fs viewpoint

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Game on: How information is changing the rules of insurance

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Point of view

The game is on. Those insurers who can effectively manage, disseminate, and mine data to drive improved enterprise-wide decision making and responsiveness will likely find themselves among the winners.

...and executives agree: Seventy-four percent of executives at the 2011 International Insurance Society Conference agreed that sophisticated information analytics and new sources of information will become the key determinants of competitive differentiation.[1]*

The ability to extract meaningful insights from large data sets is becoming a source of competitive advantage. Insurers who effectively leverage the power of information will likely be among the winners in the marketplace of the future.

Social and technological drivers—from the emergence of social media to advances in computing technology—are changing the landscape of the insurance industry, making information both more cost-effective to acquire and more critical to success.

Due to improvements in the area of risk analysis, insurers have been able to shift their focus from targeting specific customer profiles to pricing risk. To adapt to this shift, business leaders will infuse their processes with new information, tools, and techniques to automate complex decisions about customer needs and behaviors, and about their own institutions' risks and profitability.

Many carriers are currently undergoing core transformation programs and replacing legacy systems; this presents an opportunity to augment that change with an information strategy to leverage new, more granular, higher-quality data in a more meaningful way.

"The most meaningful way to differentiate your company from your competitors, the best way to put distance between you and the crowd, is to do an outstanding job with information. How you gather, manage, and use information will determine whether you win or lose."[2]

— Bill Gates

*Note: For further information about the future of insurance, please refer to PwC's "Insurance 2020: Turning change into opportunity," January 2012.

1 PwC's "International Insurance Society (IIS) 47th Annual Seminar," June 2011.

2 "Be a winner at information," The Economic Times, September 13, 2000, http://articles.economictimes.indiatimes.com, accessed October 11, 2012.

Gaining an Information Advantage is no longer about generating insights. It is about making effective, efficient decisions and integrating information into everyday operations.

The ability to effectively manage, leverage, and integrate the "data deluge" flooding today's carriers will be a key differentiator in the insurance marketplace of the future. Three key drivers are escalating this trend toward harnessing the power of information:

Availability of vast amounts of data, with expanding data sources: • Internal data. • The Internet. • Big Data. • Mobile telematics. • Unstructured data. • Third-party data.	Insurers are finding themselves with more granular internal data covering more domains. The volume of structured and unstructured data is growing exponentially, although carriers are not effectively leveraging the data captured. Devices and sensors are connected and communicating in unprecedented ways via the Internet. Hardware and software advances are translating Big Data into "actionable insights" that will change how insurers make decisions and manage risk. Mobile telematics can fundamentally transform the interaction between insurers and their customers. Today's adaptable, affordable technologies are making decision support systems easier to develop, introduce, and support, enabling insurers to shift their focus from loss reimbursement to risk and yield management. As for digitizing unstructured data, the explosion of data from social networks presents opportunities for carriers to mine insights into relationships and network structures to improve communications, increase productivity, and deliver significant operational improvements. Furthermore, given the expansion of third-party data sources, carriers need to focus on collecting, integrating, and applying this information to their own operational data.
Advances in computing power, tools, & techniques: • Analysis of Big Data. • Advanced analytical techniques and visualization tools. • Predictive modeling investments.	Computing power is now advancing in step with data proliferation, allowing the processing and storage of Big Data sets. Leveraging new technologies and acquiring sufficient resources with the necessary technical skills will be challenging. Applying the right techniques to extract knowledge from data will position insurers to gain what we refer to as an Information Advantage across the value chain. Given today's advanced, readily available toolkits that facilitate the identification and evaluation of features within individual or groups of texts, analysis of Big Data sets is now easier and faster. Advanced analytical techniques and visualization tools—such as software for social network analysis, natural language processing, and text mining—are simplifying data interpretation. Carriers are intensifying strategic investment in predictive modeling as a means of analyzing data; for example, we see commercial line carriers seeking to positively impact their overall profitability by increasing their use of advanced predictive models to improve risk selection and grow their book of business.
Faster decision & development cycles: • Richer information = a richer grasp of the market across the organization.	To better understand changing customer demands and make sense of an uncertain future, leading carriers are breaking down silos to share information across boundaries to enable smarter and faster decision making. Rather than relying on historical information alone, they are finding ways to better organize their operational data and tie it to the point of need. Our recommendation? Illustrate and automate. Leveraging the power of information--via advanced analytical tools and processes--empowers carriers to apply data to the art and science of decision making with visualization and intelligent automation.

To address progressively complex decisions—from operational control, to management control, to strategic planning—insurers must change the way they manage data.

Increasingly, today's carriers are receiving information in the form of real-time, unstructured data. Effectively handling such data takes a combination of techniques, while turning that data into information to inform decision-making processes at the edge of the organization requires both simulation and visualization.

Drivers	Solutions	Evolution
Availability of vast amounts of data, with expanding data sources	Digitizing data Data is becoming increasingly available in unstructured formats; organizations able to harness that data will draw valuable insights and make more informed decisions.	Database, Documents, Websites, Audio, Video, Sensors, Social media
Advancement in computing power, tools, & techniques	Analytical techniques Advanced analytical techniques are required to make sense of Big Data. Combining tools and techniques can lead to the most insightful outputs.	Data-driven predictive modeling; Multivariate analysis; Simulation & visualization; Interpretive technology
Faster decision & development cycles	Power to the edge An organization can dynamically synchronize its actions to achieve agility and increase decision speed by pushing information to the edge of the organization where real-time decisions need to be made.	Command & control; Informa-tion-based; Power to the edge

The need for better, faster information analysis is clear. One major challenge will be harnessing the flood of available data and mining it for insights.

Key challenges in managing the data deluge:

System infrastructure. Legacy back-end systems may not be up to the task of information management. Technology systems and data formats, accuracy, and quality vary, making it difficult to consolidate and analyze information from multiple sources.

The telematics promise—Making it real. Most insurers have struggled to:

- Recoup the cost of telematics devices and platforms.
- Change their operating models to leverage telematics data.
- Persuade customers to share data as the basis for pricing and underwriting.

Talent scarcity. Carriers are faced with a lack of talent experienced in analyzing the unstructured data found in social media and other sources.

Data is being generated—*in real time, all the time, in all ways*—by consumer devices, in everyday business operations, during customer transactions, on social media, and more.

In our view, the ability of insurers to digitize and organize this flood of Big Data will be critical in gaining an Information Advantage.

Internal data—Insurers have vast amounts of data within their own systems, and they continue to expand the volume of data captured in databases, documents, and other unstructured formats. We observe that many carriers are unable to effectively use the information assets they own. This is not only an opportunity for carriers to invest in information capabilities, but it is a strong catalyst for the huge growth in companies transforming their core systems. Carriers are correlating these events to ensure that they are using these investments to truly create an Information Advantage.

Mobile telematics—We have seen leading insurers use devices and sensors to obtain information about insured property—for example, how often machinery is used, how safely vehicles are being driven, and how effectively farmers are taking care of their land. While monetizing telematics data has been a challenge, our observations suggest that mobile telematics will improve customer relationships via superior underwriting, pricing, and claims management.

Social media—Insurers that can interpret the unstructured data found on social media sites can draw valuable insights that will yield improvements in many areas—from marketing, to claims management, to customer service. By identifying relationship patterns and common attributes that define a group of individuals, social media can give birth to a new underwriting variable—the social score—that may turn out to be every bit as predictive as a credit score.

Third-party data—Access to growing third-party demographic data may help insurers to gain insight into penetration and sales opportunities. We have observed leading insurers improve their decision-making capabilities by integrating such information into their own operational data. For example, location data with various geographic risk attribution such as quake, crime, flood, wildfire, wind, and hurricane is being integrated into underwriting and aggregate risk modeling on an accelerated basis.

Data sources, which are available in increasingly unstructured formats, have expanded over time.

The analysis of Big Data would be impossible without advances in computing technology, tools, and techniques. Insurers that can leverage these advancements have the opportunity to forge ahead of their competitors.

Key challenges in channeling the power of computing

- **The technology puzzle**. Legacy systems may be difficult and costly to migrate or replace, and insurers may not have a clear understanding of which new information technologies may be the most beneficial.
- **The paucity of talent**. Talent with the knowledge and experience not only to leverage increasing computing power but also to derive actionable business insights is scarce.
- **Cost concerns**. The cost to acquire, implement, and deploy analysis and visualization tools can be significant.

To make sense of Big Data, advanced analytical techniques are necessary.

Computing power

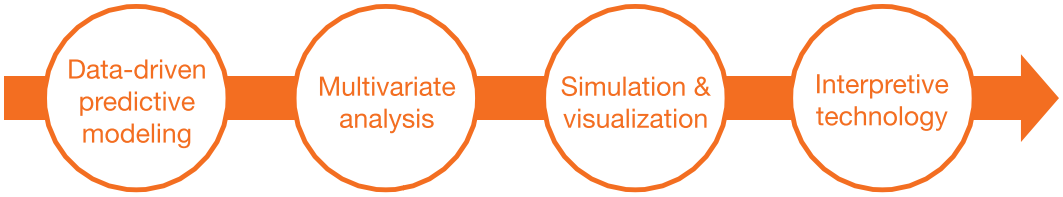
Computing power is keeping pace with data proliferation, making it possible to process and store huge data sets—as well as transform Big Data into actionable insights that will change the way in which insurers make decisions and manage risk.

Analytical tools and techniques

Recent advances in analytical tools and techniques have given insurers new ways to extract insights and visualize data:

- **Advanced predictive modeling**. Insurers are taking advantage of advancements in computing technology by making strategic investments in data and analytical techniques such as predictive modeling. Insurers using predictive modeling report positive impacts on risk selection, loss ratios, and overall profitability.[1]
- **Interpretation**. We have seen several insurers invest in software for social network analysis, natural language processing, and text mining for use in analyzing and interpreting unstructured data—for example, understanding customer sentiment in the online marketplace.
- **Simulation and visualization**. These capabilities are giving leading insurers a clearer, more nuanced view of market and operational performance. Information displays have evolved from backward-looking "dashboards" to dynamic, forward-looking "cockpits" that users can query in real time, thereby eliminating the need to pause and run reports.

