

Commercial Insurance Risk Analytics



Powerful risk analytics empower underwriters to better assess risks and make more informed decisions

Commercial insurers recognize Big Data's potential to provide competitive advantage. They know that access to more data could refine risk assessment, provide more accurate pricing, enhance claims processing, and more.

In a recent survey of underwriters¹, 76% of respondents thought Big Data pricing models could transform household insurance pricing accuracy and 88% thought motor insurance pricing could be transformed. Nearly 70% said real-time, location-based data could **revolutionize the understanding of cumulative risk exposure** in motor.

¹ Ordnance Survey "The big data rush: how data analytics can yield underwriting gold". <http://www.ordnancesurvey.co.uk/about/news/2013/the-big-data-rush.html>

A wealth of detailed, accurate data exists inside and outside the organization that could inform the risk assessment with much more granular and current information than is typically used today. Up-to-date information can be used to assess the likelihood of losses from relevant perils at the property location, the existence of high-risk items nearby, the density of existing policies near the property, and other risk items. Such detailed and timely data can help insurers more accurately price policies by supporting a better-informed assessment of the policy submission or renewal before a policy is accepted.

Despite insurers' realization of Big Data's potential, significant challenges are impeding their use of it. A top challenge cited in the survey was finding the correct data for a given analysis from the vast amounts of data that could potentially be queried. Another challenge focused on how to access data that underwriters know they need but is not readily available. Insurers also highlighted specific skills shortages. Specifically lacking subject matter skill to analyse new sources of data and technical skill to analyse vast data in a variety of formats from disparate sources. For many insurers such constraints make it prohibitively time consuming and inefficient to collate and use Big Data to assess individual policies and their associated risk.

Top 5 Underwriting Challenges

1	Complete Data: Have you included all possible data sets and risk factors to carry out the analysis?
2	Correct Data: How do you access correct data for your analysis from the vast amount of data sets to query?
3	Data Source: How do you generate or where can you access the data needed for analysis?
4	Domain Skills: Do you have the right domain skills to analyze new sources of data which could be mined for relevant information?
5	Technical Skills: How can you gain the technical skills to analyze vast amounts of data in a variety of formats from disparate sources?

Revolutionizing Risk Assessment: Commercial Insurance Risk Analytics

Capgemini **Commercial Insurance Risk Analytics** (CIRA) empowers underwriting professionals by providing unprecedented access to accurate, granular information on individual risk factors for a more informed, faster commercial risk assessment. It is a **one stop shop for the collection, synthesis, and analysis of risk data**.

A Unified Framework: Built to Provide a Powerful, Single Data Resource

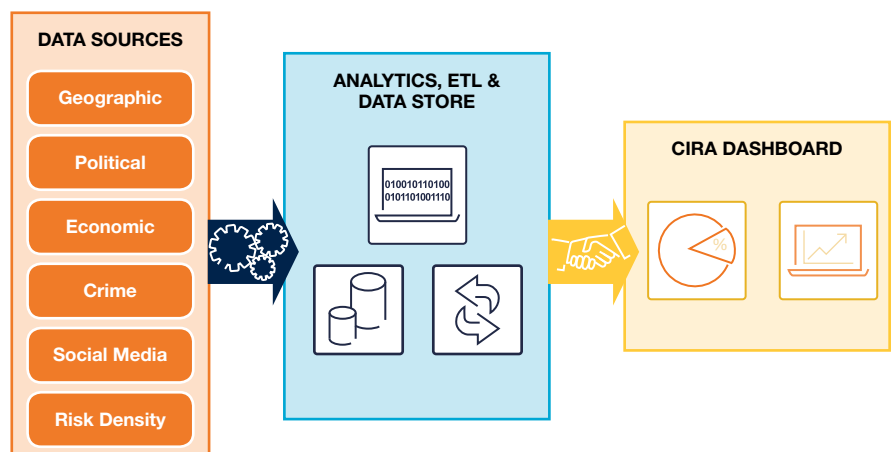
The CIRA platform leverages powerful analytics and database management, and a unified framework for data integration to provide a single resource for the collection, integration, and analysis of a wide range of data sources. It integrates highly detailed risk data from multiple and varied sources, structured and unstructured, including social media, internal data (such as policy, claims and customer data) and data from external sources to support decision-making on demand.

