



Succeeding in Today's Insurance Market

How to Unlock the Value of Your Data

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Insurance companies have a data challenge that can sink once thriving businesses. But, this challenge also holds the potential to liberate them and set them free to thrive in the new world of data-enabled InsurTech solutions. This paper explains how a multi-model approach to data integration is helping insurance and reinsurance companies around the world to solve that data challenge – and transform their businesses.



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EXECUTIVE SUMMARY

Insurance companies have a data problem. It will not go away. It has the potential to sink once thriving businesses. It also holds the potential to liberate them and set them free to thrive in the new world of data enabled InsurTech solutions.

Insurers have collected vast amounts of data in a wide range of legacy systems. Over the decades they have gathered information from policyholders at every stage of their relationship, from proposal to claim. This ranges from paper files through rigidly structured mainframes and relational databases where everything sits in silos to the new generation of dynamic, flexible databases. All information about clients, risks, claims – however it was initially captured – has the potential to unlock fresh insights, improve transactional efficiency and streamline every aspect of the insurance process.

While insurers are struggling to unlock the potential of the data they hold, outside there is a new world of mostly unstructured data, much of it changing in real-time, which needs to be harnessed too. The business imperative for tackling data integration is real and urgent – and insurers are beginning to act on this imperative.

There is a huge challenge in integrating, mining and making sense of the relevant data from those different silos but the tools are now to hand. What still seems to many in insurance to be a challenge too far is being surmounted by leaders in insurance and in other industries including financial services, media, and the public sector. The positive impact on customer service and operational efficiency has been dramatic, and it is an essential precursor to the effective deployment of artificial intelligence.

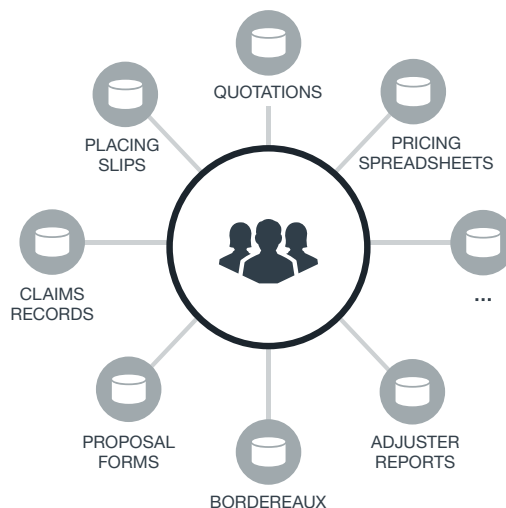


Figure 1: What businesses want: a unified, actionable 360 view of data

Data – and the need to access and use it more effectively – has always existed. What has changed in the last few years is that powerful, innovative technology now exists to integrate data from silos and legacy systems – and support new tools and techniques for analysis and process automation.

This is the new world of harnessing ‘all your data.’ Businesses that embrace it will unlock value that would otherwise be lost to them. But this is not just another IT project. Indeed, it should not be viewed as a technology project at all because genuine data integration and mining is a business transformation project in which technology is a tool.

Setting the right business objectives, choosing the right tools and working with partners who understand those objectives and can bring expertise and experience to the table are the key ingredients for a

“ The industry that supplies insurers with the latest digital technology is attracting a lot of capital in Europe as investors back cloud, internet of things (IoT) and big data technologies. A total of 70% of Europe’s largest insurance companies were found to have appointed a new CEO in the past 18 months, and it was these leaders who were implementing IT innovation strategies.”

– ComputerWeekly, September 2017

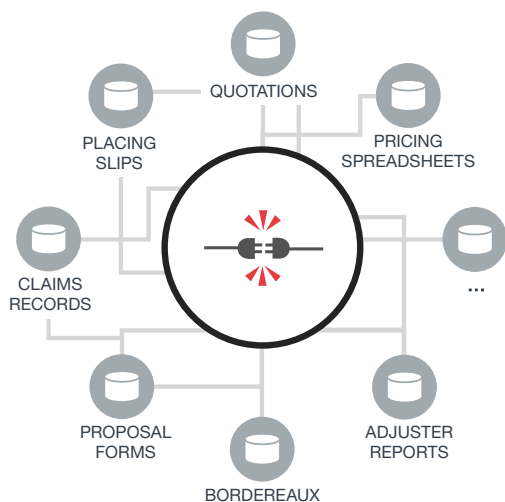


Figure 2: The reality: data is in silos

successful data integration and mining project. Few firms have all the expertise they need available in-house. To source that expertise, build the knowledge and implement what seems a massive project would be time-consuming and very costly.