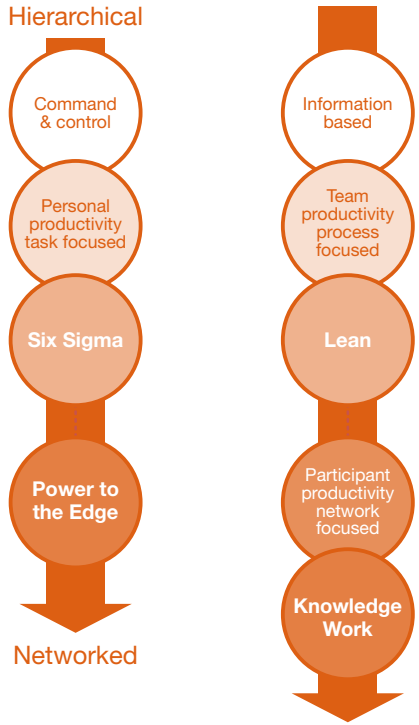
Computing technology has become more advanced, enabling greater insightful analysis from a growing variety of data sources.



1 PwC, "Missing the forest for the trees? Adapting underwriting intensity to boost insurance property and casualty sales," August 2012, www.pwc.com/fsi.

Institutions that have recently been striving to achieve a high degree of efficiency are now adding improved enterprise-wide decision making to their business goals—elevating that function to the C-Suite, leveraging Big Data, and hiring staff with an analytical skill set.

Establishing organizational and governance structures that emphasize improvements in decision making can move organizations beyond the operational efficiencies provided by Lean and Six Sigma. It can enable these organizations to leverage Big Data and smart analytics and thus improve decision-making effectiveness. Those that master the art and science of decision making can become better competitors.



Leading carriers need an internal collaboration platform that allows them to operate as a high-performance team.

Teams share situational awareness, deep skills, core values, and dynamic decision rights. Sophisticated financial institutions often exhibit these attributes when their risk book is integrated and technology is up to the task. Insurers need to follow suit in terms of their important risk, underwriting, and investment decisions. By seizing investment opportunities in emerging markets and platforms, organizations can garner better "pre-market" information. They can also benefit from working with the intelligence communities and other non-traditional partners in these emerging economies.

Knowledge work

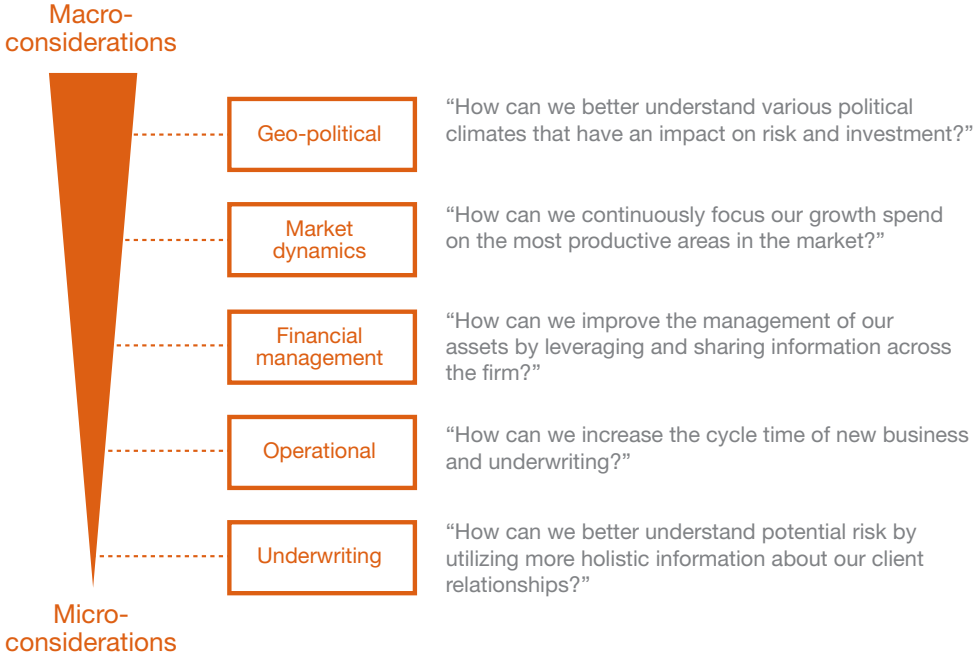
"Knowledge work" is the act of solving non-routine problems by combining the employee's intrinsic knowledge with the right data and information. Because the problems being solved are often unique, follow-up requests for additional information may be required. The less time knowledge workers spend searching for data necessary to solve problems, the more productive they can be at solving problems through informed decision making.

Insurers that can share data across long-established functional barriers can improve their ability to address progressively more complex decisions at all levels.

Driving improved enterprise-wide decision making and responsiveness.

With easier access to the right information, we find that leading insurers are equipped to get ahead of the curve on multiple issues at both a macro- and a micro-level—from evaluating the potential impact of political leadership changes to managing client portfolio opportunities.

Information should be used across an enterprise to inform both strategic and operational decisions. Here are some examples of the questions that require an understanding of information across the enterprise.



Insurers that gain an Information Advantage are able to develop proactive, flexible management cycles, giving them a competitive edge.

	Sample benefits of faster, proactive management cycles	Sample results delivered by PwC[1]
Risk/compliance controls	• The ability to predict and manage risk events, rather than constantly respond to exceptions. • Balance-sheet risks weighed against value-creation potential. • Regulatory change anticipated and addressed proactively.	• Developed program that helped to avoid: – Fraud write-offs of ~3% of premiums. – Asset over-exposure exceeding $100 billion. – Capital cost spreads of 400 basis points. – Data loss lawsuits of over $1 billion.
Product/ serviceportfolio	• Product design includes the right balance of innovation; not limited to incremental steps. • Product introductions ahead of the curve, with better targeting. • Cost-effective customization. • Product portfolio actively cycled, rather than continually expanding. • The ability to leverage value-based pricing power rather than cost-based pricing. • Ability to identify white space in the market and to anticipate unmet customer needs.	• Unique insights into customer demands and cost savings on "dying" products helped insurers avoid: – Potential market-share loss of 10%–20% to new and customized products. – Potential 5%–10% drop in gross margin.
Customer/ channel acquisition & retention	• Marketing/sales mix optimized, growing brand power, and decreasing customer acquisition costs. • Targeted retention campaigns. • Cross-sell opportunities captured. • Understanding of customer behavior and decision processes. • Multiple channels seamlessly integrated, rather than creating conflict.	• Integrated customer experience created a cycle of customer acquisition and loyalty that resulted in: – 20% decrease in customer-acquisition costs. – Improved customer-retention and satisfaction ratings. – Over 50% increase in products per household.
Operations & technology integration	• Codified business rules enabling greater efficiency, freeing up employees for more complex activities. • Transaction economics measured and maximized. • High "program throughput." • Strong investment in programs that improve, rather than maintain, the business. • Simple and flexible platforms. • Information sharing across systems and business units (BUs).	• Automated approach improved risk assessment and lowered operational costs, resulting in: – Over 20% increased profit per employee. – Expense ratio drop of ~5%. – Over 15% decrease in business maintenance spend.

1 Based on PwC experience.

Being the first, or among the first, to create these "value gaps" over competitors confers a significant and lasting advantage to players who can more rapidly make better decisions—and quickly act on them.

Putting it all to work...

- Leading insurers use multiple customer-segmentation schemes and go beyond demographics to include factors such as lifestyle, political point of view, and stage of life. With market information and product feedback available in near-real time through social media, insurers can adapt their product portfolios more rapidly to gain a competitive edge.
- Commercial lines are benefiting from higher-quality information and are continually improving information on people, buildings, locations, and traffic flow. Large data efforts and models of political and social situations can enable the leading commercial writers to build a superior grasp of both market opportunities and near-term risk.

Achieving revenue growth

Carriers have shifted their focus from targeting to pricing because (1) acquisition costs have become incrementally small, and (2) the ability to automate pricing and underwriting grows the top line by expanding the potential market.

Understanding market dynamics, competitors, and geo-political scenarios is critical in decision making when exploring new opportunities. What we refer to as an Information Advantage provides insights to drive those decisions.

Integrating, transforming, and defining household, producer, product, and claim information help to support key strategic business initiatives.

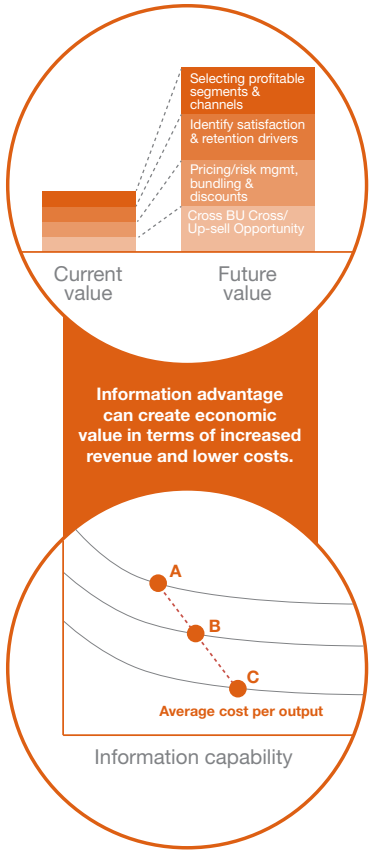
Carriers can outperform their peers by sustaining profitable growth—preventing business from being spirited away at the margin by competitors.

Moving to a lower cost curve

Excelling in information and analytics has a learning-curve type of effect that is hard for competition to overcome in the short term. Over time, companies that master this skill will gain more insight around targeted action steps that they can take to continue to improve performance and return on investment (ROI).