It supports an on-site assessment of a commercial insurance policy submission by providing up-to-date information on the likelihood of relevant perils at the location of the property, the existence of high risk items within range of the property, the density of existing policies near the property, and other risk items.

This comprehensive data enables the risk associated with each policy to be assessed individually against a range of factors and at a more granular level than previously practical. Data is available on a self-service basis in near-real-time providing the capability to schedule work to meet demand rather than being constrained by IT capacity. It's the difference between "right on time, anytime" reporting versus living with "when the report arrives."

Powerful Single Analytics Platform

CIRA integrates a wealth of relevant data from structured and unstructured sources into a single analytics platform.

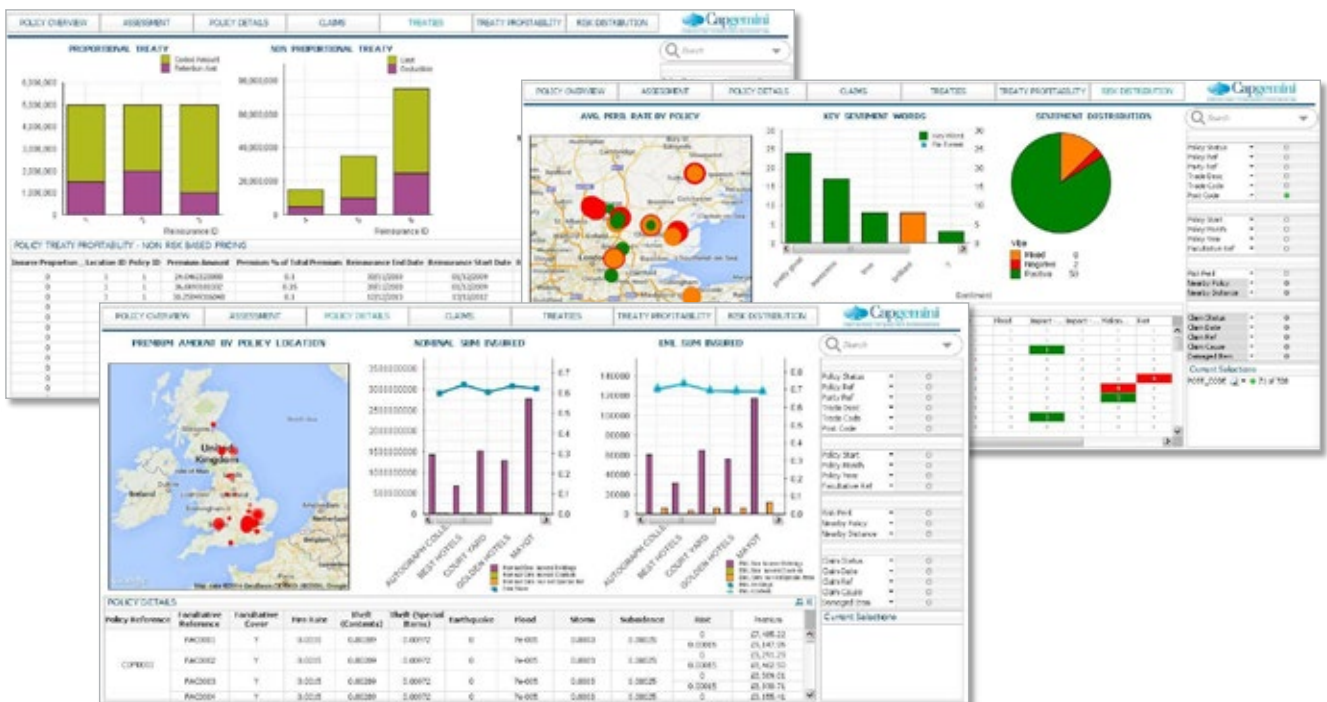


The Analytic Dashboard: Risk Data Exactly the Way You Want It

Through Cappgemini's Rapid Data Visualization capabilities, CIRA brings the right data in the right format, customized for underwriters and providing comprehensive decision support. CIRA offers analytic dashboard displays with full drill-down capability into the underlying data on dimensions such as insured party, postal code, peril, and more. It provides analytics on the entire portfolio of existing policies of the insurer such as loss ratio statistics, changes over time and risk density by expected maximum loss amounts.

It also gives the underwriter *what if* analysis against historical records and is readily available to inform strategic decisions beyond individual risk assessment. It supports and promotes new thinking such as analyzing impacts on reinsurance costs and solvency margins, provides more accurate risk mapping, enabling proactive claims management and enables targeting of profitable growth areas as well as risks to avoid.

Commercial Insurance Risk Analytics Dashboard





How Fine-Tuning Data Can Help Insurers – and their Customers – Save Money

4 March 2014

Industry View

Insurers use many types of data to assess the risk associated with insuring a property or other asset. This data may include geographic data to determine if the property is located in a particular area prone to natural disasters. Political data also could be considered to assess if the facility is located in a region of political instability, economic and crime statistics. Finally, risk density may be examined to assess nearby risk factors and accumulations.

Insurers have a great opportunity to make their risk assessments more meaningful and current by accessing data available from external sources. Using data from external sources will infuse the risk assessments with much more granular and current information than is typically included. Up-to-date external information can be used to assess the likelihood of losses from relevant threats at a property location, the existence of high-risk items nearby, the density of existing policies near the property, and other risk items.

