

Optimizing Claims Management with Data-Driven Insights



The insurance industry is changing rapidly and showing no signs of slowing down. However, industry issues like rising claims costs and mounting pressure to modernize mean insurance executives are in a unique position to lead the charge toward more efficient, data-driven claims management.

Today, claims-related costs account for nearly **80%** of an insurers total expenses, making this a significant driver of profitability. The problem is that many insurers still rely on legacy systems and manual workflows that fragment data and frustrate customers.

This white paper explores how IT leaders can use real-time analytics and automation to modernize outdated infrastructure and make data accessible and actionable across the enterprise. The result is a more customer-centric claims operation that helps reduce costs and strengthens long-term competitiveness.

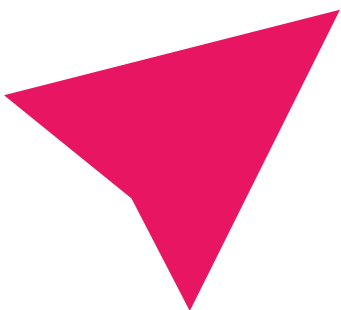


The Strategic Role of IT in Claims Modernization

Claims modernization is a massive part of organizational transformation. As insurers work to create a balance between efficiency and customer satisfaction, IT executives have to figure out how to connect data and systems.

This transformation comes with challenges. Many carriers still struggle with fragmented systems and outdated architectures that make modernization difficult. For instance, legacy platforms often lack interoperability, so data doesn't travel between billing and claims systems. This disconnect leads to inefficiencies and slower cycle times, which impact the bottom line and the customer experience.

The demands on IT are increasing. To succeed, the industry is turning to cloud-enabled, API-driven architectures.



Modernizing the Claims Infrastructure: From Legacy Constraints to Cloud-Enabled Agility

Legacy infrastructure is a problem for many insurers, as claims platforms-built decades ago can't handle today's data-driven demands. These systems can make basic tasks like integrating external data or automating a claims process slow and complex, so insurers lose valuable time and resources managing outdated tools instead of delivering better service and insights.

Modernization begins by shifting from monolithic systems to modular, API-driven architectures. For example, KPMG research shows that adopting this approach can reduce operating costs by **25–30%** while enhancing flexibility.

Instead of replacing entire systems in one massive overhaul, many insurers are opting for a “wrap and renew” strategy that involves wrapping existing platforms with microservices and automation layers, then gradually replacing outdated components. This phased approach reduces risk and disruption while still helping the company make progress toward modernization.

Moving to a cloud-enabled ecosystem is another step insurance companies can take. Cloud platforms centralize data from across the enterprise, creating a single source of truth for claims. This unified view allows for faster decision-making and improves collaboration between departments and partners.

For example, integrating a cloud-based claims hub with external repair networks allows for instant information exchange, **accelerating settlements and improving accuracy.**

Automation readiness is also important. Modern claims systems should support AI and real-time analytics to handle high-volume workloads. Insurers that prepare their systems now can start using these advanced tools incrementally, without significant disruption.

For example, Aviva invested **over 40,000 hours** in staff training to support its AI-driven claims transformation and **“digital-first culture”.**

The ROI of modernization goes beyond cost savings. Modern infrastructure improves agility and resilience, so insurers can adapt quickly to market changes. A cloud-enabled, automation-ready platform drives every successful data-driven claims strategy, helping IT leaders to turn operational complexity into an advantage.



Using Analytics for Proactive Predictive Claims Management: From Data to Decisions

Analytics has evolved from a back-office reporting tool into a strategic engine for company decision-making. The goal is to turn data into actionable information that drives better claims outcomes. Predictive and real-time analytics help insurers shift from reactive to proactive claims management, helping identify risks and opportunities long before they surface.

A truly data-driven approach starts with unifying data sources. Things like policy details, claimant histories, IoT and telematics readings, and weather data are often scattered across systems, but by bringing these datasets together into a single analytical platform, insurers can gain a 360-degree view of each claim. This unified visibility allows for more accurate severity prediction and improved fraud detection, which are capabilities that traditional systems can't deliver.

Predictive analytics also promotes smarter claims triage and severity forecasting by analyzing data to figure out claim complexity. If sensor data indicates a severe impact at an accident scene and sends this information to the insurer's claim system, that system can send the claim to a senior adjuster. If the impact isn't as severe, it can be pushed through for automated settlement. This intelligent routing helps cut processing times and related costs.

Using analytics the right way can also help improve customer satisfaction. For instance, the system can look at customer behavior and communication preferences. From there, the insurance agency can offer self-service options for some customers and personalized outreach for others, depending on their preferences. These improvements can improve loyalty and create valuable feedback loops for even more optimization.

Internally, real-time dashboards and KPIs help IT and operations leaders monitor performance metrics. These insights identify bottlenecks and **refine the models over time.**



Automation and AI in the Claims Lifecycle:

Achieving Speed and Accuracy at Scale

Automation and artificial intelligence are changing how insurers manage claims by taking formerly manual processes and turning them into data-driven workflows. These technologies allow for faster settlements and better resource utilization.

The claims journey typically begins with first notice of loss (FNOL), where automation can deliver major gains. Instead of relying on phone calls and manual data entry, many insurers are implementing digital FNOL platforms that allow customers to report losses 24/7 through mobile apps or online accounts.

In addition, AI-powered chatbots can automatically prefill policy data and guide claimants through the process, which reduces mistakes. Image-recognition technology adds another layer by allowing users to upload photos of damage to be **analyzed instantly**.