Projects often take years to complete – and that time costs money. It also leaves the door open to more fleet-footed competitors.

That expertise and experience – across many sectors with massive data challenges – already exists and can ensure an unwieldy, expensive, time-consuming project becomes manageable and affordable. Delivery of a business-ready solution in weeks or months instead of years is not wishful thinking – it is the reality of what has been delivered by MarkLogic across a range of demanding industries. Indeed, a large North American insurance company found that they could get results more than four times faster with MarkLogic than with their legacy relational database technology platform.

The genuine 360° view of a complex insurance portfolio that a successful data integration project delivers creates a powerful, proactive tool for exploiting new business opportunities. It is about using all your data to transform your business.

INTRODUCTION: IS MY PROBLEM UNIQUE?

Insurance as a sector is not alone in believing that its data problems are unique to itself. It is also far from alone in:

- Needing to innovate – quickly – to counter competitive threats
- Being burdened with paper and people-intensive processes and disconnected, legacy technology
- Needing to deliver a personalised, frictionless, mobile experience to their customers
- Suffering from high costs and long timeframes on technology projects
- Having deployed expensive but partial solutions that have not met the full needs of the business

Digital transformation has blown up the global map of retail (Amazon and Alibaba), hospitality (Airbnb) and transportation (Uber and Lyft). The venture capital (VC) money that fuels these disruptions has now turned its attention to the sleepy Insurance industry, funding hundreds of digital InsurTech companies with billions of VC dollars to disrupt an industry that still relies on paper processes and face-to-face transactions. To the credit of the incumbents, the reaction of the industry giants has been swift and broad-reaching. Many large insurers are exploring new technologies, starting innovation spin-offs, their own VC funds, or simply buying best-in-breed InsurTechs to fuel innovation and avoid the fate of those companies left in Amazon’s dust. According to CBInsights, mentions of “technology” and “digital” on insurance company earnings calls almost doubled between 2016 and 2017.

Insurers are discovering just how far behind the curve their technology infrastructures really are, and the significant gaps they need to fill in order to leverage their own massive stores of legacy data, as well as all the shiny new data promised by IoT, social media and smart devices. New technologies like Artificial Intelligence (AI), machine learning and Natural Language Processing (NLP) can help automate slow, and mistake-prone manual processes, and increase customer acquisition and retention by offering a frictionless digital experience. But, they all rely on being able to fluidly integrate, understand and operationalise all of this data, old and new, structured and unstructured.

UNLOCKING THE POTENTIAL OF YOUR DATA

Identifying what legacy data can be brought together often requires imagination and for barriers within businesses to be broken down.

Ask most business managers where they would expect to find data and they will point to spreadsheets, accounting systems, customer relationship management systems and websites. All these have in common that they are structured and managed within existing – often proprietary – systems.

Of course, many previously “manual” processes in insurance are being automated and creating new sources of data, but this automation often overlooks the wealth of data captured by previous processes, some of which might even be in paper records. Extracting valuable information from this data is not as hard – or impossible – as it sounds. All documents and datasets held by insurers have common factors, in particular, client names and references. This provides a common thread that can start to link a wide range of records:

- Proposal forms
- Quotations
- Risk surveys
- Pricing spreadsheets
- Placing slip
- Broker reports
- Customer service records
- Call transcripts
- Claims records
- Bordereaux
- Adjuster reports
- Finance department client data

The challenge is to integrate all this data into a single database that can explore the links between all this information and then ask ‘What can I do with this information?’ and ‘How can it link with real-time information from external sources?’ Many people will have well-formed ideas of what they can do if the data from such a wide variety of sources can be integrated and then interrogated. However, when such a rich data pool is created there are always opportunities to make use of it that were not foreseen at the outset.

Integrating the data is the start. Linking the data is the next step, and this is what marks out the new generation of flexible, agile databases from their predecessors. They also can add context that creates

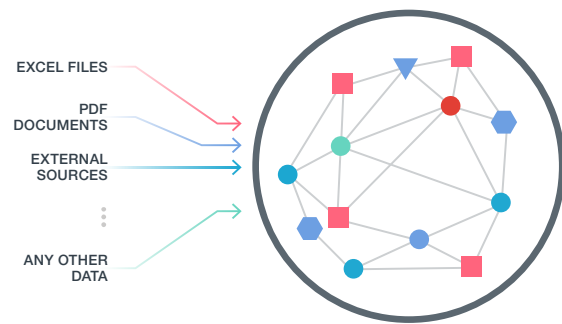


Figure 3: Integrating all your data and adding context to create a Map of Knowledge

another layer of added value. This enables firms to create a ‘Map of Knowledge’ about clients, risks, business performance, and claims.

