

Information rich,
knowledge poor
Overcoming insurers'
data conundrum



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Enabling information as a strategic asset

Executive summary: Mastering information management remains a constant challenge for the insurance industry.

"The possibilities are unlimited once you decide to act and not react."

- George Bernard Shaw

The ability to effectively harvest and harness data across the enterprise is quickly emerging as a competitive differentiator in the broad financial services industry. In the insurance sector specifically, a number of pioneers are already making healthy strides toward mastering information management, but for most companies that have not yet fully invested in this transformation, growing market mania around "Big Data" and looming regulatory changes that demand increased data transparency continue to generate considerable anxiety.

Unquestionably, data has long been and remains the "life blood" for insurers. However, while industry constituents in general may be information rich, to a large extent they remain knowledge poor. For those many organizations still mired in siloed, legacy technology architecture, the inability to readily aggregate and analyze available data is a real impediment to effective decision-making, the delivery of a positive customer experience, and the attainment of overall business growth.

Moreover, as regulators increasingly focus on enterprise information management as a foundational element of effective compliance reporting, the data management conundrum is further exacerbated. What is now a discretionary investment for insurers may soon become mandatory. Certainly, this has been the case for both insurers outside the U.S. subject to Solvency II rules, and

U.S. banks now subject to new Basel risk data aggregation regulations. Both of these initiatives mandate proof of effective data management as an affirmative obligation.

So, while many insurers have already spent and continue to spend heavily on core-system and technology modernization, most still find their efforts have fallen short of expectations and needs when it comes to information management, where their aspirations continue to be met only at a cursory level. If data is expected to be realized as a strategic asset, insurers can no longer continue to merely tweak existing systems and business models to clear this data management hurdle.

Capabilities and technology are now advancing at such a dramatic rate that players can and should strategically transform the way they amass, store, define, govern, analyze, and disseminate information. By doing so, they can realize the benefits of data as a strategic asset and successfully stay in the game.

Data and analytics readiness

Only 13% of insurers surveyed identified enterprise-wide data management and warehousing as a significant strength in their organization, while 82% ranked data and analytics as a top strategic priority¹.

¹ Economist Intelligence Unit. State Street Data and Analytics Survey. 2013.

State of the Industry

Many insurers are still information rich, knowledge poor.

"By prevailing over all obstacles and distractions, one may unfailingly arrive at his chosen goal or destination."

- Christopher Columbus

Indeed, the ability to realize the many valuable insights embedded in exponentially growing data is a very challenging task. While insurers have historically juggled large amounts of information to support critical functions such as underwriting, pricing, billing, and claims, the opportunities to take advantage of the growing volume, variety, and speed of data are escalating — and yet are more imposing than ever.

To take advantage, insurers must now update data models that are well past their prime, frequently cumbersome, and hindered with siloed and inconsistent data; storage platforms that are disconnected and costly to manage; as well as governance processes that are rudimentary and fragmented. But while mastering information management can offer tremendous rewards to insurers that are committed to updating their data management processes, infrastructure, and enabling technology, critical information assets will remain siloed and inadequately leveraged as long as data initiatives continue to be considered separately by individual business units, functions, or geographic regions.

The paucity of data scientists, data engineers, and other skilled professionals both in-house and in the market at large is another significant hurdle for insurers looking to mine emerging data sources for insights that can provide competitive market advantage. Insurance organizations need a plan to bridge this critical capability gap.

Finally, a culture shift may be needed to overcome long-established conventions regarding how information is managed and consumed across the organization. This will include prioritizing data quality from the point of entry into carrier systems. Next-generation technologies can provide the ability to more effectively aggregate and query diverse types of information, including unstructured social media data, and to analyze customer sentiment or assess potential upsell/cross-sell opportunities among existing policyholders. However, focus must also be placed on the accuracy and completeness of the data being analyzed. Poor data quality can substantially undermine investments being made in new analytics-based operating models and supporting technical capabilities.