Personal lines are becoming more automated due to more advanced models and the growing availability of data—telematics and sensors in particular.

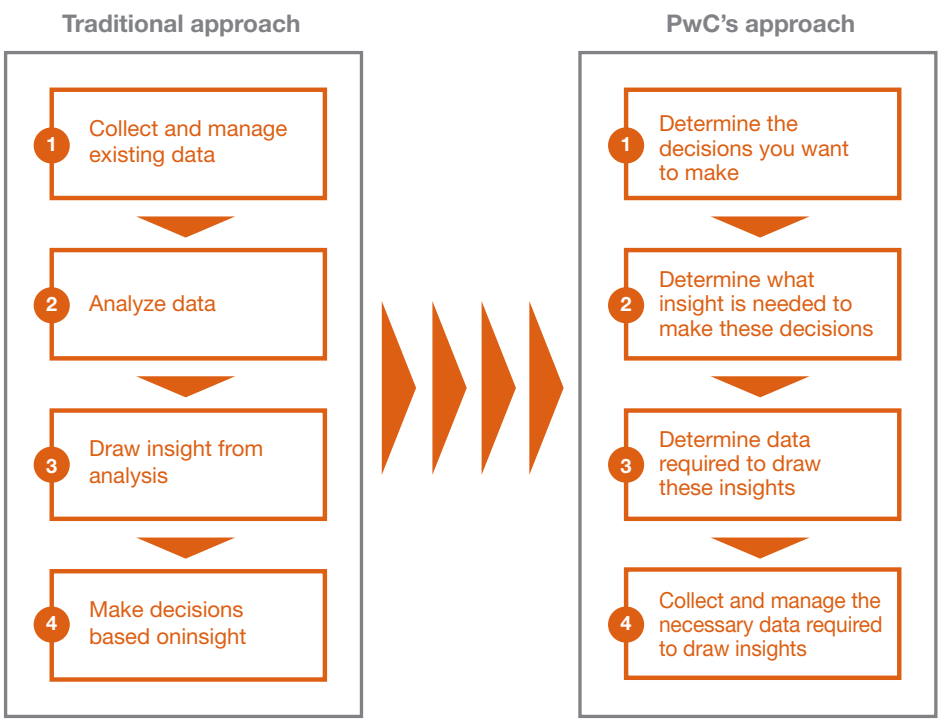
Insurers are leveraging information, technology, and analytical techniques to evaluate application submissions. They segment submissions and create multiple underwriting paths, based on complexity and potential value, using rules-driven applications to handle lower-value, less-complex risks. This segmentation and automation have helped to reduce costs, increase processing volume, improve response times, and generate more revenue.



In our view, a top-down approach to building an information management strategy—and creating value gaps—is more effective than the traditional bottom-up approach.

Traditionally, insurers have built their information management strategy from the bottom up, starting at the data level–spending large amounts of time and money focused on data only–and then moving on to address business issues. Conversely, we recommend that insurers utilize a top-down approach to build their information management strategy as follows:

- Determine the decisions that need to be made by examining the internal decision-making strategy and the metrics used at the executive level.
- Determine the insights into information required to make decisions.
- Focus on the data required to build these insights, and collect and manage this data.



While structural barriers that keep insurers from adopting leading practices across the organization are apparent, cultural and organizational barriers are harder to detect and remedy.

Obstacles PwC has observed	How PwC sees these obstacles manifesting themselves
Under-recognized impact of information on improving firm-wide effectiveness and competitive strength	• **Absence of an "information champion."** The organization is not challenged to improve decision making across the board. • **No recognition of information interdependencies.** Information management is perceived as an actuarial/risk management responsibility. Minimal communication and little information sharing across BUs takes place. • **Functional silos stem the flow of information.** BUs manage their own data, making it difficult to gain a comprehensive view of customer needs and preferences, respond quickly to customer requests, or to access the up-to-date information needed to deliver near-real-time pricing. • **Lack of knowledge as to workers' experience and comfort level in using analytics.** In their decision making, employees not only discount the value of information but also over-value their experience.
Disjointed operating model limiting the full value of information	• **Narrow information initiatives.** Projects are implemented solely from a technology perspective or focus on a single business unit, rather than being undertaken on the basis of firm-wide information. • **Inability to identify high-value business information needs.** Difficulties are increasing in terms of translating data analysis into strategic, well-supported business decisions that improve day-to-day operations. • **Underestimating technology complexity.** Employees may be unable to achieve business objectives due to unexpected complexities in such key areas as data quality, systems of record, integration architectures, reporting, and analytics.

Leading companies are overcoming the barriers they face—and in the process, they are gaining an Information Advantage.

Leading insurers share many practices that have helped them tackle common information-management and operating-model hurdles:

Build a culture of information use

- Integrate knowledge capabilities and training into the talent structure to advance employees' abilities to ask the right questions.
- Promote a data-driven mindset that rewards analytical insights over "gut-feel" decisions.
- Modify communication and reporting protocols to facilitate the distribution of data-analysis insights throughout the organization, thereby enabling more effective decision making at all levels.

PwC has developed a systematic, three-part framework for embedding these leading practices. Our framework focuses on creating an information strategy, developing information insights, and building a foundation for enablement.

Respond rapidly to market demands

- Use an analytical approach to decide when the benefits of taking a risk in the market or operations outweigh potential downsides.
- Develop the right mix of portfolio innovation, customization, and rationalization to facilitate response to market demands.
- Lower the probability of negative business-altering events by using predictive modeling to identify higher-quality risks, improve the take-up rate of new products, and identify and migrate likely adverse policy behavior.

Derive more business value from information

- Manage the return on customer-acquisition and retention costs within and across marketing, distribution, and servicing.
- Improve "information ROI" on large technology-platform investments through iterative, short-term projects that quickly deliver business value and insights.

Competitive intelligence

We have observed the following practices across the industry.

Our experience across multiple carriers in the insurance industry indicates that there are varying degrees of sophistication in Information Advantage.

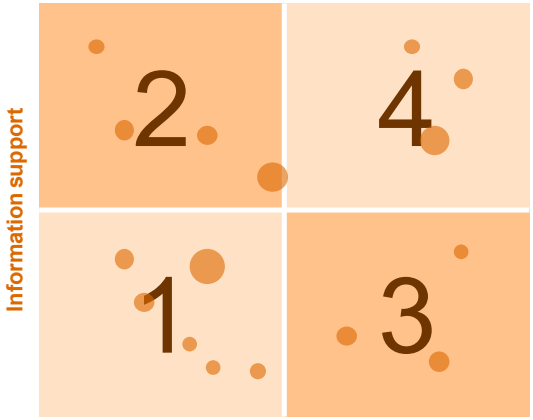
While most organizations appreciate the need to develop an Information Advantage, the typical profile of an insurance company tells a different story:

- Most organizations have **pockets of excellence**, often in actuarial or product groups, because that is where the experts are; while those specialists may have the capability, they often lack the interest or incentive relative to the needs of the organization.
- Nobody is challenging the organization to truly improve decision making **across the board**.
- Organizations are **nascent in talent** and struggle to marshal scarce resources that can improve information capabilities.
- Most initiatives take a technology approach or focus on a single business unit (BU) instead of looking at information **capabilities across the organization**.
- Most initiatives **fail to operationalize** the outcomes to leverage the benefit in daily operations.

Information Support – Organizational capability for foundational components of Information Advantage (physical environment, data architecture, data quality, etc.).

Information Leverage – Organizational capability for leveraging information to develop insights (analytics, decision making, organization, etc.).

Information Maturity for Sampling of Top US P&C and Life Carriers[1*]



Quadrant 1 – Many carriers still find themselves to be immature from both an information support and an information leverage perspective; the typical path to Quadrant 4 is through Quadrant 2.

Quadrant 2 – Several carriers have completed foundational information strategies or core system transformations and positioned themselves to build out capabilities to better leverage information.

