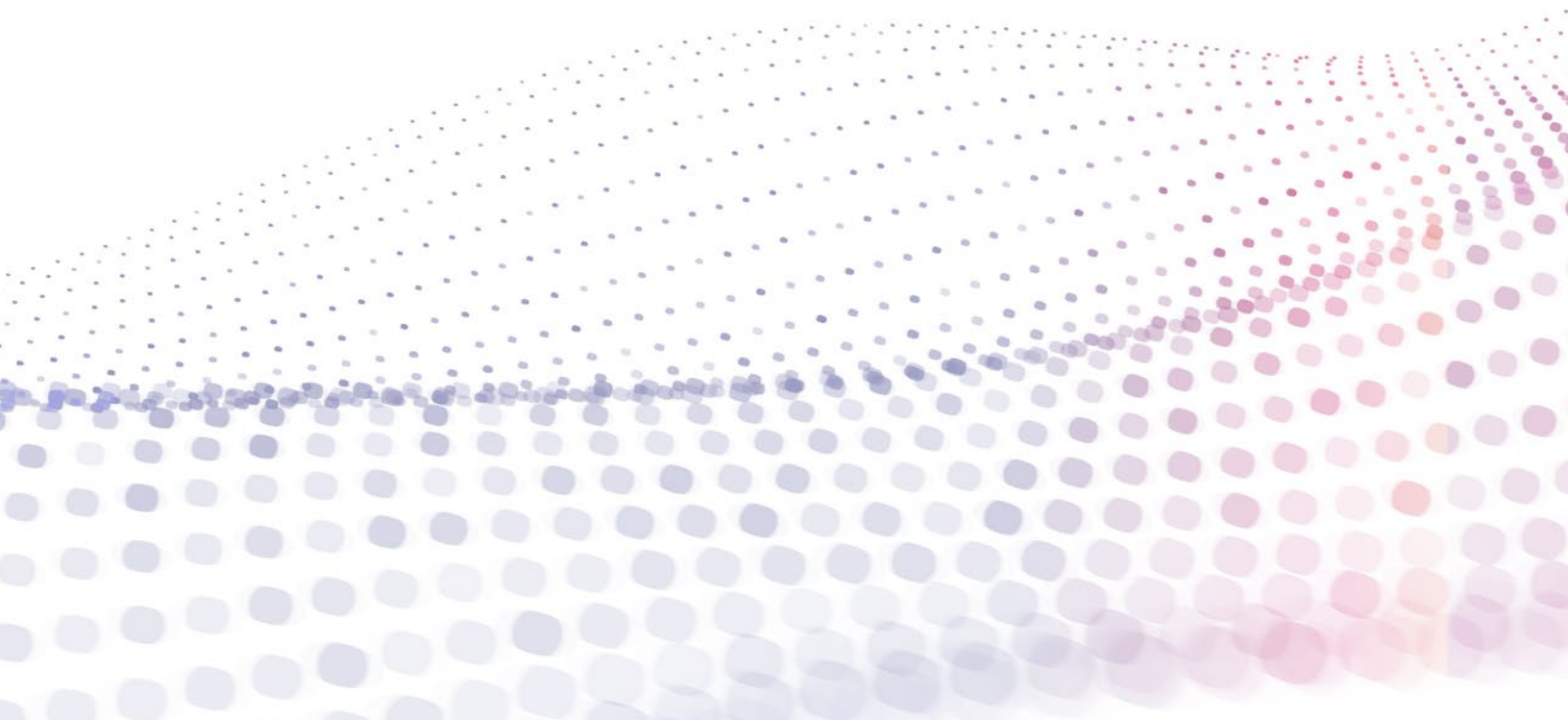


Succeeding With Digital Transformation

Roles and Challenges of the Insurance
Enterprise CDO, CIO, and CUO

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No matter who is the primary “owner” of DX in your organization, the chief digital (or data) officer, chief underwriting officer, and chief information officer each have critical roles to play. In this white paper, we clarify the roles and challenges of these key stakeholders in achieving the three essential pillars of digital transformation, and provide a case study of an insurer who is transforming their business today.