The more complex the risk, the more data you need to assess the risk. But how many underwriters and client-facing executives have real visibility of finance department data relevant to their clients and the risk they underwrite for them? If information is shared with them, are they able to relate it to individual clients, risk types or claims when appropriate or is it just a dump of numbers lacking any context?

Adding context is one of the major breakthroughs in the latest generation of data integration capabilities.

This development in database science is often referred to as semantic data, which simply means that data is no longer purely an item of information – a name or a number – but has its context explained. This is what then enables it to be linked to other items of data that in their raw form do not necessarily suggest any overlap but with the context added are joined across that ‘Map of Knowledge.’

Too many siloed systems block opportunities to share data and explore linkages in this way, including using external data sources and interrogating them in real time.

WHY INSURERS ARE STRUGGLING

The established approaches to integrating data from silos have many limitations. Too many of them have been designed by IT experts who have tended to prefer highly-structured approaches to data collection, management, and aggregation. This could be characterised as the ‘Excel’-like (rows/columns/tables), relational-structured approach where every piece of data has a precisely defined field in which it must sit (the schema). The data is made to fit the

schema, which most of the times leads to slow time to value and losing data along the way. And, every time business requirements demand a change to that data the process starts again, leading to incremental costs and slow time to market.

These relational databases have had their day. They are inflexible and struggle to respond to the rapidly changing demands placed on modern, forward-thinking insurance companies.

These standard relational databases, even when they have been well-designed and are driven by powerful technologies, miss opportunities to draw out the value buried deep in data. They are also mere spectators when it comes to the data revolution going on outside the confines of corporate IT systems and the mainframe mentality where other sources of data, mainly unstructured, are pouring out vast quantities of potentially valuable risk information.

These problems will be familiar to almost everybody in the insurance market. They are also familiar – and have been solved – by many other industries where data and content lie at the heart of their business models. Unlocking its full potential for them has not merely been a “nice to do” project, it has been business-critical.

Instead of making the data fit the tool, modern tools have been re-calibrated so they are capable of fitting all your data.



Stop using the wrong tool for the job

This hasn't been done by laboriously transferring data to new structured databases. The re-keying of data, perhaps in offshore centres, is not the solution. It is too prone to error and not scalable. It is also likely to contain the seeds its own inevitable obsolescence as the straight-jacket of structured data cannot quickly be re-engineered.

Companies need solutions that can integrate valuable data from a wide variety of silos, legacy systems, and even old paper records in a cost-efficient way, ultimately drawing it into a single system capable of being interrogated in many different ways.

“ Relational has lots of problems. Everyone knows to build a model you have to model it up front, you have to conceive pretty much everything up front, what your application's going to do. This can be very problematic because businesses don't always know what they want up front.”

–Mike Fillion, Director of Architecture, Aetna

GAINING COMPETITIVE ADVANTAGE FROM YOUR DATA

The ability to integrate data from silos and interrogate it dynamically will unlock competitive advantages for firms.

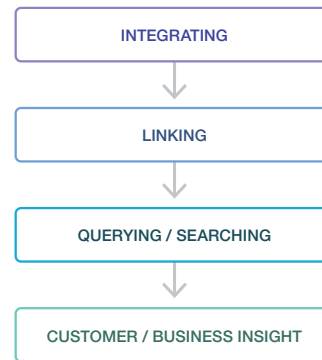
To unlock all of these potential business-enhancing opportunities requires extracting data from millions of documents, files, and structured data sets. The solutions have to have genuine enterprise capabilities and a sharp focus on creating transactional consistency.

This has to be carried out in the context of a highly-regulated market where compliance is a key business priority and where the potential reputational damage from mishandling personal data or leaving it vulnerable to theft or hacking is a major business risk.

The need to treat personal data with total integrity and transparency is essential in any major data integration and mining project.

It is not about collecting data for data's sake. This applies as much to pulling in data from external sources, some of which may be publically available, as it does to creating huge reservoirs of data from internal sources. Any data integration and mining project must focus on what is really useful for making better underwriting, risk management, and claims decisions.

