



Applied Insurance Analytics: Deriving More Value From Data With an Analytics Strategy

by Pat Saporito



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Despite significant data assets and technologies, insurers are not reaping the full benefits from data analytics because of the siloed way in which data is created and the analytics are used. To extract full value from their data, insurers need to develop an enterprise business intelligence (BI) strategy. Best practices for implementation include an analytics center of excellence to set standards and promote adoption throughout the organization.

Defining Data Analytics

Simply, analytics is the science of examining data. With a data analytics approach, an organization employs proven techniques to parse raw data and then turn that data into actionable information. Organizations—and insurers, in particular—have done this for decades. For instance, data on exposures and incurred losses can be used to predict future losses for ratemaking purposes. But as both competition and computing power have grown, the need for analytics and the potential payoffs are greater.

To advance with data analytics, savvy organizations employ data scientists—that rare breed of professionals who have deep knowledge of math, data, technology, and your business needs. Insurers have jumped on the analytics bandwagon, and many proclaim that they are “analytics driven.” Insurers have embraced analytics in areas such as risk assessment, claims fraud, marketing segmentation, and actuarial pricing, but too

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often they have been restricted by a narrow, functional, “stove-piped,” one-department approach to data and data analysis. This can limit the overall return on investment because it does not begin from an enterprise wide point of view.

An Enterprise Strategy to Data Analytics

Making the leap to enterprise data-driven decision making requires a partnership between the business and its information technology (IT) support team. Successful analytics depend on a strategy, executed with leadership and governance to operationalize and update the strategy as business priorities evolve. Any strategy for exploiting the value in data assets must be driven by business needs, not simply by technological capacity. The data analytics strategy should be aligned with the corporate business strategy and key initiatives. As part of the annual planning process, leaders should review every business initiative to determine what analytic approach will be required to support it and how best to budget for the approach.

Defining a Framework for Enterprise Data Analytics

A framework is essential to ensure an effective strategy. There are five key areas that must be addressed in an analytics strategy. Again, this is not a technology initiative. The business side—through an executive steering committee, a working committee and individual team members like business analysts or data stewards—must participate in every aspect. Understanding the framework and committing to business engagement are keys to a well-defined strategy for leveraging data assets with analytics.

Key elements of a constructive framework include the following:

- Objectives and scope. What do you expect to accomplish via data analytics? So that all parties are clear about the intent, articulate the purpose and objective of your strategy, its

current state and history, your strategic analytic objectives, and the scope. You need to define what is included and, just as importantly, what is not.

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- Business needs. Summarize the business needs by functional area, such as marketing, sales, underwriting, claims, finance, and customer service. Because leaders in each area may view their needs as the most important, looking across areas for common data or tool needs is part of alignment and prioritization. When defining needs, include the tools best suited to fulfill them, such as geographic information systems, data mining, text mining, self-service systems, mobile applications, or executive dashboards. Any strategy should incorporate your vision of a future state, set out priorities, and require alignment within the organization.

A business discovery process enables an organization to define, prioritize, and align business needs. A business discovery undertaking is a facilitated interview process to extract the business needs, define anticipated business value, verify strategic and tactical alignment, and maximize data leverage across business units. The discovery process should be formally documented and can be reviewed and updated on an ongoing basis—for

example, as product lines are added (cyber security) or evolve (usage-based auto insurance).

- Value. The business value of data analytics should be expressed quantitatively. Metrics of the expected benefits include future state key performance indicators (KPIs) for adoption; measures of effectiveness and efficiency goals; business case scenarios, for both the original strategy and ongoing initiatives/projects; post-implementation measurement; and post-implementation review. Lack of documentation of business value is one reason that analytics initiatives often fail to receive sufficient or sustained funding.
- Information structure and technology. Business leaders must engage IT decision makers to define information categories/domain definitions (such as customer/member, agent, policy, claims, financial, etc.), systems architecture and standards, and tools and analytic applications.
- Organization and governance. All players in a data analytics initiative need to agree on and honor a governance structure (including steering and working committees). Key aspects of a governance structure include program management, BI roadmaps and milestones, a measurement approach and methodology for adopting BI and assessing value to ensure funding, education and training (including defining programs and measuring how effective they are), and ongoing support. Best practices for embracing organizational change and effective user adoption are critical components to becoming a decision-driven organization.

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Analytics Center of Excellence

The most effective way to operationalize or execute the strategy is through an analytics center of excellence (COE), sometimes called a competency center (CC). The COE is a small and nimble tactical unit that leads the strategy and business requirements definitions, value methodology, tools selection, and governance of both programs and data. COE members work with an executive steering committee as well as an operational team and the extended team of business analysts and data stewards in the functional business areas.

The COE is responsible for driving user adoption, offering training programs and support, and providing ongoing communication. It often forms and moderates communities of practice by interest so users can share best practices, such as reporting, as well as using dashboards, data mining, and visualization.

Executive Leadership

An effective program requires an executive business sponsor, often through an emerging role, such as the chief analytics or data officer. This is an additional role sometimes assumed by chief actuaries. In other organizations, the senior vice president or chief strategy officer fills the role.

Analytics success also requires the support of the entire senior management team, by both championing it and ensuring that funding is committed. The executive business sponsor is the chief conduit to the executive team and the key liaison to the analytics COE leader.

Culture and Change Management

Becoming data driven requires a culture shift; all too often, people make decisions based on intuition and then back up these decisions with data that justifies them. The effective approach, of course, is to start with the data and let it inform the decision making. This shift requires education and training, as well as incentives and recognition to support it. It requires a conscious change-management effort both from the top down and bottom up.

Analytic Skills

Much has been written about data scientists (data modelers and data miners). In insurance, advanced analytics like predictive modeling are most often used in actuarial analysis. More frequently now, companies are also using them in underwriting, claims, and marketing.

Not every employee needs to be a data scientist, but every employee should be analytically curious and have basic analytic skills and training. Insurers should be looking for and evaluating both analytic aptitude and skills in new hires. They can also help existing employees improve their skills through education and training programs that include specific software training, basics of data management, and specialized skills like data mining or text mining.

Data

Data is a strategic corporate asset. It needs to be managed and made accessible. Data governance programs should be given high priority and visibility. Organizations need tools that expose the technical metadata (“data about data” that stores information such as where the data was sourced from, last updated, etc.) and also capture the business definition and calculations.

Every user should have access to the business glossary that stores this information. In addition, new employees should be given a data orientation so they

understand the data assets, key analytics, and data extraction/data manipulation tools.

Lastly, data needs to be organized not just physically for database performance and query response, but logically in business views so that each business area receives the data it needs.

Self Service

As employees become more analytically adept and knowledgeable about their data, they often want to create their own analytics. The days of static reports are fast becoming history, as employees are demanding more analytic capabilities in the course of their day-to-day jobs and do not want to wait for IT to create reports for them. This is analytics self-service. IT’s role is becoming one of managing data access and the technical environment instead of analytics development.

Analytics Maturity

Analytics maturity is an evolution. Organizations start with descriptive analytics, using historical data for reporting to understand what happened and why. They then move to predictive analytics, using historical data to predict what could happen and, ideally, how they can make things happen.

As the world becomes ever more digital, and we generate more data, insurers will look to leverage more external data and enrich existing data. Organizations will also provide more analytics and data access to their business partners and customers.

Analytics are a journey for which insurers already have the data. They have made many investments in technology and tools. They now need to harvest these investments by defining and executing an enterprise wide analytics strategy. 