In short, operationalizing information management enterprise-wide is neither an easy nor short-term exercise, as demonstrated by programs already under way at other companies that have pioneered the effort. But for many, the potential benefits to be derived from successfully organizing, governing, consuming, and analyzing available data assets — both internal and external — are likely well worth the investment.

Still, to achieve holistic data fluency, optimize data exploitation, and realize a positive ROI, insurers will need to dismantle numerous roadblocks embedded in their current infrastructure, hardware and software, corporate culture, and business models.



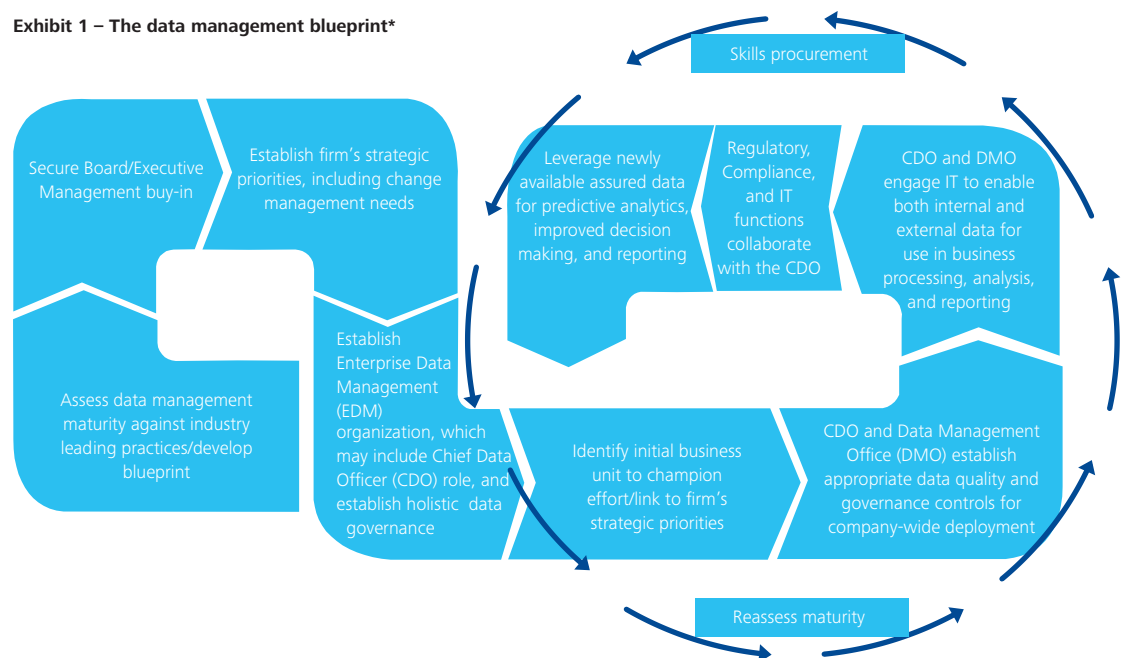
Harvesting and harnessing available data

Coming up with a data management blueprint

A recurring theme that has often plagued the implementation of large company-wide projects of all kinds is the absence of a roadmap for prioritizing and funding activities and efforts based on value and need. The execution of a new enterprise information management solution — involving technical, process, and cultural changes — requires a highly coordinated approach that a carefully planned and executed strategic data management blueprint can help deliver. Objectives, tasks, resources, and milestones must be prioritized and properly staged to effectively guide required investments and drive projected returns. An “all or nothing” big-bang approach simply has not proven to be effective or cost efficient.

As demonstrated in Exhibit 1 below, a strategic blueprint can create needed balance between short-term objectives and long-term vision, and can help optimize the extraction of value embedded in enterprise data. Whether the goal is cost reduction, improved customer relationships, business growth, or enhanced risk management and compliance reporting, the use of a strategic plan steeped in the context of the business is an effective approach to gain needed control of the insurer’s information assets. While perhaps appearing simplistic in some respects, this comprehensive and transformational approach can help accommodate emerging data management requirements, as insurance organizations become ever more complex and information needs begin to transcend the traditional way carriers operate.