There are risks, and an industry such as insurance that does not enjoy a high level of public trust needs to be very aware of them. Openness is essential. The right permissions must be obtained, and clients need to be able to see their data is being used responsibly and for their benefit.



The fear of getting it wrong is holding the industry back from unlocking the full benefits of data integration and enrichment. Many firms are backing away from large-scale data mining because they are worried about GDPR (General Data Protection Regulation). Being able to search their data and at the same time restrict access to that data is a very difficult problem for many insurers. However, today it is possible to have a very rich data store around which you can put a very robust security wrapper.

DATA-DRIVEN USE CASES

Integrated, linked, and properly governed and secured data can power a variety of use cases across the business – transforming the manner in which insurers price policies, process claims, and promote their services. Following are just a few examples:

MORE EFFECTIVE UNDERWRITING

Data mining has the potential to make complex proposal forms a thing of the past as they can be pre-populated with data the insurer already holds on a client or can source externally.

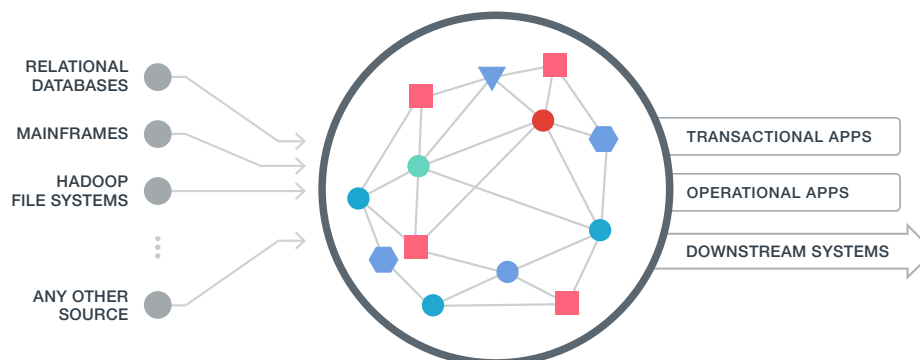


Figure 4: Integrating all your data to create a Map of Knowledge which can be used across the business - from claims, to underwriting, to fraud prevention, etc.

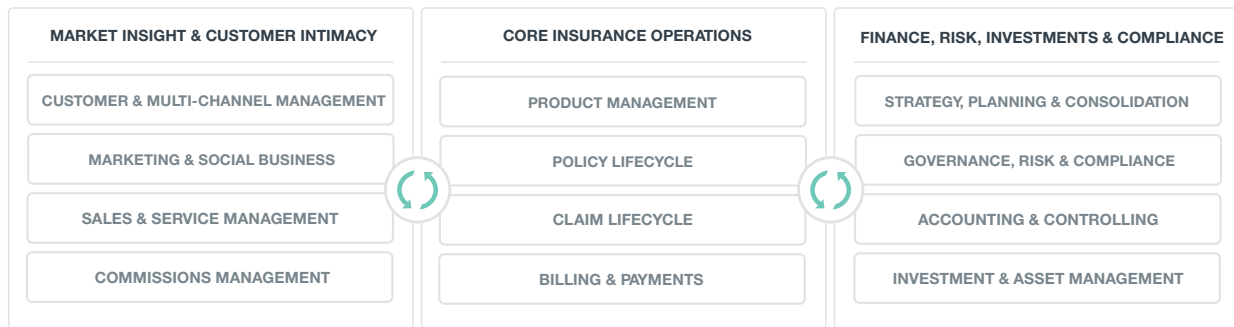


Figure 5: A holistic view of business, based on integrated data, provides benefits throughout the organisation

If you take the traditional fact-finding process that takes place before a broker puts a risk to an underwriter, there is huge potential for speeding that up and improving the quality of the information collected to present to the underwriter. Everything known about clients and the risks they are seeking to cover can be used to pre-populate proposal forms. Thus, a lot of the time currently spent asking questions would be saved and the whole process made quicker and slicker.

It would represent a reversal of the current process where the broker or insurer asks the customer for all the detailed information they need to assess, price and place the risk, putting the onus on the client to gather the data and present it in a format acceptable to the people who want their business.

In the new world of rich data, the broker or underwriter will go to the customer with a form containing everything relevant they know about them and ask them to validate it.

The potential benefits of mining data and pre-populating proposal forms is not just appealing to insurers but also to small and medium-sized businesses.

SMEs want to focus on running their business. They do not want to focus on spending hours talking to an insurance broker, providing lots of data and answering lots of questions. This is one area where there is a clear opportunity for innovation using rich data.

