

CORE SYSTEMS IN INSURANCE: BUILDING THE BUSINESS CASE

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Summary

While the need for core system replacement may seem self-evident in many cases, developing a solid business case can still be challenging. Technical risk mitigation alone is often used to justify replacement, but this can leave business decision-makers feeling lukewarm about making the necessary investment to ensure a successful core transformation.

Focusing on specific use cases tied to the Three Levers of Value (“Sell More,” “Manage Risk Better,” and “Cost Less to Operate”) can allow leaders to develop business cases that build support and excitement for core replacement initiatives.

This brief includes research data showing where insurers have deployed core systems as well as case studies of more than a dozen successful core deployments that have generated quantified or clearly defined business value.

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INTRODUCTION

Rates of core systems replacement are starting to wane, though more than 25% of insurers still have plans to replace policy, billing, and claims systems according to Novarica's most recent [Insurer IT Budgets and Projects](#) study.

Insurers rarely replace for a single reason, though there is often a dominant factor that is central to the case for replacement. These factors typically fall into one of three categories:

1. **System shortcomings.** Commonly cited issues include operational inefficiency, missing capabilities, lack of flexibility/agility, and high cost of change. Risk associated with technology support may also be a big factor, especially with legacy systems.
2. **Vendor shortcomings.** These can include unsatisfactory vendor support, lack of investment in the product, escalating costs, or deteriorating relationships overall. Other factors include changes to the vendor's situation, like financial difficulties or changes in ownership.
3. **Changes in business need.** These can involve carriers entering new markets that incumbent vendors don't support.

Common Issues

It is important to ensure that the business case is as strong as possible when arguing for a strategic investment like a core replacement, which cost millions of dollars and take several years to execute. Unfortunately, many carriers make the following mistakes when developing the business case for their core replacement initiatives:

- **Lack of alignment with corporate strategy.** The most powerful way to justify core replacement is by direct linkage to the delivery of the business strategy. Conversely, technical drivers for change (e.g., legacy technology, staffing risk, system availability) fail to be compelling if they do not tie in with support for the business strategy and objectives.
- **Missing or lack of alignment with overall IT strategy.** An overarching IT strategy in support of modernization, digitization, or data transformation can lend significant weight to a core replacement, especially if the IT strategy already has buy-in from executive and board leadership.
- **Sole focus on technical risk.** Technical risk is often what keeps the CIO awake at night, but it may not be as visible to business leaders unless it also impacts them in the form of outages, support, or speed-to-market issues.
- **Sole focus on financials.** A strong business case can be developed even with low or negative ROI by focusing on value that is harder to quantify, like improved sales and service, business risk mitigation, and better operational efficiency.
- **Neglecting internal costs.** Although employees are already budgeted for, they have work that will be impacted by a core implementation unless alternatively staffed. Backfill staff need to be accounted for.
- **Lack of business input.** The most powerful core replacement business cases are sponsored or cosponsored by business units other than IT.
- **Vague post-implementation benefits.** The most powerful business cases quantify the business value that core replacement will deliver in terms of improvements to KPIs that the business already uses to measure performance.

Levers of Value

This brief examines real-life examples of core investments and aligns them with the Three Levers of Value in insurance: Sell More, Manage Risk Better, and Cost Less to Operate.

- **Sell More.** Core systems can be a key enabler of sales by allowing newer and better products to be brought to market faster, as well as offering better services to business partners and policyholders.
- **Manage Risk Better.** Technical risk mitigation has always been a driver for core replacement, but core systems can also help address business risk associated with underwriting, claims, and compliance.
- **Cost Less to Operate.** Core strategies can help reduce operational costs by improving self-service capabilities, enabling straight-through-processing, and supporting automation.

Each section of this brief focuses on a lever and highlights case studies where technology capabilities have helped insurers create value. It is helpful to communicate the value of core transformation using the Three Levers framework and translate success into agreed-upon business metrics.

CORE SYSTEMS AND SELLING MORE

Core systems continue to provide the foundation of capabilities for carriers to sell more and grow organically. New products and efficient, straight-through processes enable insurers to serve new segments that were previously unreachable, unprofitable, or unknown. Other ways that the core helps carriers sell more include better support for integrating with business partners via APIs.

By doing this, carriers are also able to extend their reach in the market through alternative distribution channels or by crafting more sophisticated digital buying experiences for niche products in partnership with existing distribution channels. The ability to modularize product structures in core systems continues to mature and support carrier ability to simplify product offerings for digital consumption. Establishing a solid foundation of core capabilities also positions carriers to gain agility when growing through acquisition, affiliation, or expansion of product offerings into new states.