Exhibit 1 – The data management blueprint*



*Caveat: Any blueprint developed should not necessarily be considered as a serial, step-by-step exercise. Moreover, it is not a once-and-done strategy. Processes will continue to mature throughout the progression of the plan. Indeed, given disparate objectives among insurers’ diversity and scale, one size will not fit all.

Determine maturity level of existing data management capabilities

Insurers should begin by assessing where their organization stands from a data management maturity point of view. Exhibit 2 illustrates the stages of maturity across the data management mastery spectrum. It is likely that a given insurance enterprise may reside at different levels of maturity, depending on the competency in question. For example, a player nearing the level of 'proactive' for data architecture might only be in the 'controlled' stage for data governance. Such a misalignment will potentially inhibit the insurer from realizing the full benefit of the initiative, leading to sub-optimal returns on investment.

Exhibit 2 – Maturity rubric

| | Data governance | Data quality | Data architecture | Master data management |
|------------------------|---|--|--|--|
| Advanced | Enterprise-wide standards; metrics to assess performance | Enterprise-wide data quality initiatives with clear ownership; metrics to measure progress | IT and business representation in architecture decisions; enterprise-wide consistent data models | Full master data integration to business processes and systems for analytics |
| Defined and Predictive | Cross-functional data owners and data stewards in a formal Data Management Office (DMO); consistent processes | Consistent data quality processes, standards, and tools; centralized data quality team | Integration at business-unit level; changes to architecture goes through approval process | Master data management (MDM) implementation with harmonization rules for standardized data domains |
| Evolving / Proactive | Limited owners; governance policies, processes, and standards exist for critical areas | Data profile and baselines established; data cleansing on critical areas | Local IT team owns physical and logical data models; limited integration of tools | Processes exist for critical areas; single version of truth for critical master data domains |
| Controlled | No awareness; no formal data owners or data stewards | No data quality processes or standards; no data profile or baseline | No formal team recognized to own the architecture; point solutions | No consistent data management processes; multiple versions of truth |

Building an information-intelligent organization is a multi-year journey, during which the insurer will advance through several maturity stages. Progression will enable insurers to increasingly generate insights that can drive decisions from operational to strategic.

Establish supportive ‘tone at the top’ and alliance across the enterprise

Executive- and board-level endorsements are central elements in executing a successful, company-wide data management program. Without high-level backing, including funding and enforcement authority, data management initiatives will potentially stall or fail as line of business and functional teams independently assess the value and cost of participation and compliance.

Once a firmly supportive tone is established at the top of the organization, change management initiatives are essential to drive enterprise-wide buy-in. Workshops that unite business and IT leaders and middle management across the company can facilitate the identification and prioritization of short- and long-term goals and benefits for the program. Through these collaborations, the process and timeline of operationalizing critical data initiatives, as well as requirements and priorities of individual business units and functions, can be established and incorporated into the operational blueprint for the Enterprise Data Management (EDM) initiative. Moreover, potential ROI for the company as a whole in both hard and soft dollars can be considered.

Align data champions with firm’s strategic priority

After establishing buy-in for the data initiative across the organization, management will need to identify the business unit or units that will initially champion an enterprise view of data, while balancing overarching enterprise priorities. A senior executive leader, frequently positioned as the Chief Data Officer (CDO), should also be identified and empowered to drive this initiative forward as the conduit between the enterprise’s diverse business operations, functions, and IT operation. Principal

responsibilities of the CDO, or some other identified enterprise data lead advocate, include the identification, shaping, and implementation of data management strategies, standards, procedures, governance policies, and enabling tools. Moreover, eliciting funding for data initiatives should potentially be brokered through this position together with a formalized Data Management Organization (DMO), consisting of stewards appointed from across the business and IT to help coordinate and drive the initiative.