Using this granular data will create a very accurate risk assessment on an individual property which can help insurers more accurately price policies based on a better-informed assessment of the policy submission (or renewal) before acceptance of that policy. Individualized risk assessment will result in unique pricing of the premium required to cover the risks inherent at that particular property.

In a recent survey of underwriters [\[1\]](#), 88 percent of survey respondents in motor, 76 per cent of household and 60 percent of health insurance lines reported that pricing accuracy could be transformed by big data pricing models. In motor, 68 per cent of those polled said real-time location-based data could revolutionize their understanding of cumulative risk exposure.

For insurers, infusing traditional risk assessment with big data can provide better identification of regions where more aggressive terms should be used to reduce exposure, thereby providing better risk management and reducing costs. For policyholders this approach means insurers can identify regions where more attractive terms can be offered and reward good customers with greater pricing accuracy.

Source: Article as seen in Business Reporter, industry view published on March 4, 2014.



Why Insurers Need To Realize the Benefits of Big Data

30 March 2014

Industry View

Big data has the potential to provide insurers with substantial benefits. In fact, in a recent survey 82 per cent of underwriters believed that insurers that do not capture the potential of big data will become uncompetitive. Despite this realization, significant obstacles are impeding insurers' exploitation of the full amount of data available to them.

Insurance has always been a data-intensive business, but the volume and diversity of data now available can be daunting. A top challenge cited in the survey was finding the correct data for a given analysis. Another challenge identified focused on how to access data underwriters know they need but that is not readily available. To analyze new sources of data, many insurers are diverting resources to the data analytics function, resulting in underwriters and pricing analysts being charged with managing and integrating data.

To take full advantage of big data, insurers need to think more innovatively from two perspectives. First, consider solutions from outside the organization that integrate relevant data into a single analytics platform to support decision-making. This takes the effort of managing and integrating risk data out from under the underwriters, freeing their time to focus on the business of insurance.

Second, insurers should step back and think about how data can be used across the entire customer value chain – “inside-out” to better price and assess risk and “outside-in” to provide exceptional customer journeys. It is with an eye to the big picture that big data will bring sustainable competitive advantage.