Executive Summary

Digital transformation isn't just a buzz phrase. It's the goal of every insurance company today, and the investments are being made quickly – even though there's often confusion about what digital transformation really means or how it impacts the organization and the people within it. For those organizations that can gain clarity and successfully undergo their own digital transformation, the benefits can be tremendous. Companies that fail to undertake their own digital transformation or get it wrong risk being left behind and losing to competitors who get it right. For traditional insurers who are facing competition from nimble InsurTech firms, a successful digital transformation can deliver the necessary advantage.

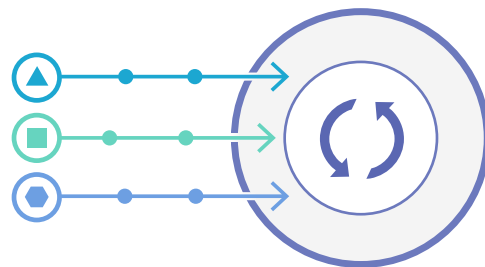
This transformation happens across the whole organization, not in just one department or business unit. As a result, digital transformation, or DX, doesn't mean just one thing to everyone. No matter who is the primary “owner” of DX in your organization, the chief digital (or data) officer, chief underwriting officer, and chief information officer each have their own perspectives, initiatives, and challenges they face in transforming the

organization, but they must all work together to successfully transform the business.

Data Capability Determines DX Success

Digital transformation can't take place without one critical thing: data.

Data from policy, billing, and claim systems. Data from documents, spreadsheets, PDFs, photos, videos, and Internet of Things (IoT) data streaming in from sensors and devices. Data from social media and websites – it all forms the basis of digital transformation, and success rests on being able to bring that data together quickly, reliably, and securely wherever it lives.



What Does Digital Transformation Mean for the Insurance Industry?

Digital transformation isn't just happening in the insurance industry; it's happening everywhere. While the specifics vary, the underlying cycle is widely recognized as being the "third wave of innovation."

The first wave of innovation came with the Internet itself – building the infrastructure and networks that we continue to rely upon today. The second wave, starting in 2000, brought about the application economy and mobile revolution with Apple, Facebook, and Google. The third wave, digital transformation, began when the big regulated industries – insurance, health care, and financial services – started to take digitization seriously and began looking to use artificial intelligence (AI), machine learning (ML), and IoT to achieve two primary goals:

- Bring consumers the frictionless mobile experience they had become accustomed to from Uber and Starbucks
- Change old and expensive paper- and people-driven internal processes into smart, accurate, and fast ones

For insurance companies, digital transformation has two aspects: a customer-facing aspect and an internal aspect.

Today's customers want to be able to sign up, review policy information, make claims, and manage every aspect of their policies quickly from any device. Unlocking your data and making a complete view of customers' information available to them and to your company is crucial to delivering a frictionless customer experience.

Internally, digital transformation means unlocking your data and digitizing information to enable process automation. Manual processes, paper documents, and siloed data that rely on traditional extract, transform, and load (ETL) processes for integration just don't cut it today. And while there is a lot of attention given to AI and ML when it comes to process automation, those technologies depend upon good data to produce good results. Without a solid platform to bring all your data together, AI and ML can't deliver the results you need.

Whether you're looking at the customer-facing or internal aspects of digital transformation, one thing should be clear: data and analytics are at the heart of it. You must be able to handle more content, more variety, and more velocity to stay in tune with your customer's behavior. When building your digital transformation upon a foundation of complete, accurate, well-governed data, you get better outcomes: better customer satisfaction, better risk and cost management, and a competitive edge in the marketplace.

A strong data foundation enables the three pillars of digital transformation.



The Three Waves of Innovation

The Three Pillars of Digital Transformation

The First Pillar: A 360-Degree View of Customers

Insurance companies need a single source of truth that gives you a 360-degree view of your customers. With a 360-degree view of your customer, you can deliver a better customer experience – and get more insight to fuel business growth. Whether you want to build innovative applications that let customers manage their policies in real-time from wherever they are, identify opportunities for you to make proactive policy recommendations, or reduce the risk of fraud, being able to get a 360-degree view of the customer is key to digital transformation.

The Second Pillar: The Ability to Access and Analyze All Your Content

Relational databases and mainframes aren't the only places your customer and policy data live. Customer and policy data exists in unstructured formats – text documents, PDFs, photos, streaming IoT data – that traditional databases can't analyze. Accessing every piece of relevant data requires a multi-model database.