By presenting the client with data about themselves the relationship becomes more efficient and supports a more robust underwriting process as well as meeting all the new legal expectations around fair presentation of risk.

MORE EFFICIENT CLAIMS PROCESSING

Claims processes produce vast amounts of documentation with data collected and stored in many different silos. Investigating this documentation manually is hard, time-consuming and inevitably produces only partial results. Automated interrogating of claims data will produce new insights of significant value.

The millions of documents in archives cover thousands of similar claims. The data from these claims can be used to drive better decision-making. The challenge is to compare a new claim with all similar past claims in real time and find out what has been paid in the past, how much has been reserved and what factors triggered useful investigation. This leads to better service for policyholders. Most claims would be paid more efficiently as the data would instantly identify the 80 percent of claims that do not require complex investigation – as they will eventually be paid in full. For insurers and their adjusters, this would ensure their skills and resources are deployed on claims that have genuine reasons for further investigation.

IMPROVING RECOVERIES

There are millions of pounds of recoveries sitting on the balance sheets of insurers and underwriters. Finance departments usually own this data but if it can be linked to other client specific datasets in the 'Map of Knowledge' then the whole business can benefit. Claims teams should have a better view of this information as they will be interacting with people in the other firms who may be able to chase outstanding recoveries from their end. It wouldn't stop there, as by feeding back to underwriting and sales where recovery is good, bad payers can be avoided in the future or the risks they are involved with rated appropriately.

BETTER BUSINESS RELATIONSHIPS WITH TPAS

Most underwriters and frontline teams in insurers have little or no visibility of their relationships with third party administrators (TPAs). Many TPAs hold substantial funds on behalf of insurers, which are often slow to be released or slow to be returned to insurers when it becomes clear they are not required. Claims managers need a 360° view of the relationship with TPAs. Mining data effectively can give them this.

This would lead to heightened levels of efficiency in the relationships between TPAs and insurers, meaning cash management in large claims would be much more efficient and claims teams could interact with insureds confident that their expectations in terms of speed of payments and resolution of outstanding issues were being met.

REDUCING CAR HIRE FRAUD

Car hire companies have found themselves very vulnerable to fraud. As they have responded to the pressure for quicker, easier access to their service so the opportunities for fraudsters and criminals, including terrorists, to take advantage of 'light-check' systems increased.

The car hire firms want to be able to screen potential hirers against data they hold on them, but this only reveals a one-dimensional picture of that person. Using data integration and the Map of Knowledge concept they can interrogate data to see if the hirer has any relationships with other known fraudsters or criminals. This draws in insights not just from their own database or common industry databases about

known fraudsters but also real-time data from social media and other external sources.

The old-fashioned, siloed data solutions would not be capable of creating this dynamic, real-time risk profile.

DELIVERING EFFECTIVE MOBILE EXPERIENCES FOR CUSTOMERS

Insurance customers – like any other consumer – have come to expect frictionless mobile services like they get from Amazon and other digital leaders. Indeed, this is where InsurTech companies pose one of the greatest threats to traditional insurers.

When risk assessments can be made in virtual real time – based on accurate, secure, aggregated data – it is easy to remove the friction associated with buying insurance; renters insurance, for example, is already offered this way in more than half of U.S. states. And, having all the data about the customers ensures that communications are personalized and targeted.

The advantage to taking a “data-first” approach is that once data is integrated from across the enterprise, that data can then be used to power any or all of the business’ desired use cases. This is very different from an application-focused approach that implements one point solution at a time – each of them requiring upfront data integration work and the resulting time and cost to the business.