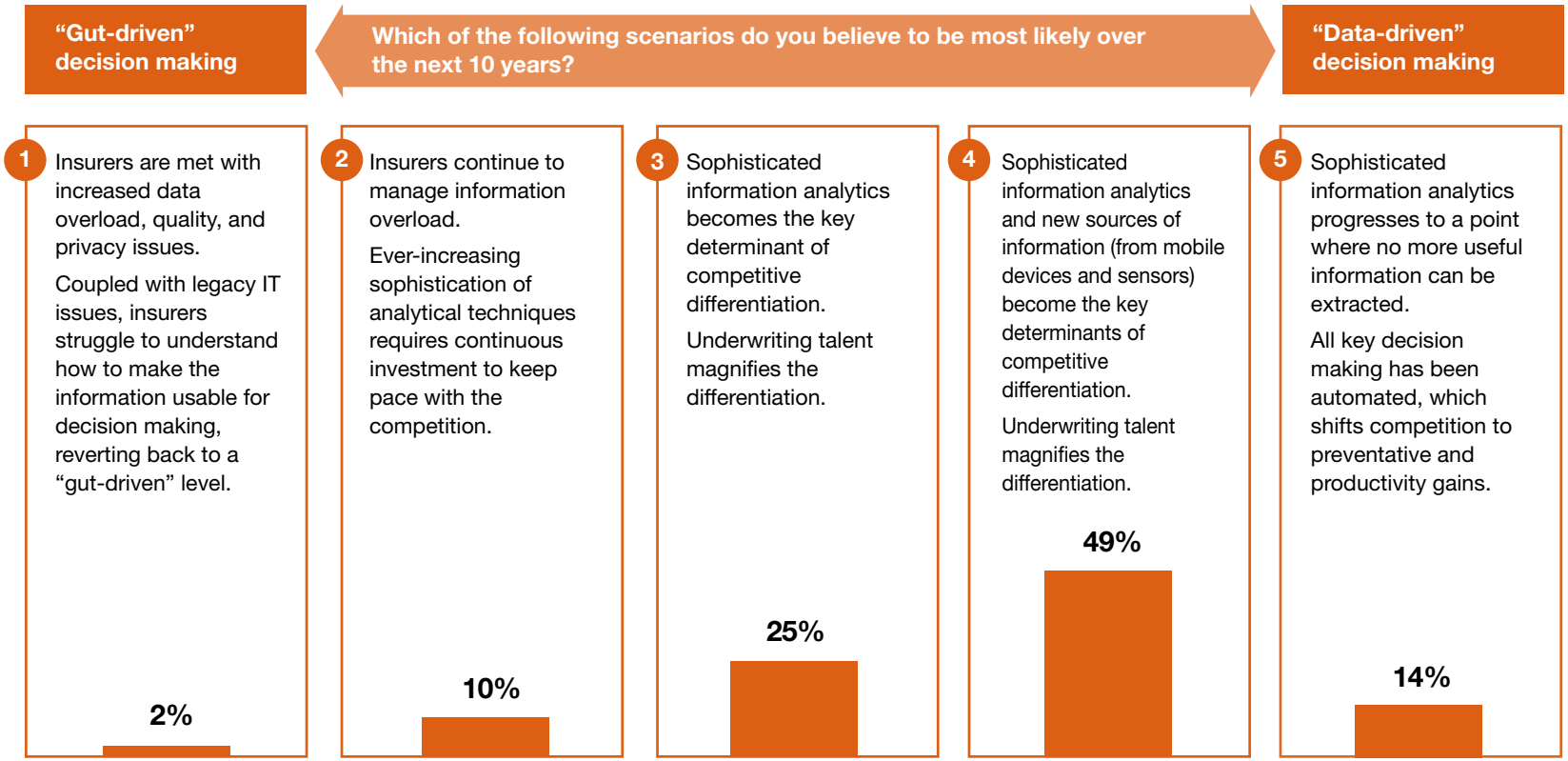
Quadrant 3 – A few insurers have been able to leverage information with immature information support capabilities; while this presents revenue opportunities, the unit cost to develop and maintain these information capabilities is eroding profits.

Quadrant 4 – Few carriers find themselves in a position of mature information support and information leverage; those that do, however, have seen a distinct advantage and market share and profitability increase in recent years.

1 Based on PwC research and project experience

* Size of bubble indicated relative Net Written Premium in 2011

PwC research demonstrates that seventy-four percent of insurance executives agree that information will be a main source of competitive differentiation.



1 PwC, "International Insurance Society (IIS) 47th Annual Seminar," June 2011

Following are examples of organization-related practices we observe in the insurance industry.

	Leading practices	High maturity info advantage (Leading multi-channel personal and commercial insurer)	Medium maturity info advantage (Top US multi-channel insurer)	Low maturity info advantage (US commercial and specialty insurer)
Organization	There is a firm-wide commitment to improving decision making across the organization.	The company's culture rewards data-driven insights and frowns upon "gut feel" decisions. A Chief Science Officer, who reports to the CEO, is accountable for embedding data-driven decision making into the organization across all lines of business.	There is consistent data governance across the organization, to ensure data-driven decision making. An agency dashboard provides transparency and metrics to incent the right agency behaviors.	Consistent executive support has led to the formation of a cross-business unit data director who will be responsible for improving decision making.
	The organization has access to, and expertise in, advanced analytical and predictive techniques.	An innovation group that is separate from the company finds information in new places and shares it across the organization.	The actuarial group has PhD-level researchers, but their talent is not distributed or shared with other business units.	Heavy reliance on intuitive pricing and people-driven (versus data-driven) expertise has created three issues: a high potential for human error; high cost to maintain a substantial human resource base; and loss of expertise as employees retire or leave the organization.
	Functional departments have a unified view of the business and the customer.	The entire organization measures and reports the metrics consistently. A customer management layer provides intelligence that prevents duplication of customer communication and contacts.	There is a single view of customer, householding, and third-party data, enabling service providers to identify cross-selling opportunities. Inconsistent metrics across business units create the potential for all business units to report positive metrics, while the aggregate is negative.	The approach to the market is disjointed: Sales/account executives are aligned with products or business units, and do not have an integrated view of customers' (or agents') needs. Field sales teams have no integrated information platform or dashboard that can provide visibility into upcoming renewals, or potential client needs based on changes in exposure.

Leading On Par Lagging

Following are examples of process-related practices we observe in the insurance industry.

	Leading practices	High maturity info advantage (Leading multi-channel personal and commercial insurer)	Medium maturity info advantage (Top US multi-channel insurer)	Low maturity info advantage (US commercial and specialty insurer)
Process	New sources of information (internal and external) are constantly monitored.	A centralized information group analyzed customer sentiment using text analytics earlier than its competitors and adjusted products accordingly.	Technology platform has increased the usage of third party data in order to speed the quoting process.	Business areas are aware of potential sources of information that could be leveraged, but no central mechanism exists to fund potential opportunities.
	Processes and tools are in placeto reduce cycle time.	A flexible product architecture integrated with pricing, rules, and rating enables new products to be launched in less than 6 months. Separate risk data marts with automated data extraction and scrubbing routines and allow near-real-time reporting of exposure concentrations and tracking against risk limits across all risk categories.	A simulation and predictive modeling group allows the business to rapidly conduct test and learn scenarios with minimal risk. A modern claims system has lowered the claims expense ratio and reduced payment times. Updated risk dashboards and management risk packs are available within 2 weeks of the month-end. While some risk data and metrics extraction is automated, a number of processes remain manually intensive.	There is a basic use of predictive models, but they do not incorporate real-time operational data. Risk packs for management use are produced in an ad hoc manner within a highly manually intensive environment.
	Feedback loops are in place throughout the organization to leverage information across business units.	Onboard Advisor systems assign safetyscores to fleet managers, to coach them and reduce accidents. Business rules are utilized to route leads between agents and the call center, based on customer segmentation and other information. However, rules are not refined based on facts.	Premium data is utilized by pricing and actuarial to enable more sophisticated rating. Marketing analytics loosely measure results to feedback into new campaigns.	Business units, even processes, are independent of one another, failing to take advantage of valuable information.

Leading On Par Lagging

Following are examples of technology-related practices we observe in the industry.

	Leading practices	High maturity info advantage (Leading multi-channel personal and commercial insurer)	Medium maturity info advantage (Top US multi-channel insurer)	Low maturity info advantage (US commercial and specialty insurer)
Technology	New tools and techniques are leveraged and combined.	Sophisticated analytical techniques are being used by PhD researchers to uncover previously unknown indicators of fraud. Comparative pricing tools, integrated into agency desktop software, allow agents to play an advisory role with customers, providing value-added service that online raters cannot provide.	iPhone app and mobile website allow noncustomers to view crash test results and recall notices when shopping for a car and get a direct quote by phone for car, home, motorcycle, or boat.	There is limited investment in real-time tools and devices to proactively lower the incidence of loss events. Company is a follower in the marketplace, with limited investment in information capabilities.
	An internal collaboration platform supports information sharing.	While information is readily available to employees as part of operational processes, employee collaboration tools are immature.	An online collaboration platform allows employees to easily post and share information and meet in real time, reducing scheduled meeting time significantly.	Customer connectivity is poor as a result of limited customer insight and information due to a lack of information sharing across channels. Tools and processes inhibit information sharing across business units, and there are no incentives for cross-unit communication.
	A centralized data repository provides data to the enterprise and represents a single source of truth including a "Single View of the Customer."	Centralized customer "services" allow fulfillment/follow-up to be completed on all platforms (online services, agent channel, interactive voice response, fax, paper, phone, etc.) and automatically logged as fulfilled in a central location. All customer interactions and transactions are logged centrally and available to all service providers in every channel.	Contact management is not optimized due to shortcomings in householding, resulting in multiple marketing messages being sent to the same address.	Customer satisfaction ratings are poor, as customer information is not shared across multiple touch points, leading to a high level of customer frustration.

Leading On Par Lagging

A framework for response

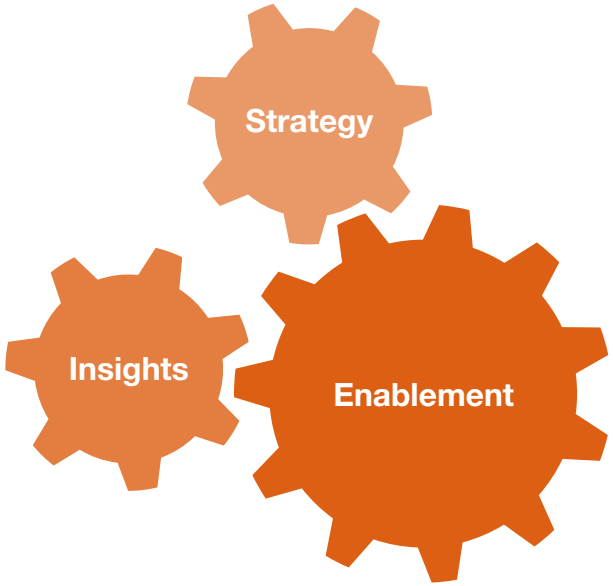
Our recommended approach to the issue.

Carriers can become more effective in managing their data through an upfront focus on key decisions—based on identified business goals and opportunities—and determining the insights required to make those decisions.

Creating an Information Advantage relies on three closely aligned components, all designed to create more powerful and effective insights. Strategy, insights, and enablement should work together to make more integrated and comprehensive decisions across the organization.

Create an information strategy.

- Understand the opportunities for utilizing the value of information.
- Align information initiatives with the goals of the business.
- Use data analytics insight to ensure that effective decision-making processes are in place throughout the company.



