particular classes of legal work or risks that they regularly handle, that are important to their business and that they expect to continue supporting in the foreseeable future. They should collect both public and proprietary data about the characteristics of their matters, including, for example, information about opposing counsel, types of claims or deals, counterparties, settlement amounts and substantive outcomes. Once that data has been captured, they can then use it to inform and support individual lawyers' strategic recommendations and advice. The bottom line is that more data features generally translates into higher-quality insights.

What Corporate Law Departments Should Keep in Mind

Law departments typically amass data for operational rather than strategic purposes. This data can be cumbersome to access and may require significant cleanup and organization before it is useful to the law department. But cleaning and arranging data is just a start. To prevent a self-limiting view of what is possible with their data, law departments must take a creative approach to capturing data that will inform more meaningful, long-term key performance indicators and metrics. They must also be willing to invest in tools and technologies that can help them process, analyze, synthesize and transform their data. Additionally, they need to create a practice-specific—or even risk-specific—strategy for purposefully collecting data regarding any core category of work.

Where to Store Practice-Related Data

In the past, there was no natural home within law firms for practice data, and finding a place to store it was a challenge. However, the use of “experience management” software has grown and evolved in recent years, providing firms with new options for collection and storage. While initially used to support the marketing function, that class of system holds promise well beyond marketing uses.

An added bonus: the more advanced a law department’s data analytics program, the more pressure its law firms and service providers will feel to optimize their own performance and data, creating a compound effect in fueling the department’s analytics capabilities.

What Law Firms Should Keep in MInd

To gain the most value from their data, law firms must thoughtfully plan how they want to benefit from each stage: collection, analysis, insights and, ultimately, visualization and interaction. Most importantly, they must be ready and able to capture new proprietary data to fill existing gaps, as these analytics efforts often need to be underpinned by data that more fully describes the practice of law itself. Generally, the legal environment presents significant opportunity for growth. To analogize to an Excel spreadsheet, law firms have plenty of rows of data, but they lack many of the columns required to fully represent or describe their services and outcomes. Technology can help law firms ease the burden of data collection and analysis, but education and process changes are most important.

Additionally, law firm analytics strategies are most likely to have long-term success when they account for practice-level concentration and localization. Often, this means that firms cannot implement a generalized, one-size-fits-all solution. This is because most large law firms provide complex services to a wide array of clients; their services reach across industries, markets and many categories of risk. They require disparate skills and often vary significantly in processes and outputs. Thus, a single, “out-of-the-box” solution cannot adequately address the entire firm’s needs. Instead, analytics projects focused on and tailored to specific practice areas are best positioned to measurably improve client engagement and produce returns for those associated practices.

Finally, law firms should not think solely of their own needs as they develop their analytics programs; they should also consider their clients’ current needs as well as their future expectations. By proactively finding ways to capture and share client-centric analytics and data-based advice, law firms can differentiate themselves from their competition.

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Conclusion: Striving for the Black Belt

Companies in virtually every industry are making purposeful investments to become more data-driven and to create new digital capabilities. Historically, the legal industry has lagged in this effort. Now, however, progressive law departments and law firms have recognized that the future practice of law will mandate meticulous, targeted data collection, thoughtful analysis of that information and data-driven, strategic decision-making.

For all legal organizations, there is tremendous latent value in investing in tools and technologies that enable the considered application of analytics to the business and practice of law. For corporate law departments, the value may be more informed decisions or deeper insights that offer better protection against risk. For law firms, the value may be improving the client experience or improving the firm's value proposition and thus its competitive position.

Legal organizations must also recognize that the skills to deliver on these strategies may require more multidisciplinary expertise than past technical projects. Practice-specific projects require context—to spot opportunities and issues, to tailor system design, to align efforts with cultural nuances and to ensure adoption. A few organizations have already felt some pain here. In more than one instance, a progressive organization has hired an accomplished technical resource with little exposure to the practice of law and positioned them within the operational side of the organization, only to receive underwhelming returns on their investment. Organizations seeking to improve must view analytics projects that involve the practice of law and legal service delivery as *strategic* efforts.

There are significant opportunities in this area. There are also material challenges along the path to success. It is time to put on the white belt and start waxing cars and painting fences. The time is right for corporate law departments and law firms to work on building muscles and reflexes through targeted data collection and creative analysis. With the proper planning, discipline and practice, legal organizations can capitalize on the tremendous promise that analytics offers to the practice of law.

Connect With Our Experts

To learn more about how data-driven insights can advance your law department or law firm, please contact:

Andrew Baker
Senior Director
O 312.964.4240
E ABaker@hbrconsulting.com

Karl Haraldsson
Manager
O 312.964.4241
E KHaraldsson@hbrconsulting.com

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