In order to effectively reposition data as a strategic corporate asset and extract the full value that it presents, it is crucial to elevate information management as a key, strategic initiative for the C-Suite and Board. The assigned data champion (whether or not designated as the Chief Data Officer) must be recognized as an influential leader throughout the organization, and properly empowered to execute the vision and plan.

When planning the EDM program, it may also be advisable to opt for a preliminary strategy that is initially low in complexity or limited in scope, but high in value — if you will, an ‘easy win’ that could potentially foster greater buy-in among potential doubters in the organization.

Marketing, finance, risk, and actuarial functions may potentially be among the most engaged advocates for positioning data strategically, given their respective vested interests in consuming and transmitting data across the enterprise. Conversely, other more narrowly focused functions such as claims might be more apt to have ‘data blinders’ on, concentrating only on data elements that impact loss information and the like.

As suggested in Exhibit 3 below, marketing is often one of the first business units to require open access to company-wide data in order to meet its various business objectives. This group is particularly interested in using data from multiple functions across the insurance enterprise, as well as social media and other less traditional sources, to the extent that they provide life stage, demographic, customer sentiment, and other consumer information needed to manage and capitalize on customer relationships. However, while marketing may understand the complexities of data, it doesn't generally mine it to the extent that the finance and actuarial functions potentially would, as marketing largely seeks descriptive or qualified consumer intelligence.

Exhibit 3

Hypothetical Business Case – Achieving a single 360 degree view of the customer

A medium-sized life and annuities insurer wanted to drive top-line growth by championing a better customer experience, thereby compelling heightened cross-sell/upsell capabilities and client retention. A blueprint to highlight the strategy was developed.

Assessment

An appraisal of the current data management maturity level was conducted. It revealed an ad-hoc and unstructured approach in customer data collection and warehousing.

Management Consensus/Data Champion

The enhancement strategy was solidly backed by executive management, and marketing/sales business units were identified as the project advocates, with the CMO at the helm. A CDO was selected.

Implementation

Communication: The program launched via workshops that defined the goal and its benefits to each of the business units in the enterprise. The advocates then collected requirements via the workshops that each business unit needed to have implemented to achieve a successful strategy.

Operationalize: For technology, the master data management (MDM) program was launched across businesses and channels. Once the project was underway, the data governance mechanism was established, which addressed the core issues of data ownership, data quality, risk, and security.

Next steps: Following the success of this project, several other endeavors, including advanced analytics and predictive modeling, have been identified to move further in the analytics maturity curve.

*The entire initiative was anchored by one group but accredited by the enterprise.

Like marketing, it is also essential that the actuarial and underwriting functions exploit data from each of its firm's business operations, making them two more functions that have significant vested interests in achieving data fluency across the enterprise. Finance is another group that could lead the effort to institutionalize a new data management paradigm across the enterprise, based on the rigor it must demonstrate in collecting and reporting the data that supports the books and records of the company. Indeed, finance transformation initiatives are looming larger on many insurers' radar screens these days with data and technology-centric projects underway across the industry.

While interest and commitment in achieving holistic data management are critical when selecting the appropriate operation(s) to initiate the blueprint, the organization's strategic priorities will also play a determinant role. For example, if the primary enterprise endeavor is cost containment, the finance function may be most qualified to position the data strategically. On the other hand, if the key strategy is linked to pricing and product development, the actuarial unit may be most suited to take the lead. And, if a holistic customer view is the company's main focus, marketing will likely be the most opportune place to start.