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The Big Data Rush: How Data Analytics Can Yield Underwriting Gold. Survey conducted by Ordnance Survey and Marketforce/Chartered Insurance Institute/Chartered Institute of Loss Adjusters, April 2013.

Source: Article as seen in the Business Technology report on Big Data, published with The Sunday Telegraph (30/3/2014).

Business-Driven Approach Grounded in Deep Insurance Experience

CIRA originated as a result of our deep experience working with insurance clients with real world challenges.

We have used an independent underwriting firm to review the proof of concept and CIRA is being demonstrated to multiple insurers in Europe and North America for feedback, shaping the next stage of its development. This approach to the definition and development provides a solution that is user-centric, issue-based and business-driven.

The solution is designed to bring insurers the best in performance and advanced business intelligence and analytics reporting. The proof of concept leverages the integration and analytic powers of HP Vertica and the HAVEn framework, although CIRA can work on a number of data management and analytical platforms including Oracle, IBM Netezza and SAP Hana.

While CIRA is designed to use both Qlikview and SAS Visual Analytics, it can easily be configured to use other business intelligence and analytics reporting tools. With its Rapid Application Development methodology, Capgemini offers accelerated time to market for clients.

Finally, while the CIRA solution is restricted to a use case regarding risk assessment from several traditional and non-traditional threats or perils, many at higher degrees of granularity than currently in use in the industry, the CIRA solution framework may be extended to all types of threats and risk scoring.

5 Questions to Consider When Building the Big Data Business Case for Risk Assessment

1	How will supplementing account level management with individual risk level management help to mitigate risk and improve compliance?
2	By moving from piecemeal data to unified information how much can be gained in operational efficiency?
3	By how much can the cost to settle claims be reduced by utilizing the ability to more accurately identify higher risks?
4	How much can customer satisfaction and retention be improved through the ability to reward good risks instead of taking a “one size fits all” approach?
5	By achieving lower loss ratios how much can profitability and use of capital be improved?

Empowering the Underwriter and the Business

Next generation risk assessment requires that Big Data be gathered, integrated and presented in a way that is efficient for underwriters to use. As an underwriter's enabler, CIRA does just this. As a result, underwriters are able to complete a better-informed assessment of a policy submission and the premium cover required to cover the risks inherent in an individual property and location.

Beyond individual policy assessment CIRA analytics enable underwriters to identify regions where more aggressive terms are required in order to reduce exposure on existing policy business, thereby providing better risk management and reducing costs. The same analytic capabilities enable identification of regions wherein more attractive terms can be offered, thereby facilitating new policy business and increasing revenue.

Furthermore, the CIRA solution maximizes the use of information in a timely fashion to support control and tracking of risks and profitability of an insurer's commercial insurance policy portfolio. Finally, CIRA provides significant organizational cost benefits including the reduction of operational inefficiencies through a single point of data acquisition and analysis and lower loss ratios through the more granular identification and management of risk.

Insurers recognize Big Data's potential to revolutionize commercial risk assessment. CIRA provides the means to overcome the challenges that, to date, have limited its use. Through the fast and effective collection, integration and provision of volumes of data, CIRA gets the right data in the hands of the business faster. Empowered by CIRA, underwriters no longer have to consume extra time and effort managing and integrating risk data. Instead they can focus on the business of insurance.

Business Intelligence Specialist with Deep Insurance Expertise

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- 9,000 business information management experts with more than **3,000 dedicated to financial services**
- Provides **business intelligence and analytic services** to major insurers worldwide
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For more information, contact us at insurancerisk.fsgbu@capgemini.com
or visit www.capgemini.com/cira.



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Together with its clients, Capgemini creates and delivers business and technology solutions that fit their needs and drive the results they want.

A deeply multicultural organization, Capgemini has developed its own way of working, the Collaborative Business Experience™, and draws on Rightshore®, its worldwide delivery model.

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