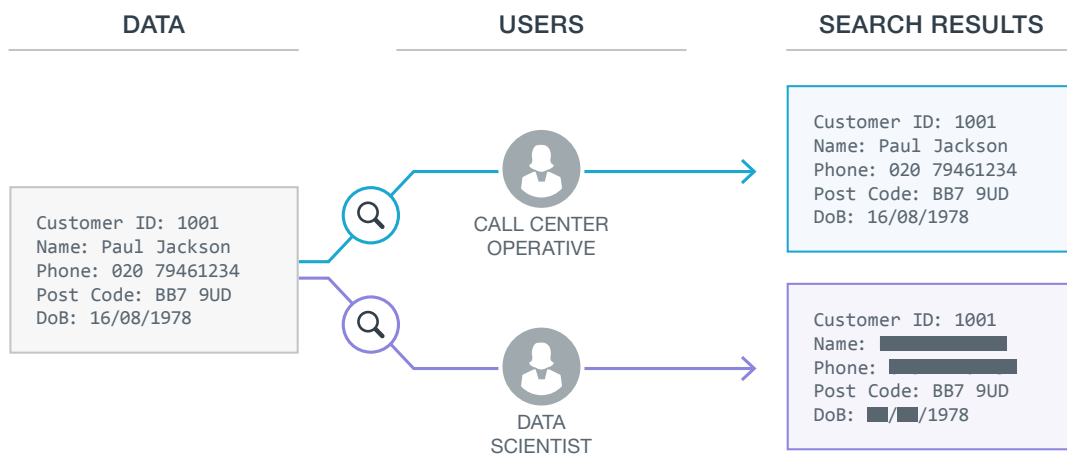


Figure 6: Advanced security ensures that people only view what they have permissions to see

TRANSFORMING THE BUSINESS OF INSURANCE

Data integration and mining are not only about automating existing processes. It goes beyond that.

It is about better ways of doing business. A successful data integration and mining project will open up new business opportunities and improve interactions with the most profitable clients. If this wider view is not understood at the senior management level, then opportunities will be missed.

The London Market has struggled for years to make the placing of business more efficient. The progress towards electronic placement has been slow because the benefits of merely automating the existing process are limited. Bringing rich data into the mix will provide real momentum to modernising the London Market because the business benefits are potentially huge. A more negative view might be that it is about business survival, as more agile, data-led InsurTech competitors seize the opportunities.

Among the biggest of those opportunities – and one that lies at the very heart of the insurance transaction chain – will be the ability to integrate data from multiple sources and use it to pre-populate a pricing matrix. This would be the insurer view of the data-enriched proposal form in the earlier example.

This integration would free underwriters from having to spend time identifying and uploading client and risk data. It would be there at the outset of a conversation with a broker. They, in turn, would have used much of the same data when they were with the client, probably minus the pricing matrix that would be commercially sensitive to the underwriter and where the potential to extract significant competitive advantage from data sits.

This client and risk-specific data can then be overlaid with data from other relevant sources – mapping property risks can pull in up-to-the-minute claims data and focused geo-specific data, for instance of burglaries, fires and weather hazards.

All this information extracted from multiple database silos and then integrated needs to be presented in a way that makes sense to decision-makers. It must answer their questions, not produce vast amounts of information that they cannot interpret. Enterprise-wide reliability and consistency are essential.

As data can now have context in the world of unstructured, semantic data, it can be presented in various ways, from detailed to financial information to visualised solutions such as maps. Putting contextual flesh on the bare bones of raw data in this way ensures that it becomes a usable tool in the hands of people who may lack the high-level data analytical skills needed to understand traditional, complex databases.

All this needs to be done in real-time otherwise it is the equivalent of looking in the rearview mirror. Internal and external data is being constantly updated, so the ability to access it in real-time is an essential requirement of an integrated data-mining project.

INSURERS WHO ARE TRANSFORMING THEIR BUSINESSES NOW

Example: Hannover Re

These solutions have been put to work at Hannover Re, the third-largest reinsurer in the world, with the development of hr | ReFlex, a fully automated underwriting system. It is an innovative combination of point of sale and risk assessment systems specifically targeted at primary insurers looking to deploy all-digital insurance products or adding online and mobile channels to their sales.

This challenge will be familiar to insurers in all markets.

“MarkLogic's agility, integrated search, and enterprise features allow us to deliver on a global scale to the most demanding customers. We have dramatically improved the customer experience and our clients' ability to optimize their risk profiles”

–Jens Blohm, Managing Director of Life & Health Northern & Central Europe, and COO of the Life and Health Business Group, Hannover Re



The relational database methodology could not serve as the foundation of the new automated underwriting system because data produced at the point of sale was heterogeneous. Every client had different sales processes and underwriting approaches. In addition, unstructured content such as lab reports and scanned images needed to be made available to decision-makers. These rich and complex records often contain thousands of valuable data points.

Because the data involves sensitive health issues, security was an enormous concern for Hannover Re. It looked into an open source solution, but found the security insufficient.

The MarkLogic® database met those requirements and serves as the underlying database and storage layer for an analytic application that is now part of the hr | ReFlex product suite. The cloud-based analytic application offers a 360° view of all relevant information and is delivered to clients around the globe.

The key benefits have been improved customer experience, better management of risk, reduced complexity and costs and real-time information and scalability.