One global insurer, for example, launched a “one-click” auto claims process that uses computer vision to analyze vehicle damage and generate instant repair estimates. Once the customer approves the estimate, an electronic payment is issued, often within hours of the incident. As a result, the insurer was able to automate nearly half of its total claims volume, **freeing adjusters to focus on complex cases**.

Industry-wide data confirms the impact of this technology. Insurers that use virtual claim handling have achieved cycle times up to **80% faster** than those relying on traditional inspections. Routine claims that once took 10-15 days can now close in as few as 2-3 days, and these gains translate directly into higher customer satisfaction and lower administrative costs.

Behind the scenes, robotic process automation and AI are streamlining back-office tasks like policy verification and document extraction, too. Machine learning models can read repair invoices or medical bills and populate claim files, **eliminating redundancy and reducing error rates**.

Importantly, automation doesn't replace adjusters. Instead, it augments their expertise. By offloading repetitive tasks, adjusters can focus on judgment-based decisions and complex claims requiring empathy and negotiation. This shift improves employee satisfaction by removing tedious work.

Reducing LAE(Loss Adjustment Expense) Through Data: Efficiency Without Compromise

Few performance metrics can help identify the financial health of an insurer as clearly as LAE, which represent the costs associated with investigating and settling claims. These expenses are significant because they include things like adjuster salaries, legal fees, administrative overhead, and third-party services; reducing them wherever possible is a priority. Because claims make up nearly 80% of an insurer's total costs, even small percentage reductions in LAE can deliver major improvements to profitability.

Data-driven claims management tackles these issues head-on. For example, integrating automation and analytics means insurers can streamline operations and lower the per-claim cost of labor and administration. In addition, AI models can flag suspicious claims early and route legitimate claims for quick resolution, reducing investigative costs and leakage from overpayments.

Efficiency gains also come from faster cycle times. The longer a claim stays open, the more overhead accumulates through follow-ups and rental or living expenses. Predictive analytics and automation shorten these cycles by prioritizing high-risk claims for expert handling and routing simple ones to touchless resolution. The result is leaner operations without sacrificing quality or compliance.



Unifying Workflows Across Departments:

Eliminating Silos for End-to-End Optimization

One of the most significant challenges in insurance is the fact that every stakeholder uses a separate system. Claims management depends on receiving timely information from various internal teams, in addition to external partners like repair facilities and **OEMs**. When these groups share a single, connected platform, data ends up where it needs to go.

Entegral is at the forefront of this collaborative model. Its solutions allow **insurers** and other stakeholders to coordinate automatically, as these tools can help with repair scheduling and performance scoring into one interface supported by integrated communication tools. The result is a smoother claims process from first notice to final settlement.

Case Studies and Proof Points

Real-world success stories show the measurable impact of data-driven transformation. Across global markets, insurers are using AI and automation to reduce costs and elevate customer satisfaction.

Aviva, the U.K.'s largest general insurance company, offers one of the clearest examples of large-scale digital modernization. The insurer deployed over 80 AI models across its claims operations, transforming the decision-making process. As a result, Aviva achieved a 23-day faster liability assessment, a 65% drop in complaints, and the highest Net Promoter Score (NPS) in company history. The company also tripled its use of recycled auto parts, **cutting repair costs while advancing sustainability goals.**

A mid-sized U.S. **insurer** achieved similar results on a smaller scale. By integrating predictive analytics and cloud-based collaboration tools, the company reduced manual effort by 90%. What once required hours of administrative work per claim now happens in minutes, freeing adjusters to focus on complex, high-value cases.

That modernization is practical and repeatable. Data-driven operations deliver real business results, creating an advantage that can compound over time.

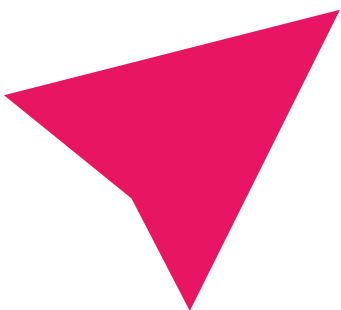
Action Plan for IT Executives:

How to Move from Vision to Execution

Modernizing claims management requires a strategic roadmap, leadership and measurable milestones. For IT executives, the following action plan provides a framework for turning vision into execution:

- 1. Start with Strategy.** Insurers can begin by mapping existing pain points and building a clear business case. From there, they can identify where inefficiencies or manual steps impact profitability.
- 2. Prioritize High-Value Use Cases.** Next, insurance companies can look at areas that deliver rapid ROI, like FNOL automation and analytics-driven claims triage.
- 3. Modernize Infrastructure.** Third, these companies can transition to modular, cloud-enabled architectures that support automation and future integration.
- 4. Strengthen Data Governance.** Then, they can establish a unified data model with clear ownership and access controls that improve accuracy and compliance.
- 5. Invest in People and Change Management.** Modernization succeeds when teams are trained and engaged. Smaller companies can follow the lead of global carriers that have dedicated over tens of thousands of hours to AI and digital upskilling initiatives.
- 6. Leverage Strategic Partners:** Working with trusted platforms like Entegral that use open architecture and analytical tools can help accelerate implementation and optimize workflows.
- 7. Measure and Optimize:** Finally, firms will want to track KPIs like claim cycle time, LAE reduction, fraud detection rate, and customer satisfaction, and use this data to continuously refine processes and maximize impact.

Through these steps, IT executives can lead with confidence, turning modernization into measurable progress and transforming claims into a driver of long-term business success.



Data as a Strategic Asset

The future benefits of insurance data will belong to organizations that can harness it effectively. Entegral helps insurers by offering a platform and insights that can turn data into action.

Partner with **Entegral** to modernize your claims operations and unlock the full potential of a connected, data-driven enterprise.





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