Digital transformation is about being able to bring together *all* the information about your customers and your business, no matter where it resides. The vision is better decisions based on more thorough data, bringing information from new sources to



the table as well as more fully leveraging the data you already have.

The Third Pillar: Flexibility for the Future

Digital transformation demands flexibility and openness. You need a solution today that won't lock you in as new data formats emerge; cloud usage continues to increase; business models advance, driven by InsurTech innovation and AI; and customer demands evolve. The data solution put in place today will determine the enterprise's ability to adapt quickly, incorporate data from InsurTech partners or acquisitions, meet the needs of your customers, and flat out compete in the years ahead.

Your ability to compete, adapt, and quickly meet the needs of your customers as well as internal stakeholders in the years ahead will determine your success.

“ ...vast amounts of valuable information end up in static paper files and little is available within transactional systems.

As a result, only a small amount of information is being used in narrow ways—lending little predictability and even less transparency to the various parties involved in the process—not least from the point of view of the end customer.”

—Accenture, “Rethinking Claims”

Digital Transformation for the Chief Digital Officer

The Role of the CDO in Digital Transformation

The rise of the chief digital officer (CDO) role – sometimes in addition to the chief data officer role – reflects how crucial DX is to the industry. In your organization, the CDO role may be assumed by the chief marketing officer (CMO), the chief information officer (CIO), or another executive charged with implementing digital transformation. In their role, the CDO spearheads the digital transformation initiatives for the organization. The CDO looks across the entire value chain, working with the business units, IT, and the executive team to determine where and how digitization can provide value in a variety of ways: reducing costs, increasing revenue, improving combined ratio, and making processes more efficient.

To support their mission and meet the business goals of digital transformation, the CDO requires secure, fluid access to all the organization's data. New applications, artificial intelligence, machine learning, and a 360-degree view of the customer – all of those rely on better data.

What applications are CDOs being asked to build with better data? For example:

- Streamlining claims – automating the internal review process and making it simple for insureds to get paid by enabling straight-through processing (STP)
- Simplifying the processes of quoting and writing risk

- Improving capabilities to detect and prevent fraud, moving fraud from after-the-fact analysis to real-time flagging of suspicious claims

In order to deliver the sort of value that companies and customers need, the CDO has to overcome some challenges on the road to digital transformation.

Challenges for the CDO

Data silos present one of the largest challenges for the CDO today. Data is stored in legacy systems that support different lines of business, as well as across systems that have been folded in, although not really integrated, through mergers and acquisitions (M&A) activity. There's no single source of truth about a customer, no golden record.

Even beyond data silos that are built on traditional relational databases, there are vast oceans of unstructured data in documents, spreadsheets, PDFs, photos, videos, and streaming data. It's all vital data, but it's difficult to leverage – and too often today, it's not being leveraged at all.

While talk of digital transformation is everywhere, getting traction and budget to transform the business can be difficult too. Legacy systems and business processes are deeply entrenched. Distinct from the technical challenges, the cost of change and the cultural shift needed to embrace digital transformation will take up time, energy, and ingenuity.

“ *It's all vital data, but it's difficult to leverage – and too often today, it's not being leveraged at all.* ”

Digital Transformation for the Chief Information Officer

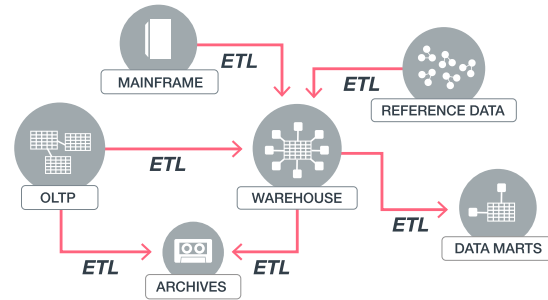
The Role of the CIO in Digital Transformation

Perhaps no traditional role may be more affected by digital transformation than the CIO's. Because digital transformation builds upon a foundation of data and technology, it won't succeed without the CIO. To transform the business, their influence needs to extend beyond traditional IT operations and management, leading the IT organization to become more nimble and innovative.

To that end, the CIO must help connect people, processes, and data in a way that may be entirely new for the organization.