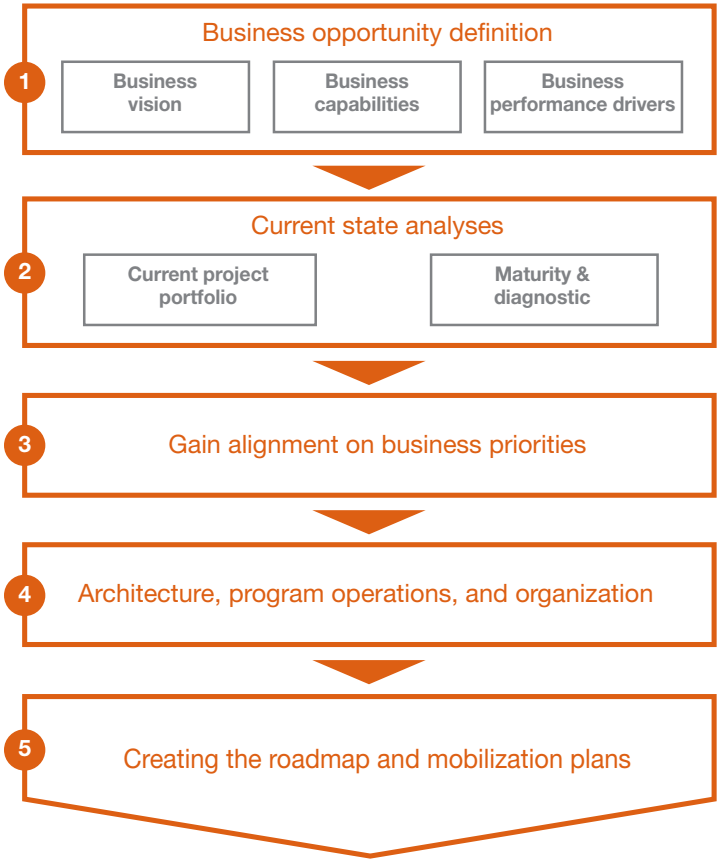
Develop information insights.

- Discover relationships and patterns in data.
- Use better ways to classify data.
- Identify trends over time.
- Improve an organization's efforts.
- Predict events.
- Simulate alternative future scenarios.

Build a foundation for information enablement.

- Build the systems and tools needed to support analytics, and integrate them with existing technologies throughout the organization.
- Define an operating model that empowers the use of analytics and that supports the consistent use of analytical techniques enterprise-wide.
- Align investments in the core system transformation to facilitate Information Advantage.

Create a business-driven information strategy by identifying potential business opportunities and the decision processes needed to support them. Then develop an actionable plan for using analytics to improve business decisions and performance.



Define business opportunities.

- Engage key stakeholders to identify investment areas and information needs to increase the speed of delivery.
- Develop business capabilities supported by information analytics.
- Make investment choices guided by internal needs and competitive requirements.

Analyze the current state.

- Assess the existing data project portfolio to determine the business value.
- Review the current architecture and technical capabilities to help implementation planning against the future state.

Gain alignment on business priorities.

- Gain alignment across the primary business stakeholders.
- Conduct group working sessions with business and technology participants to review capabilities, agree on proposed solutions, and prioritize opportunity areas.
- Identify pilots for new uses of information.

Design architecture, program operations, and organization.

- Make changes to the operational processes and organization (such as a project management office (PMO) or analytics function) that will help enable the information strategy.
- Finalize the program governance model, and initiate the development of target state architecture and integration plans.

Create the roadmap and mobilization plans.

- Develop a multi-year roadmap that describes the sequencing and prioritization of investments.
- Develop mobilization plans, and create a program organization and execution playbook.

Consider the information evolutionary model when assessing the current state and determining investments needed to achieve target capabilities.

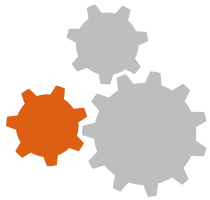
Evolutionary stages for achieving Information Advantage capabilities

Low information premium maturity → Evolution → High information premium maturity

	Level 1 **Limited**	Level 2 **Evolving**	Level 3 **Functional excellence**	Level 4 **Integrated excellence**	Level 5 **Information premium**
Technology	• Delayed access to data • Functional integration, aggregation • Limited and delayed metrics	• Canned reports with limited usability • Little-to-no modeling functionality • Data quality reliant upon significant manual adjustments	• Some modeling ability within functional areas • Functional areas have developed high data quality within their areas • New measurement points added to operations processes	• Analytics provide enterprise-wide insights in real time • Advanced modeling is used to evaluate across functional areas • Information integrated across the organization from a single, recognized source • Increased role- and user- based security	• Integrated internal and external data to create new solutions • Fully simulated business operations to evaluate decisions • Pervasive institution of a Service Oriented Architecture • Increased enterprise information security
Organization	• Multiple manual processes to enter, correct, extract, manipulate, and analyze data	• Specialized reports pulling from multiple sources are available upon special request	• Business users configure reports dynamically with near-real-time information	• New tools and training instituted to better extract business value from information	• Improved culture of innovative thinking that identifies new information opportunities to test, learn, and scale
Decision making	• Delayed decision making based upon limited information and insights	• Improved insights through special projects, but not scalable	• Improved insights, decision making, and speed of decision making within silos	• Enterprise-wide decision-making with ability to make informed trade-offs	• Consistent fact-base for use across the organization in operations, reporting, and decision making

Apply the right techniques to conduct business-focused analysis and produce impactful insights that provide increased support for an organization's initiatives.

Analytics can help organizations support multiple initiatives, optimize management decisions, and reduce complexities and inefficiencies.



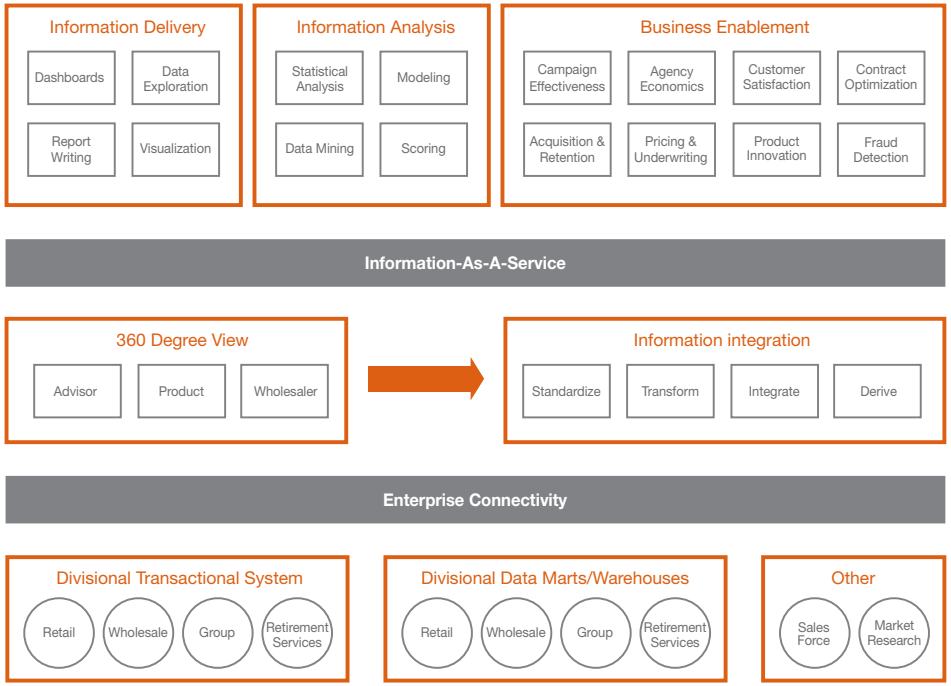
Examples of analytics that can support needs across the value chain

Strategy & growth analytics	Customer & marketing analytics	Sales & distribution analytics	Products, pricing, & underwriting	Process & operations analytics	Claims & benefits analytics	Capital, risk, & finance analytics
• **Growth:** Identify opportunities for growth by markets, segments, & products. • **Diffusion:** Predict how fast the market will adopt new products, services, & channels. • **Return:** Maximize the rate of return over a given time horizon. • **Competition:** Analyze the competitive dynamics of the market. • **Scenarios:** Evaluate multiple scenarios across macro- & micro-economic drivers.	• **Customer segmentation:** Segment customers by socio-demographic & behavioral factors. • **Acquisition:** Target customers & segments to increase market share. • **Marketing spend/-mix:** Improve effectiveness of marketing spend & mix. • **CLTV:** Compute lifetime value of customers. • **Experience:** Measure & improve customer experience. • **Retention:** Identify the causes of churn & improve retention.	• **Distribution segmentation:** Segment sales & distribution forces to match customer segments. • **Recruitment:** Use predictors of superior sales performance to recruit new sales force members. • **Distribution value management:** Maximize deployment of agents by geography & distribution profitability. • **Incentives:** Structure incentives to optimize overall profitability.	• **Product design:** Design products & services at the right price for the right customers. • **Product profitability:** Determine product profitability across different segments, geographies, & channels. • **Pricing:** Price products & product bundles to optimize market share under given risk appetites & combined ratio constraints. • **Underwriting:** Identify new data sources & variables to better classify & price risk.	• **Multi-channel:** Integrate multiple channels to deliver superior customer experience. • **Policy flow:** Improve policy flow during enrollment under resource & information constraints. • **Portfolio management:** Manage the portfolio of investments based on strategy & resource constraints. • **Program planning & execution:** Manage our IT throughput under changing business demands & resource constraints.	• **Fraud:** Reduce claims fraud using existing & new sources of data. • **Claims flow:** Route & settle claims to reduce loss ratios & litigation expenses. • **Claims loss:** Analyze claims losses to reduce loss ratios & improve pricing. • **Policyholder behavior model:** Model policyholder behavior to improve pricing, hedging, & reserving.	• **Asset-liability management (ALM):** Match short, medium, & long-term assets & liabilities to improve liquidity & returns. • **Catastrophe modeling:** Model exposure limits by geographic zone for different catastrophic events based on risk appetite. • **Concentration:** Manage concentration risk to maintain capital adequacy. • **Solvency models:** Determine capital requirements under different macro- & micro-economic drivers, as well as other stresses and scenarios.