Establish and socialize data standards through shared organization structure and common language to operationalize data governance

A man in a hot air balloon is lost. He sees a man on the ground and reduces height to speak to him.
"Excuse me, can you tell me where I am?"
"You're in a hot air balloon hovering thirty feet above this field," comes the reply.
"You must work in Information Technology," says the balloonist.
"I do," says the man, "How did you know?"
"Well," says the balloonist, "Everything you told me is technically correct, but it's of no use to anyone."
"You must be in business," says the man.
"I am," says the balloonist, "How did you know?"
"Well," says the man, "You don't know where you are, you don't know where you're going, but you expect me to be able to help. You're in the same position you were before we met, but now it's my fault²."

As suggested in the above anecdote², miscommunication between business and IT can be a barrier to successful cross-functional missions. Therefore, a crucial responsibility of the CDO and data management team is to coordinate IT and key business functions around the objectives and priorities of the new EDM program. Without tight collaboration among these functions, critical data management initiatives will likely become mere technical exercises with few, if any, true links to business targets and processes.

Once primary roles and responsibilities are established across business and IT to drive the enterprise data management initiative, the CDO and DMO must establish appropriate data quality and governance controls for company-wide deployment. These standards support the identification, definition, adoption, and maintenance of meanings, values, descriptions, and uses for critical data elements that cross business functions within the enterprise.

² Management Humor - Jokes https://www2.bc.edu/~radinr/Management_Humor/jokes.htm.

Indeed, ownership and governance of data must be a cohesive alignment between business and IT functions. Accordingly, the CDO and DMO will also want to engage IT to define a target technical environment and an enabling set of tools to operationalize the evolving EDM approach in terms of data storage, aggregation, accessibility, investigation, modeling, reporting, and visualization. Together, business, IT, and the data leadership team will architect and implement a solution for the availability and consumption of needed enterprise level information — both internally stored and externally collected — for business processing, analysis, and reporting.

It is important to recognize that many insurers have already invested and may be continuing to invest considerable sums to modernize their existing core systems and related technology infrastructures. Unfortunately, many of these efforts have not considered data enrichment as a core requirement of their enhancement efforts. As a result, many insurers' technology and core system capabilities for advanced analytics remain rather rudimentary, with limited predictive tools and capabilities in place. The failure to include a focused, collateral data enhancement effort has only served to further establish data's position as a secondary asset for the organization — a position that runs completely contrary to the actual needs of the business.

As competitive market pressures continue to build, and regulatory demands for enhanced data management transparency loom larger, more and more insurers are recognizing the weaknesses in their existing information plans, and are initiating remediation undertakings to strengthen their abilities from both enterprise data management and analytics enablement points of view.

Overcoming the dearth of data science skills is another key to achieving robust insights and analysis

While hardware, software, and innovative enhanced data management are now beginning to advance in the insurance sector, the skills and resources needed to realize the full potential of available information remains in rather short supply. Indeed, the skill gap from a data science point of view is real and significant for most insurers today. In many ways this inadequacy is being exacerbated by some insurers' general lack of understanding of the competencies, structure, and enabling technologies needed to effectively organize internal and external data, and then interpret the patterns and signals broadcast by these assets so that business strategy, decision-making, and other key functions can be more fully informed.

To help surmount talent deficiencies and better enable business outcomes for their most critical data-driven initiatives, insurers must identify alternative sources for skills that cross the disciplines of both information management and quantitative processing. One option is to initially leverage skill-rich third parties to bridge the immediate competency gaps while the company incubates its own internal capabilities. These consultants typically offer alternative resource deployment strategies and models, ranging from project-specific consulting engagements to onsite or offshore staff augmentation, with other options in between.