- Assembling a cross-functional team that uses technology to deliver not just on IT strategy but on business strategy
- Finding innovative strategies and technology that deliver on the promises of digital transformation, matching technology to the business goals to ensure that the digital transformation initiative succeeds
- Ensuring strong data governance and security in the midst of transformation

“ *To transform the business, their influence needs to extend beyond traditional IT operations and management, leading the IT organization to become more nimble and innovative.* ”



Challenges for the CIO

Siloed data and legacy systems, two of the most difficult challenges facing insurance companies today, pose particularly difficult challenges for the CIO. Data silos often come from organic business growth and through M&A activity, and it's up to the CIO to keep those systems operational because they're too expensive to integrate or migrate. Over time, IT has built complex ETL processes to attempt to overcome these hurdles, but they don't meet the level of automation and speed needed for digital transformation to succeed. And point-to-point connections create a challenge in terms of data duplication and maintenance.

Shadow IT also poses a challenge for the CIO. In many organizations, the long procurement and vendor management processes of enterprise IT departments have driven groups and business units to adopt SaaS applications that work for their needs but spread data everywhere – and this creates governance and compliance headaches too. Locating, identifying, and leveraging this data – while also bringing it into the IT governance fold – is a significant challenge.

A digital transformation initiative that doesn't meet the business goals and deliver on the three pillars of digital transformation risks leaving the company at a competitive disadvantage. It's critical to select technology solutions that unlock all the data across an organization – structured and unstructured – to deliver a 360-degree customer view and enable innovative applications. The marketplace is crowded and confusing, making selecting the right solution a challenge all its own.

Digital Transformation for the Chief Underwriting Officer

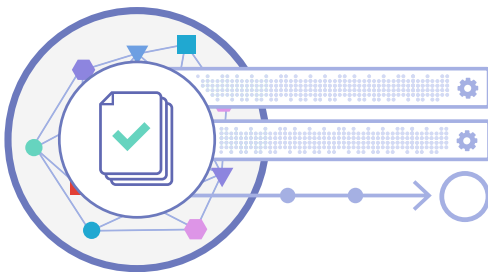
The Role of the CUO in Digital Transformation

The chief underwriting officer (CUO) has the monumental task of writing risk within the guidelines of the company to ensure that the risk is sound. In order to do that, the CUO needs better risk models from their actuaries and they need solid partnerships with brokers and insureds – all to make sure that the CUO has the best possible understanding of the risk they’re writing. The more complex the risk, the more data they need to price it.

Not only does the CUO need better, more accurate data to make sound underwriting decisions, they need it faster than ever. When the CUO can make faster, better, and more precise business decisions, they can help the business strengthen the relationships with brokers and insureds. The CUO can use better data not just to move more quickly but to improve conversion rates and reduce the potential for future claims on the policies written.

Challenges for the CUO

It’s tough to make faster, better decisions about risk when the data you get is inaccurate or outdated. That’s one of the key challenges facing the CUO today. Data needs to be accurate, timely, and applicable to the risk being written.



“ *With siloed data and unstructured data in documents, it’s nearly impossible to increase efficiency without sacrificing quality of risk models.*”

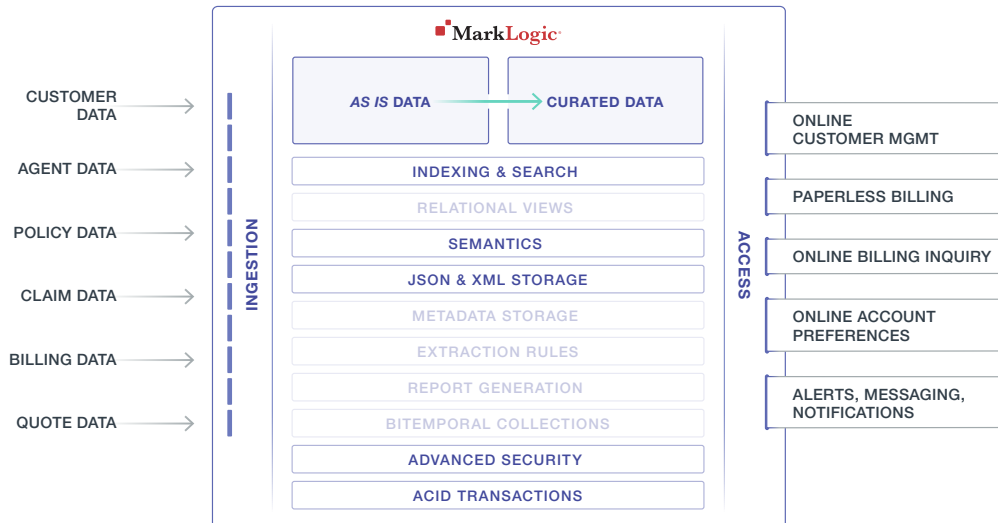
Integrating new datasets into models is a challenge too. There is no shortage of data throughout the company to work with, yet bringing it all together into a single place that gives the CUO the power to refine and improve risk models is difficult.