Build a supporting foundation that improves the quality of data and produces faster insights that are capable of incorporating meaningful analytics into organizational processes and decisions.

Key activities that should be performed to develop an appropriate information infrastructure include:

- Design and develop technical capabilities to support insight generation based on business capability requirements.
- Evaluate information quality, security, the use of data tools, and hardware.
- Deploy data tools and hardware that support data quality, security, and quick generation of insights.
- Institute an Information Advantage process, governance, and culture.



Promote information-as-a-service to enable cohesive access to internal and external information (such as market research), streamline validation of hypotheses, and create business insights.

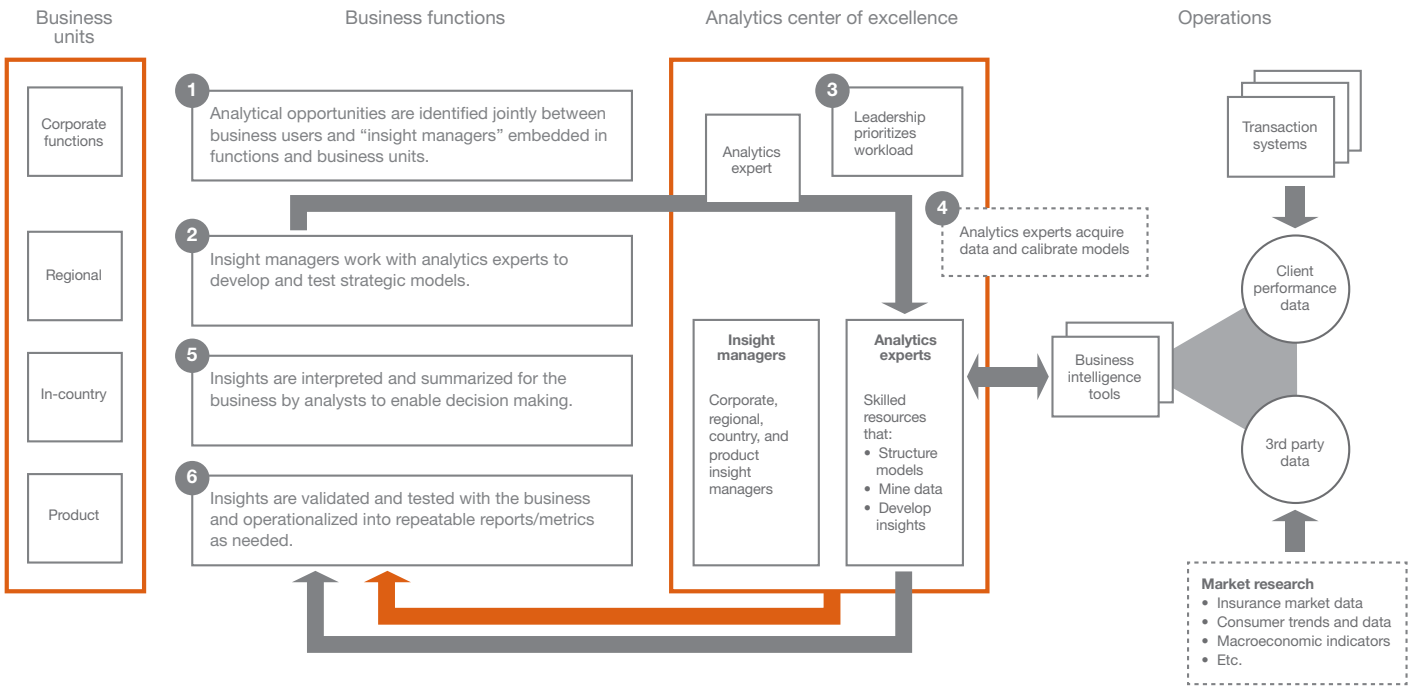
Integrate information from various divisional sources and translate data into meaningful information.

Reduce data silos by establishing direct access for end users across relevant systems.

Overcome organizational barriers and institutionalize analytics through the involvement of business stakeholders, analytics specialists, and operations.

To truly adopt an information culture and encourage the integration of insights into decisions and processes, clearly establish and link the roles and responsibilities for an analytics function with business operations. An example of a potential operating model is illustrated below.

Illustrative example



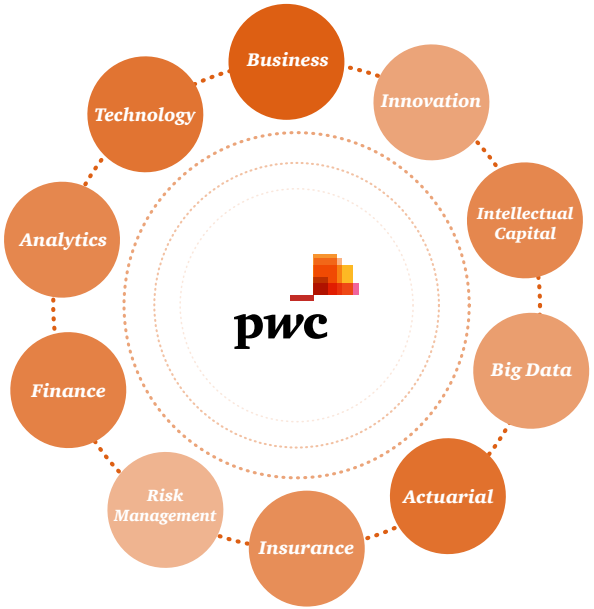
How PwC can help

Our capabilities and tailored approach.

What makes PwC'sFinancial Servicespractice distinctive.

Integrated global network	With 34,000 industry-dedicated professionals worldwide, PwC has a network that enables the assembly of both cross-border and regional teams. PwC's large, integrated global network of industry-dedicated resources means that PwC deploys the right personnel with the right background on our clients' behalf, whenever and wherever they need it.
Extensive industry experience	PwC serves multinational financial institutions across banking and capital markets, insurance, asset management, hedge funds, private equity, payments, and financial technology. As a result, PwC has the extensive experience needed to advise on the portfolio of business issues that affect the industry, and we apply that knowledge to our clients' individual circumstances.
Multidisciplinary problem solving	The critical issues that financial institutions face today affect their entire business. Addressing these complexities requires both breadth and depth, and PwC service teams include specialists in strategy, risk management, finance, regulation, operations, and technology. This multidisciplinary approach allows us to provide support to corporate executives as well as to key line and staff management. We help address business issues from client impact to product design, and from go-to-market strategy to operating practice, across all dimensions of the organization. We excel at solving problems that span the range of our clients' key issues and opportunities, working with the heads of business, risk, finance, operations, and technology.
Practical insight into critical issues	In addition to working directly with clients, our practice professionals and Financial Services Institute (FSI) regularly produce client surveys, white papers, and points of view on the critical issues that face the industry. These publications—as well as the events we stage—provide clients with new intelligence, perspective, and analysis on the trends that affect them.
Focus on relationships	PwC US helps organizations and individuals create the value they are looking for. We are a member of the PwC network of firms with 180,000 people in more than 158 countries. We are committed to delivering quality in assurance, tax, and advisory services.

PwC's depth and breadth of offerings and expertise in the area of Information Advantage lead to better solutions for our clients.



People:

- Dedicated analytics professionals.
- Insurance strategy professionals.
- Data scientists, architects, information management specialists.
- Specialists with PhDs in statistics, systems dynamics, data visualization, econometrics, etc.
- Actuaries, risk managers, finance expertise.

Methods:

- Simulation & predictive modeling.
- DeepQA, data mining.
- Text analytics, natural language processing.
- Behavioral pattern recognition, neuroscience economics, machine learning, sentiment analysis, social network analysis, etc.

Insurance expertise:

- Experience across the insurance value chain, e.g.:
  - Strategy & growth.
  - Customer & marketing.
  - Sales & distribution.
  - Products, pricing, & underwriting.
  - Process & operations.
  - Claims & benefits.
  - Capital, risk, & finance.
  - Underwriting and pricing.

Onshore and offshore analytical capabilities:

- Global Delivery Centres—leading information management delivery capabilities in India and China.
- India-based information and advanced analytics centre (Diamond Information and Analytics Centre).

PwC's Information Advantage service offerings span strategy, insights, and enablement—driving outcomes that lead to an Information Advantage.

	Service offerings	Sample projects
Strategy	Extract the untapped value of data & increase the value of information management investments to enable better decision making around opportunities & risk.	• **Information Strategy**—Develop the strategy, roadmap, and architecture to leverage information for improved business performance. • **IA (Information Advantage) Diagnostic**—Measure and benchmark current-state information capabilities against an Information Premium Maturity Model. • **Data, System, and Reporting Rationalization**—Identify redundant information platforms, define the future-state architecture, and create a roadmap to address overlaps. • **Large-Scale Data Management Strategies**—Develop an approach for enterprise-wide management of data and the implementation of information strategy.
Insights	Initiate rapid, insightful analysis of complex marketing, operational, & risk issues—especially in key areas where the intelligent use of data informs critical decisions and actions.	• **Demand Estimator™ Application**—Use this PwC application to effectively combine client and external proprietary data, along with producer's performance relative to demand, in order to target, acquire, and retain customers and improve producer performance. • **Customer Segmentation and Marketing Strategy**—Evaluate and assess the customer base, developing strategies designed to differentiate the organization's products and services. • **Advanced Analytics**—Apply analytical techniques to generate insights related to customer retention, product design and profitability, risk selection, product pricing, channel optimization, fraud analytics, and risk exposure and concentration. • **Platform Services**—Leverage advanced analytical tools for simulation scenarios, applying test-and-learn experiments to model the impact and influence of various factors in areas such as retention, customer experience, distribution optimization, and agency value management.
Enablement	Improve the selection and deployment of physical hardware, data architecture, data quality, information security, & data tools.	• **Vendor Selection**—Research leading solution providers, define evaluation criteria, and facilitate a selection of solutions. • **MDM (Master Data Management) Architecture**—Design future-state architecture and a roadmap to implement enterprise master-data platforms, processes, and standards. • **DW (Data Warehouse) Architecture**—Define future-state warehousing and operational architecture needs, along with a roadmap and business case for execution. • **BI (Business Intelligence) Architecture**—Design future-state BI and reporting architecture, along with an implementation roadmap and estimated costs. • **Governance and Organizational Models**—Define the processes, tools, and resources necessary to create consistency in both the use and the view of data assets.