Key Business Capabilities

Carriers have successfully deployed core systems success to generate top-line growth. Here are the most common use cases for growing premium and improving the sales experience:

- **Product Development and Speed to Market**
 - **Centralized Product Modeling.** Via PLM or another tool that feeds multiple downstream core systems and maintains a single product repository.
 - **Modular Product Structure.** Assembling and reconfiguring core product capabilities from modular components for ease of launch, change, or addition of new coverage.
 - **Custom Product Assembly.** Leveraging modular structure to extend core capabilities and customize products for selling agreements, market segments, or other limited use.
 - **Digital Optimized Products.** Designing products to be optimized within core systems for digital purchasing—minimizing data entry for the buyer and maximizing underwriting speed.
- **Self-Service Licensing/Appointments.** Enabling distribution partners to manage their own licensing and appointment processes, which core systems utilize to ensure compliance and simplify agent or broker ability to write new business.
- **Immediate Commissions.** Ability to pay commissions in near-real-time on closing new business.
- **Externalizable API.** Core system APIs to extend quote, bind, and issue capabilities are becoming the norm. Risk appetite services help inform the distribution channel. Data sharing with marketing partners helps improve pipelines, qualify leads, and personalize messaging.
- **Maximize External Data.** Designing products to utilize external data, which increases straight-through processing and enhances the success of using predictive models in core systems. Both are key contributors to improving customer experience, which can lead to new sales.
- **Pre-Fill Data.** Leveraging internal or external data sources for pre-fill of key information to streamline application submissions and personalize the digital buying experience for customers and partners.
- **Customer Relationship Management.** Centralized customer and prospect database that tracks engagement across channels, products, and value chain. Utilizing CRM capabilities as the system of engagement while leveraging core capabilities as the system of record achieves a 360-degree view of the policyholder.