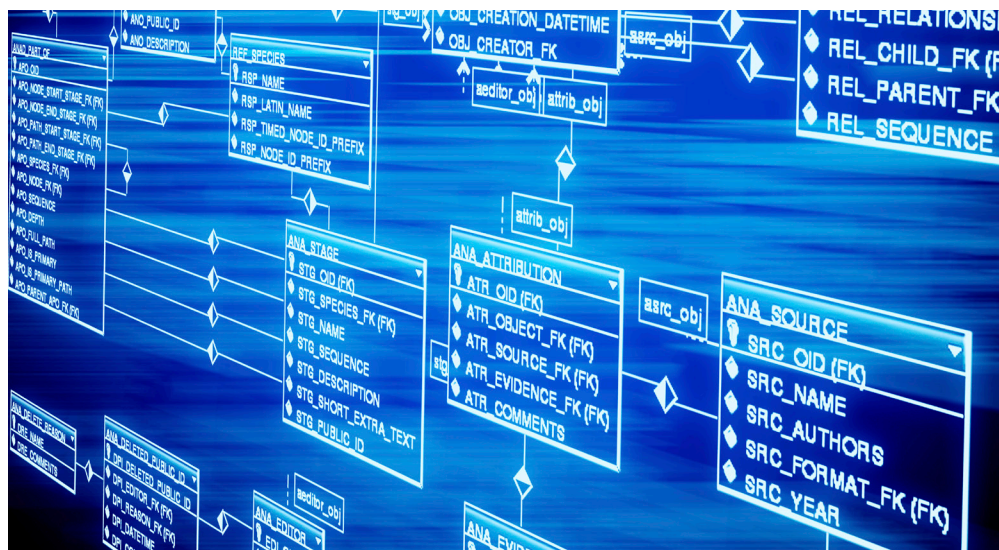
And, don't forget the regulators and the villains...

A recent survey on insurer IT preparedness reveals about one in three respondents expressing concern about their existing technology and process proficiencies for compliance with imminent regulatory requirements — highlighting the industry's challenge to meet these and other evolving directives. Moreover, nearly two in three respondents to the survey believe that up to 25 percent of their IT operations staff is expected to retire within the next five years. This turnover will likely encompass a large number of employees who are deeply familiar with the application and database code that many core legacy systems were built on³. The issue becomes more complicated when one considers the dearth in most organizations of documentation needed to enable future maintenance and modification of these older systems.

To address such challenges, business and IT functions must collaborate closely with one another and with the CDO and DMO to help ensure that the flexibility and capability needed to meet external compliance obligations is put

in place. New and ongoing legacy system modernization projects must be adapted to accommodate regulation-driven data aggregation and processing requirements.

Insurers will also need to contend with ongoing challenges around data privacy, as the use of non-traditional sources, such as telematics applications, that uncover personally identifiable information (PII) continues to grow. While existing and prospective customers might be willing to allow such data to be captured and used for policy underwriting, renewal pricing, or expedited issuance of new products, they will likely require insurers to demonstrate both the financial benefits of “opting in” and the ongoing security of their disclosed PII in the face of an increasingly challenging data theft landscape. Undoubtedly, as cybercrime continues to transform, insurers must remain vigilant and proactive in their development and maintenance of secure data environments.



³ Looking Beyond Legacy Systems: Are insurance companies prepared for the investment infrastructure challenges ahead?“, Northern Trust, February 2014.

The road ahead

"It's difficult to imagine the power that you're going to have when so many different sorts of data are available."

- Tim Berners-Lee

The opportunity for an insurer to reposition data as a strategic enterprise asset and leverage it en masse for enhanced business performance is enormous and inviting, albeit perhaps daunting. To start, companies will need to take stock of where they are today versus where they would like to be in the future, and leverage available industry-leading information-management practice models to craft a blueprint that will take them forward.

A champion is also needed at the enterprise level to embrace, define, and drive the data initiative — a chief data officer, or other leader or leaders, having the responsibility, authority, and funding to move the ball forward across diverse lines of business, functions, and geographies.

Through a well-articulated shared vision and commitment to collaboration and change, both at the top of the organization and through its ranks, available information can be transformed and leveraged as a strategically valuable asset. The potential payoff for the investment is significant and compelling — improved market competitiveness, enhanced customer relations, more responsive and reliable compliance reporting, more insightful risk management and decision-making, and solid business growth.

The insurance industry well understands the value of information. Now it is time to become knowledge rich!



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