PwC has proven services and frameworks to accelerate the effort across Strategy, Insights, and Enablement.

PwC's frameworks	Benefit to carriers
Data warehouse assessment frameworks	• Identifies gaps in information architecture and helps pinpoint the "root-cause" of data issues and the rationale for change.
Information premium diagnostic & maturity model	• Justifies future-state data architecture capabilities and improvement, and the required investment areas to improve capabilities vs. the market.
Tool set assessment framework	• Provides perspective on identified target platform tools and identifies additional tool sets for consideration to support the future-state blueprint.
Information governance/ processes	• Clarifies where additional governance and processes that span business and technology are required to maximize the return on data technology investments.
Business alignment & value proposition	• Effectively links the investments in different categories of the data architecture to business value drivers.

Illustration of information premium diagnostic

PwC offers a suite of "jump-start" solution sets that help carriers move quickly from data, to insights, to decisions, to actions.

Analytics toolkit	Description	Differentiators
Demand Estimator™	• Mashes internal client data and external proprietary data to analyze market potential by ZIP Code™ for different insurance products—to enable better targeting, acquisition, and retention.	• Unique proprietary statistical techniques to identify market potential by product.
Performance Assessor™	• Analyzes distributor profitability by taking into account revenues, cost-to-serve, and market potential by ZIP Code™—to better manage distributor book-of-business.	• Unique proprietary statistical techniques to calculate distributor profitability.
Experience Radar™	• Annual study that quantifies and values the experiences of over 4,800 North American consumers across eight industries.	• Proprietary and unique experience attributes • Uses an advanced technique called adaptive choice-based conjoint.
Experience Navigator™	• Enables the design and testing of experience stimuli in the market (product design & marketing changes) and measures their ability to price more aggressively, gain market share, and increase loyalty.	• Uses external and proprietary survey data • Uses an advanced simulation technique that models individual decision processes.
Growth Navigator™	• Informs entry into new geographies, customer segments, and products based on short- and long-term economic and regulatory conditions, customer adoption, and product dynamics.	• Uses external and proprietary survey data • Uses advanced simulation techniques such as system dynamic modeling.

PwC also has an Information and Analytics Centre (DIAC) in Mumbai with over 70 analytics specialists that provide fast, insightful analysis of complex issues.

What does DIAC do?

1. Provides fast, insightful analysis of complex marketing, operational, and risk management issues.
2. Helps companies compete more effectively using information and analytics as key differentiators.
3. Uses small, focused, multidisciplinary teams, operating in an onshore/offshore model to integrate deep analytics expertise with industry, functional, and technical experience.

Practical & durable business insights	• Understanding and focus on business value. • Powerful and fresh thinking on existing or emerging challenges. • Actionable recommendations beyond the model.
Rapid delivery	• Ability to rapidly scale up or down, depending on project needs. • Leveraging our best thinking, from proven leading practices and client know-how. • Highly scalable and efficient technology platform.
Cost advantage	• Leverage existing IT capabilities or PwC platform, rather than build anew Optimum mix of onshore and offshore resources to meet project demands and constraints.
Ability to implement analytical recom-mendation	• Proven and deep implementation expertise. • Provision of techniques to scale and implement the improvements across the organization, including behavioral and process changes.
Pilot then scale approach	• Ability to focus on high-impact and critical areas very quickly. • Ability to translate analytics to business case and demonstrate business value to the organization.

Engagement forums: Analytic pilots | Rapid assessments | Executive workshops

Appendix

Select qualifications.

Enterprise information strategy— Large national P&C insurer

Issues

A large US personal lines insurer believed that the business was not getting the value out of its data environments, which justified current and proposed future levels of investment. A close assessment revealed multiple, inefficient, overlapping, and redundant data environments across the enterprise, which was generating a proportionally high cost of maintenance, producing conflicting data for the same metrics, reducing the credibility of internal reports, and diminishing the effectiveness and flexibility of analytical functions. Multiple and disparate organizations, new information request processes, extract procedures, database platforms, and reporting/analytical tools added unnecessary complexity and cost to the business and technology areas using and maintaining data.

In addition, the role of the information management group was evolving from its historical base of being a solution center to identifying new opportunities to extract value from information assets. To achieve this, and to deliver on business users' needs, PwC was asked to help create the organization's Information Strategy: key objectives, approach, and a roadmap.

Approach

PwC provided assistance in the following areas:

- Developed a data strategy that focused on reducing the complexity and cost of the data environments, while increasing the value the business derived from the information.
- Interviewed business stakeholders to identify key future business information capabilities needed for growth along with immediate needs that could have fast and realistic value realization.
- Based on the identified capabilities and needs, PwC worked with the client to identify key tasks that needed to be incorporated as part of the overall information strategy roadmap. PwC also created a cost benefit analysis so that work estimates were managed against resource limitations, and to provide a clear picture of different types of benefits that the information strategy would bring.
  - The solution emphasized rationalizing the data environments, analytical procedures, and data organization and processes in a way that provided the flexibility and data consistency required by the business.

Benefits

The coordinated enterprise-data str ategy reduced operational costs across its analytical environments by over 35%; prioritized information opportunities by business impact and barriers; and focused analytical and measurement activities on high-priority, high-impact areas to drive competitive advantage.

The client was also able to deliver greater quality and more relevant and advanced information to the business while identifying existing solutions and infrastructure that could be remediated/integrated. As a result, the insurer realized significant business benefits due to reduced annual infrastructure support costs, premium lift, and loss-ratio impact.

Direct channel investment strategy—Leading global life insurance carrier

Issues	The individual life insurance market is $100 billion, growing slowly at a CAGR of 2%. The direct share of the market has consistently stayed at 4% over the past 10 years with limited development of the channel. While the client's overall individual life market share is ~8%, its direct share is significantly lower at <2%. Due to takeoffs in the direct channel in foreign life markets, the client was interested in investing in its direct channel distribution center. To inform this decision, the client needed to understand both today's demand for life through the direct channel and tomorrow's demand to forecast how much the channel would grow over five years.
Approach	PwC provided assistance in the following areas: • Leveraged PwC's Demand Estimator™ to assess today's market potential for direct-to-consumer life across 58 segments for both uninsured and underinsured consumers. • Developed a simulation model to provide insight into how the market potential would be captured by sales over the next five years, providing insight into: – Actions the client needs to take to gain share in the market; – Impact of a competitive response; – Impact of not taking action; and – Outcome if competitors take action and the client does not. • The simulation allowed for an integrated analysis across functional areas (i.e., operations, marketing, etc.), while providing growth analysis on the segment level. • The scenario analysis provided actions that would not only allow the client to realize (by five times) its current direct premium, but also show the client that taking no action could lead to a 30% drop in direct life market share.
Benefits	The scenario analysis was used to inform the client's decision to develop the direct-to-consumer life channel.

Customer segmentation & strategy evaluation—Fortune 100 mutual life insurance and annuity company

Issues	The carrier kicked off a project to refresh its customer experience strategy in order to better understand prospective consumers' changing behaviors and attitudes toward financial service products. This move was in response to industry, competitive, technological, and consumer behavior shifts that not only had been observed, but also were expected to further disrupt the carrier's core markets. The client needed a deeper understanding of the broader consumer market outside its target consumer base, including a need to understand demographics, psychographics (i.e., attitudes), and behaviors that influence shopping and purchasing choices.
Approach	PwC provided assistance in the following areas: • Conducted primary consumer research consisting of a panel survey designed to poll a representative sample of the US population. • Generated consumer segments using conjoint, behavior, attitude, and shopping preference data from the primary research. • Used PwC's proprietary Experience Navigator™ to simulate the consumer purchase process for financial products (using the segmentation) in order to forecast the business-case impact for various CX initiatives across channel, marketing, product, and distribution functions.
Benefits	The results of the segmentation evaluation were used to design and prioritize future-state initiatives to target underserved but high-potential consumer segments. The client was able to segment the market, model consumer purchase behavior, and develop a business case for new customer experience initiatives.

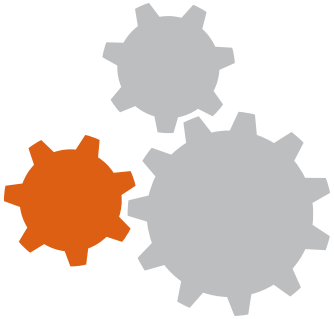
Pricing platform analytics—Domestic multi-line insurance carrier

Issues	As the client's customer base expanded outward from its core focus, the client wanted to ensure the right level of investment in people, processes, and technologies was in place to retain the desired level of sophistication-based pricing strategy. The client lacked coordination between the business unit and IT, resulting in a duplicative technology effort and sub-optimal integration solutions. The lack of automated integration resulted in manual effort by the business unit to support processes due to long lead times and high transaction costs from IT.
Approach	PwC provided assistance in the following areas: • Assessed the client's pricing analytics capabilities against future business needs and leading practices across P&C insurance carriers to uncover potential areas for improvement, particularly in the data and technology environments. • Convened a small cross-functional team of business strategy and technology experts, who benchmarked the level of the client's current pricing strategy against industry leading practices and other players within the market, with gaps noted. • Evaluated the data and technology environments and recommended a three-year roadmap to achieve the desired future-state capabilities.
Benefits	The successful conclusion of this engagement marked the beginning of a multi-year path toward transforming the technology environment to better support the overall pricing strategy, people, and processes.