Example: Erie Insurance

Erie Insurance is the 12th largest automobile insurer and 15th largest property/casualty insurer in the U.S. They wanted to modernise and digitise their insurance policy processes and customer experience.

The company’s customer information, billing records, policy records, and claim records are in multiple data formats and stored across multiple source systems including relational and mainframe systems. Delivering a complete record of a customer’s policy and billing information, for example, relied on costly, time-

consuming processes (including an expensive and inflexible Master Data Management platform) to match and merge customer data from multiple sources – making it incredibly difficult for Erie to build internal and external applications with a comprehensive view of their data. The company wanted to move away from their rigid and slow legacy technologies and implement a modern, agile infrastructure to power multiple next-generation applications.

Erie has built a production customer system of record (CSR) system on top of MarkLogic. This platform is delivering a comprehensive 360° view of their customers, and has allowed the company to:

- Clean up its customer data
- Ensure that customer service agents are referencing the most up-to-date version of customer data for policy verification purposes
- Migrate its CSR platform to its future data hub platform without costly and time-consuming data modeling and ETL (extract, transform and load) processes.

“ We had a few needs: We wanted to improve our application delivery time—we wanted things to be in hours and weeks, not weeks and months. We wanted to be more flexible, more agile in our processes. And probably and more importantly was to turn data into information as fast as possible. When a customer calls in with that new piece of information, we want to give that to someone who can act on it quickly.”

–Brian Novacek, Senior Solutions Engineer, Erie Insurance

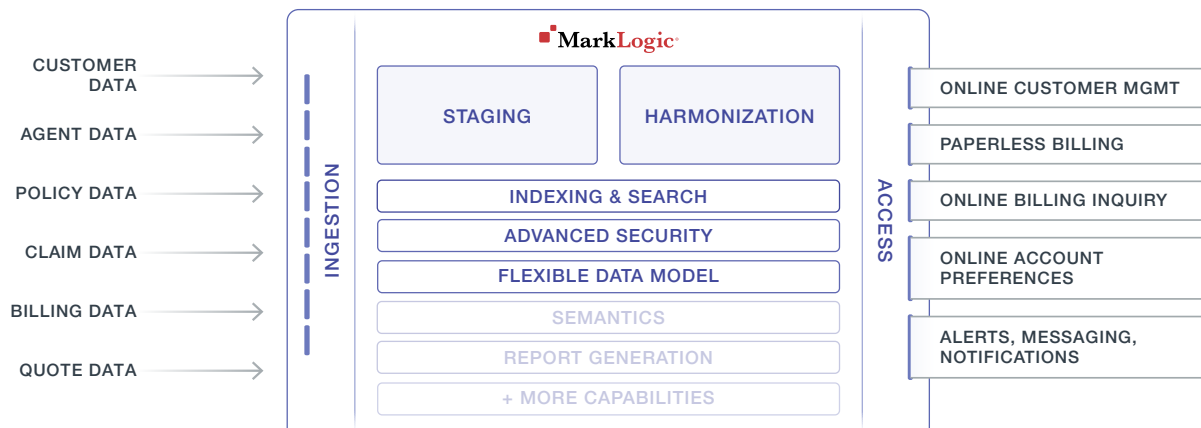


Figure 7: Erie Insurance's System of Record integrates customer data to improve the customer experiences

BUILDING FOR THE FUTURE

Firms are fearful of major investments in IT solutions that are almost out-of-date before they come on stream. There is plenty of talk about the huge potential of Artificial Intelligence as a tool to make insurance pricing, risk management and claims handling more efficient, removing unnecessary human intervention.

The scope for AI to have a major impact on insurance is exciting, but it will need quality data to be successful. Artificial intelligence with all its algorithms and formulas

has huge potential, but if you don't have the right data to put into the AI engine, it will not solve the problems. The right data must be available to AI engines to enable them to produce good quality solutions. Investment in AI alone will not provide real added value to a business: it must invest in the data too.

Adopting a flexible, agile data-integration and mining solution is therefore essential, not optional, for insurance businesses that want to flourish as the InsurTech revolution gathers pace.

“ We needed something that was flexible, could easily scale as compared to your traditional relational systems today, came standard with security, able to handle transactions, be ACID compliant, and fit into our operational model today.”

—Brian Novacek, Senior Solutions Engineer, Erie Insurance

HOW DOES THE MARKLOGIC APPROACH MEET THESE CHALLENGES AND UNLOCK THESE OPPORTUNITIES?