Figure 1: Deployed "Sell More" Capabilities: Product

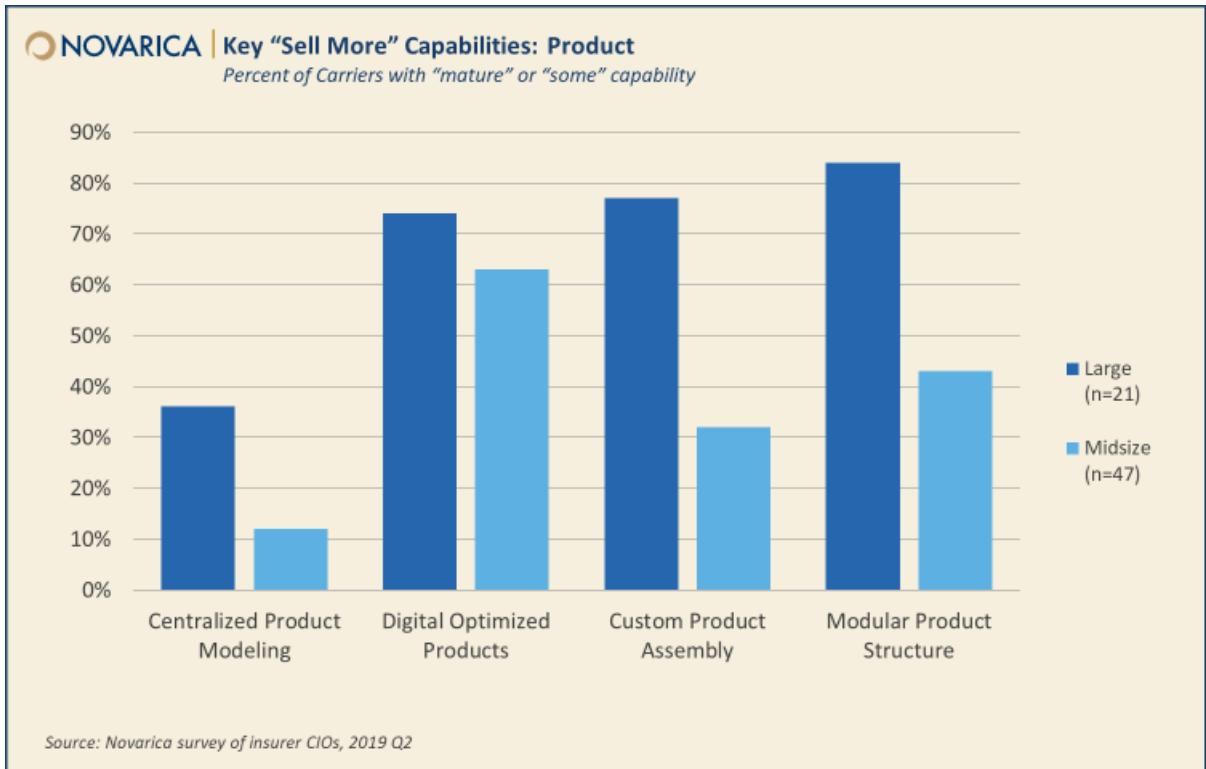
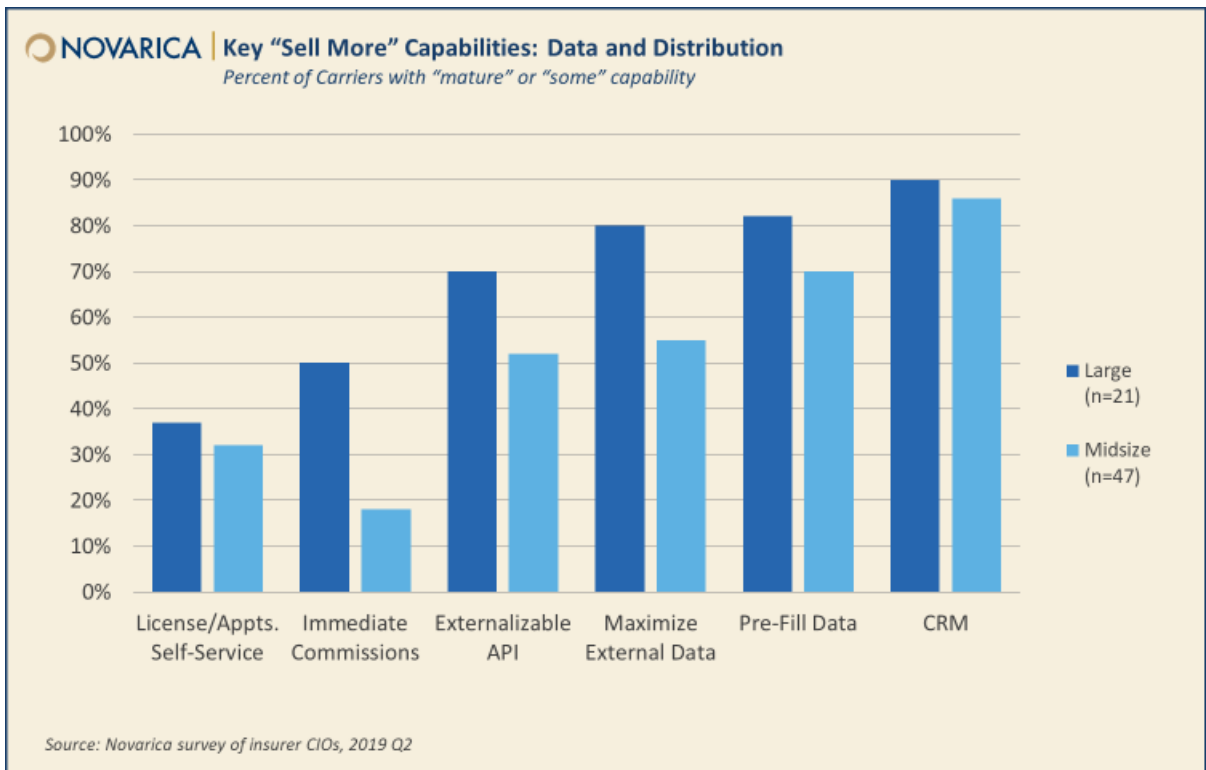


Figure 2: Deployed "Sell More" Capabilities: Data and Distribution



Case Studies

These case studies were drawn from Novarica case study compendia. They provide real-life examples of carriers leveraging core systems to grow their books.

Gerber Life developed a digital sales and underwriting system to support the direct-to-consumer channel. Custom-built over four years, the system has supported 7-10% annual growth in direct business, a 72% reduction in underwriting time, and a 75% improvement in speed to market.

AF Group launched a cloud-based core system to enable a new division to sell commercial auto. The company implemented the system in nine months from inception to go-live; it is now live in more than ten states and has added \$10M in direct written premium.

American Life implemented a new cloud-based suite to support policy administration, claims, distribution, document management, and customer portal in less than six months. The system enabled the launch of a new annuity product that currently averages 30 policies per week.

Principal implemented a new cloud-based core system for individual disability insurance (IDI), extending the capabilities of a vended system to support this product set. An MVP launched in only 18 months, and early results show a 50% reduction in time to issue and improved customer and user experience.

Prudential implemented a new core platform for fixed annuities to improve speed to market and product agility. Deployed in just over six months using the Scaled Agile Framework (SAFe), the platform allows the company to bring new fixed annuities products to market in under two months.

QBE implemented a cloud-based policy administration and billing solution to support its specialty business. Launched in two years, the system cut policy issuance time by 90% and reduced the time and cost to add new products while improving customer experience.

Velocity Risk implemented a cloud-based policy administration system and custom agent portal for its new small commercial business unit. With an initial launch in nine months and additional states added over the next year, the system has helped bring \$20M in premium for the new line of business.