Information strategy—Large national P&C insurer

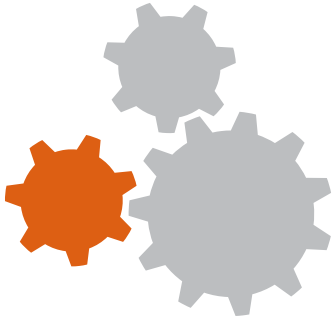
Issues	PwC assisted the head of the newly formed Commercial Business Intelligence organization to clearly articulate a strategy and planning approach across all of the business units (BUs) to enable better utilization of business intelligence going forward. The main challenges of the newly formed group included: • The organization was still in transition, with roles and responsibilities not clearly defined. • Business intelligence was traditionally performed in pockets to meet the objectives of individual business partners, but not the overall commercial insurance organization. • Business intelligence groups failed to recognize the scale benefits that could vastly enhance both their expertise as well as efficiency across the company. • Previous organizational failures had caused the business to doubt the effectiveness of the group.
Approach	PwC provided assistance in the following areas: • Documented the current state by meeting with BU heads, product leads, and functional areas such as actuarial, operations, finance, IT, and enterprise underwriting. • Documented a complete needs assessment and developed a future-state roadmap, including strategic direction and investment priorities. • Incorporated uncovered needs and recommendations into a future-state design and roadmap.
Benefits	A clear strategy and roadmap were designed, which identified four key priority areas: • Risk and profitability management. • Productivity management. • Growth and sales management. • Customer lifecycle management.

Cost-to-Service agencies and customers— Large national P&C insurer



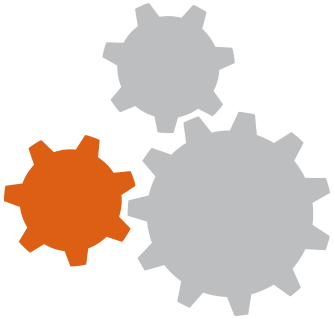
Issues	A lack of transparency into sales channel support costs for agencies and their customers created ambiguity as to whether certain low-performing exclusive agents were relying upon the client's service and support for tasks that the agents were paid to do themselves. Siloed support organizations had disparate methods of capturing metrics. There was a lack of cooperation among sales channel BUs and legacy tools. For example: • Support organizations that were unaware of the interdependence of their counterparts. • Tools not always aligned with the core business function. • Inconsistent and often inaccurate data that was difficult or impossible to translate to a cost per agent. • No assigned accountability to monitor the costs of supporting and servicing agents.
Approach	PwC provided assistance in the following areas: • Conducted an analysis to indentify key high-cost agent segments, and provided recommendations on how to reduce/defer the calls. • Supported the business's desire to capture these sales channel cost metrics by outlining the key business areas that must be in contact, as well as defined the metrics and methodology for achieving standard, ongoing measurement. • Provided the right tools, training, and tiered-service model to the support organizations, which enabled PwC to identify, via predictive modeling, an annual savings of $6 million–$13 million, which translates to 19%–42% of the total cost of service.
Benefits	PwC provided guidance on defining metrics for achieving standard, ongoing measurement across support organizations. We also utilized predictive modeling to identify annual savings of $6 million–$13 million.

Customer retention analytics— Leading US P&C insurer



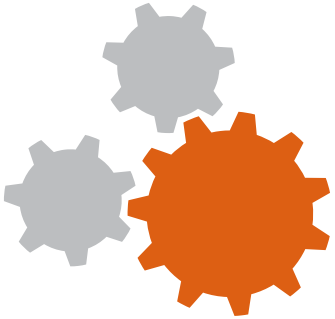
Issues	The client was experiencing an unexplained decrease in retention across all segments and wished to devise a set of behavioral experiments to increase retention. Numerous customer segments were identified, including frequent/infrequent shoppers, sequential/batch shoppers, and frequent/infrequent switchers. The client wished to forecast the impact of the shortlisted behavioral experiments on shopping and retention, since consumers undergo complex insurance purchasing decisions depending on what segment they are in. Segmentation affects customers' shopping frequency, the process by which customers decide on a policy, and customers' propensity to switch carriers.
Approach	PwC provided assistance in the following areas: • Identified, from a shortlisted set, behavioral experiments with the highest impact on shopping and retention. • Provided insights into what types of experiments will most likely impact shopping, what types of experiments will most likely impact customers' switching carriers, and what parts of the consumer purchasing process are most affected by a given experiment. • Identified an optimal set of experiments to run in order to increase retention. • Identified a "closed-loop" of experiments that would decrease shopping, increase retention, and increase loyalty. • Developed a simulation model to determine the impact that behavioral experiments would have on customer shopping and switching behaviors.
Benefits	PwC experiments and analysis, when implemented together, helped the client identify synergies for customer retention.

Claims legal performance management—Large global insurer



Issues	A major carrier identified an opportunity to improve its legal management and reserving process with a focus on forecast accuracy and effectiveness--resulting in improved claims legal management practices. The client wanted to review its claims reserving practices, the linkages to IBNR (incurred but not reported), and the overall defense and containment cost (DCC) and its associated reserve effects.
Approach	PwC worked with the client to help in the following areas: • Reviewed and advised on the potential structural drivers of legal spend. • Provided industry leading practices to the actuarial group during the development of an innovative reserving blueprint. • Advised on methods to collaborate and govern across claims, actuarial, underwriting, etc. • Worked collaboratively and shared information to profile loss reserving and claims legal spend data. • Profiled claims-system information and flow in order to identify gaps and data redundancies in addition to helping key stakeholders reconcile to statutory reports. • Reviewed legal spend and indemnity-paid data to recommend litigation savings strategies. • Offered insights from actuarial subject-matter specialists to share their working knowledge and industry trends on actuarial operating models.
Benefits	Working with the client, PwC identified legal savings opportunities totaling approximately 6% of legal spend: • Provided industry benchmark and leading practices information. • Reviewed and advised on client-created deliverables to its senior leadership.

Enterprise data warehouse implementation— Large national P&C insurer



Issues	The client's organization faced a number of major challenges: • Inability to create "trusted" operational performance indicators that reflect the status of the business. • Numerous different sources of data for performance indicators with conflicting and irreconcilable results. • Inability to drill into performance indicators and users' inability to answer the question "Why?" quickly.
Approach	PwC provided assistance in the following areas: • Worked with executives and the technology team to develop and implement a multi-release, enterprise-wide business solution and architecture for data and analytics. • Developed a plan using a single data reporting tool set to: (1) reduce the number of software packages and their complexity in the existing environment and (2) significantly reduce the number of duplicate data stores. • Execution of the first release involved: – Defining over 60 unique metrics for premium and policy data required to operate the business. – Defining methods to slice indicators across information segments to ease usability. – Designing the data warehouse to tie operational data with the general ledger. – Deriving the performance indicators and tying them to "true" systems of record.
Benefits	PwC led, planned, and implemented an Enterprise Data Warehouse program, which provided the client with access not only to reliable operational data but also to performance indicators required to manage the business operationally and strategically.

Enablement of 360° view of the customer—Large national P&C insurer

Issues	A large publicly held personal lines insurance company in the US wanted to have an integrated view of prospect and customer data to support its strategic vision. A set of enterprise customer services was identified as the component that would facilitate this integrated view and replace the legacy, custom-built household and customer data management system. The client wanted to evolve the "service of" and the "experience for" prospects/customers as they interacted with the organization. The client wanted to track customers across channels, products, regions, and timeframes with better data granularity and information to draw inferences that were previously unavailable.
Approach	PwC provided assistance in the following areas: • Consolidated business capability needs from related efforts, defined a capability inventory that was prioritized by impact, and developed the high-level business architecture. • Developed the conceptual future-state architecture, based on a leading Master Data Management (MDM) engine that is accessible through custom-built services hosted on a messaging platform. • Identified leading software vendors, then led the selection and evaluation process to choose a solution. • Developed and defined high-level solution scenarios, options, recommendations, and costs. • Developed a roadmap that included initial sequencing of recommended efforts. • Developed an initial business case for scenarios/solutions.
Benefits	The integrated platform created a customer-centric technology stack that integrates and manages data that is owned by a variety of operational systems and establishes a model for real-time data integration. As a result, standard industry tools can be used to increase flexibility and speed to market, reduce reliance on custom-coded business rules, and lower the cost of ownership in key application areas. A service-based customer information integration solution increased speed to market and reduced the development and maintenance costs associated with point-to-point solutions.

Master data management design and implementation— Large national life insurer

Issues	The client was unable to uniquely identify a customer across channels and lines of business because customer data is managed in 18 disparate systems. In many cases, the customer information stored among the different systems was incorrect, inconsistent, or out-of-date. The inability to uniquely identify a customer limited the client's ability to understand customer needs, identify potential opportunities, and address other challenges important to delivering a customer-centric business model.
Approach	PwC provided assistance in the following areas: • Assisted in building awareness for the critical need to have a centralized view of a customer. • Captured high-level business and technical requirements for a "customer master data hub" to support a single view of a customer. • Designed future-state Master Data Management (MDM) conceptual architecture and future-state scenarios. • Conducted a vendor selection process. • Led the technology and architecture tracks by bringing prior experience in order to better understand the concepts of household, party, and customer data. • Assisted the MDM vendor in the data design.
Benefits	PwC designed a solution and implementation strategy that cleansed, consolidated, and matched customer data stored across the various source systems and generated a "single view of the customer" containing the most trusted and accurate customer attributes. The project enabled the broader use of the "single view of the customer" via portals, call center, operations applications, predictive modeling, reporting, and analytics.

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"Game on: How information is changing the rules of insurance," PwC FS Viewpoint, November 2012. www.pwc.com/fsi

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