PROVEN RESULTS

First, the MarkLogic technology is proven in other fields with complex data challenges. Integrating and mining legacy data created over decades of technological change is not a problem unique to the insurance industry. Indeed, for some industries data and content *is* their business, and so unlocking the potential shut away in legacy systems has been essential for business survival. MarkLogic has worked alongside major businesses to produce successful dynamic, agile solutions that have transformed business models.

Example: Publishing

Publishing clients had an overwhelming business requirement to exploit all the content they held more effectively, exploiting as many data sources as possible to understand what content their customers wanted. Integrating all their data together with external data about what other content and information sources people are using has enabled major publishers to develop dynamic, customised solutions.

These have produced bespoke content solutions for individual customers and led to new ways of keeping them engaged on their publishing platforms for longer.

Second, the time to deliver solutions is crucial as the market is moving fast and new competitors are emerging. Many of the new firms are data-driven and pitch one of their major advantages as being free of the burden of legacy systems. The challenge for established firms is to move quickly to turn what others see as the dead-weight of legacy systems into a competitive advantage by mining the data held in them.

“ There aren’t many options when you’re looking for a commercial solution that can help store, search, analyze, and transform more than a billion documents. MarkLogic is a cutting edge technology which enables the LexisNexis development team to spend more resources building products and features and less time and money maintaining a technology platform. This focus on the applications is driving our customer satisfaction and is a critical component of our continued growth at LexisNexis.”

—Jerry Barton, Vice President of Global Product Development, LexisNexis

It is possible for larger firms to create their own solutions but typically these projects take years from planning to operational effectiveness. Most insurers do not have the internal capability to manage and deliver a dynamic data integration solution and cannot afford to wait years while their competitors find faster solutions to the same problems.



Figure 8: Relative time to results at a Fortune 500 global energy company



Figure 9: MarkLogic's Operational Data Hub streamlines the data integration process

The MarkLogic approach typically delivers results more than four times faster than with legacy technology-based solutions. Many clients have gone from inception to delivery of a business-ready solution in three months' time. And, the flexibility of the MarkLogic platform ensures that future development – e.g., to respond to new business opportunities or new regulatory requirements – can be completed swiftly and cost-effectively as well.

“ We delivered a whole line of business in just nine months.”

–Mike Fillion, Director of Architecture, Aetna

CAPABILITIES

MarkLogic achieves these results for our customers with a new architectural pattern called the Operational Data Hub (ODH), based on the industry-leading MarkLogic database platform. The ODH streamlines the data integration process by placing a database early in an organisation's data flow, and acts as the first place where data across organisational units gets integrated.

As a modern multi-model NoSQL database, MarkLogic provides the best of its kind for building ODH architectures. Some of the enabling features include:

- The standard flexible data model of NoSQL, but also unique flexible indexing, which allows the data to be queried even before it's been fully cleaned
- Elasticity to scale to massive enterprise-wide data volumes
- Robust security and encryption to reduce the risk of data aggregated in this manner
- Ability to represent complex and evolving semantic relationships between data items
- Ability to store data and metadata together to support robust data governance
- A track record of having deployed this architectural pattern at some of the largest institutions in the world

At the heart of the solution are enterprise capabilities, transactional consistency, and tight data security – with flexible deployment to any environment, on-premise and/or in the cloud.

This aligns well with the challenges posed by GDPR and the rigorous regulatory regime that insurance companies and underwriters operate in – robust access and security protocols are built into every solution.

Because of the digital transformation facing the insurance industry, the ODH pattern has proven central to technology transformation. As of the time of this writing, ODH implementations are in production in the insurance and reinsurance industries, across four different continents, supporting a variety of use cases.

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“ The hub is replacing data marts, ODSes, data warehouses – all of that. The hub is the single source of record outside of the core system.”

–Brian Novacek, Senior Solutions Engineer, Erie Insurance

ABOUT MARKLOGIC

For over a decade, organisations around the world have come to rely on MarkLogic to power their innovative information applications. As the world’s best database for integrating data from silos, MarkLogic’s database platform empowers our customers to build modern applications on a unified, 360 view of their data. Headquartered in Silicon Valley, MarkLogic has offices throughout the U.S., Europe, Asia, and Australia.

FOR MORE INFORMATION

Learn how to reduce the risk in your next data project, in this MarkLogic white paper <https://www.marklogic.com/resources/plan-success-high-stakes-data-projects/>

Visit the MarkLogic website

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