Improving efficiency is a challenge for the CUO as well. With siloed data and unstructured data in documents, it’s nearly impossible to increase efficiency without sacrificing quality of risk models. The CUO needs more automated processes to gain efficiency and precision or risk losing business.

MarkLogic Enables Digital Transformation for the Insurance Industry

MarkLogic enables digital transformation by breaking down data silos and quickly integrating data from all your sources – structured and unstructured – without costly, slow, and error-prone ETL processes.

With MarkLogic, you can extract business value to drive business analytics and harness the power of AI, ensure data security by design, and support regulatory compliance. And you can do this while easily managing the increasing variety and volume of customer data from across and outside your organization – without disrupting current operations.



CASE STUDY

Getting to a 360-degree Customer View

Background

Erie is a Fortune 500 Company located in Erie, Pennsylvania, with over 5,000 employees and 12,000 independent agents. It's the tenth-largest homeowner insurer, twelfth-largest automobile insurer and fifteenth-largest property/casualty insurer in the United States, currently A+ (Superior) rated by A.M. Best Company.

The Challenge

Erie Insurance needed a 360-degree view, or golden record, of their customers – so that they can serve their mission to provide policyholders “with as near perfect protection, as near perfect service, as is humanly possible, and to do so at the lowest possible cost.” The company was facing similar technical challenges as other insurers – application data silos, shadow IT systems, complex workflow and integration processes, data mastering challenges, and aging mainframe applications and hardware.

These limitations made it incredibly difficult for the company to build internal and external applications with a comprehensive view of their data. The Erie Insurance team wanted to simplify their processes;

they wanted to speed up application delivery, use agile processes, and turn data into information as fast as possible. They also needed to ensure data integrity (ACID transactions) and security, provide business intelligence (BI), and fit into their enterprise operations.

The Results

Leveraging MarkLogic's Operational Data Hub pattern, Erie Insurance can ingest, harmonize, and manage its varied data. MarkLogic's flexible data model enables the company to store any data type without the need for significant data modeling and transformation processes up front.

In building their new customer system of record (CSR), Erie Insurance has found that MarkLogic enables them to:

- Deliver new applications and functionality 4x faster – completing projects in days and weeks instead of weeks and months
- Provide real-time lookup and queries of up-to-date customer data, as well as BI reporting and analytics on that data
- Eliminate costly and time-consuming ETL, and complete projects using lower-skilled personnel
- Support business needs for security, availability, and scalability

“ *The flexible data model has been paying off in huge dividends... We're working in days and weeks, not weeks and months..”*

— Brian Novaceck, Senior Solutions Engineer, Erie Insurance

Summary

To succeed in their digital transformation, insurers should look to the three pillars of digital transformation, built on a strong foundation of data. Today, legacy systems, data silos, and vast amounts of unstructured data make bringing all your company data together a daunting challenge to a successful digital transformation.

Though digital transformation is challenging, getting it wrong – or not undertaking it at all – is even riskier, as traditional competitors and nimble InsurTech firms are making digital transformations of their own. Those who undertake a transformation strategy and get it right – bringing together data across their organization, building a 360-degree view of customers, and delivering innovative, secure applications that improve customer satisfaction and reduce risk – will be the companies best poised to become leaders in the third wave of digital innovation.

MarkLogic, the world's best database for integrating data from silos and unstructured sources, can help you deliver a successful digital transformation strategy. Organizations around the world rely on MarkLogic—an operational and transactional multi-model database platform—to integrate their most critical data and build innovative applications on a 360-degree view.

For more information about how MarkLogic can enable your digital transformation strategy, visit: <https://www.marklogic.com/solutions/enterprise/digital-transformation/>

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