CORE SYSTEMS AND MANAGING RISK BETTER

Managing risk better means improved pricing and better risk selection, most often with predictive scoring and analytics to supplement underwriting and claims processes. While these capabilities are not commonly associated with core systems, vendors often extend the scope of their offerings to provide them or will partner with other vendors serving this space to supplement their own capabilities.

The value that predictive scoring models and artificial intelligence can derive is greatly enhanced when these models are operationalized by integrating them into core systems. Modern core systems support incorporating predictive models via comprehensive APIs for integration and configurable workflow. This allows the incorporation of predictive models directly into system transactions, which lowers the business risk associated with underwriting and claims adjudication. Integrating these capabilities into business workflows is often difficult and expensive with legacy systems that lack strong integration and workflow capabilities.

Modern core systems also support predictive scoring and analytics by supplying high-quality data for downstream analysis and modeling.

Key Business Capabilities

Capabilities associated with managing risk are often tied to the incorporation of analytics and artificial intelligence into claims and underwriting processes to improve decision quality.

A selection of these capabilities that insurers are adding include:

- **Machine Learning/AI for Underwriting.** Refining predictive models and underwriting guidelines using AI to review data patterns and outcomes.
- **Predictive Claims Fraud Scoring.** Analytics using internal and/or third-party data to identify potentially fraudulent claims proactively.
- **Predictive Claims Severity Scoring.** Analytics using internal and/or third-party data to predict the severity of claims to drive adjusting method and reserving.
- **Book of Business Impact Model.** Using analytics to identify the potential impact of each risk on the profitability and aggregate exposure of the overall book.
- **Predictive Underwriting Scoring.** Use of underwriting scores based on real-time, individual analysis of internal and/or external data for each risk.

Figure 3: Deployed "Manage Risk Better" Capabilities



Case Studies

Insurers are utilizing core systems to manage risk better for improved profitability. Here are some recent examples from carriers with successful implementations.

Cerity, a new direct distribution workers' compensation insurer and subsidiary of employers' insurance, launched a digital self-service system in less than a year to sell and service business in its initial state. The system leverages third-party data via APIs and predictive modeling to enable straight-through processing and a five-minute buying process.

Cerity implemented Duck Creek OnDemand, including Policy, Billing, Insights, Industry Content, and Anywhere APIs. The team also used Google Places, a third-party data provider, and built a proprietary digital buying experience and portal.

Everest Insurance replaced its legacy reinsurance management system. The iterative project created interim business value during its 22-month term and resulted in a 50% reduction in calculation time, data quality and auditability improvements, and enabled automatic document production.

IBM ESB served as the middle tier to integrate between the core system (Insurity Policy Decisions) and various proprietary MS Excel-based rating tools.

MetLife Home & Auto built and deployed an algorithm-driven process to optimize personal auto underwriting. Completed by an internal team in less than a year, the system has already resulted in substantial annual savings.

MetLife Home & Auto developed and deployed the machine learning algorithms using Python, IBM SPSS Modeler, and C&DS. The company built the performance monitoring and reporting component using Excel, IBM SPSS Modeler, and Tableau. The real-time scoring component was delivered by C&DS integrated with Guidewire.

OneBeacon replaced mainframe-based financial systems and identity and user access management systems with modern, custom applications in a phased project over three years. The company reduced operating expense by \$4 million per year and eliminated dependence on the mainframe.

OneBeacon built custom financial applications primarily leveraging .NET and MS-SQL. The company used Informatica for the premium and loss ODS. It also implemented SailPoint's IIQ product for identity and user access management.

Wayne Insurance consolidated two products from legacy systems into a new product on a new system that leverages third-party data services for underwriting. The 13-month project resulted in 46% growth in application submissions, a 250% reduction in NIGO, and a 50% clerical staff efficiency gain.

Wayne implemented the Finys suite from Innovative Computer Systems for core policy administration, using external data providers like CoreLogic, LexisNexis, and ISO.

Technology Risk

The focus of this section is on improving risk management results (i.e., improving claims and underwriting results), but carriers may also quantify technology as part of the business case process and can provide supplementary support to the case for change. However, a business case built around technology risk alone will resonate less with decision-makers than one that focuses on measurable value creation via the Three Levers.

Some of the commonly encountered technology risks include system support, high cost of change, system availability, system capacity, business continuity, technical debt accumulation, poor data quality, vendor issues, and innovation.

CORE SYSTEMS AND COSTING LESS TO OPERATE

Insurers can use technology to improve profitability by avoiding costs and increasing productivity. Technology often creates operating efficiencies and productivity gains, but it can be difficult for IT leaders to get credit for cost savings unless there are actual dollar savings through staff cuts. Additionally, most technology investments are not about cost takeout by automating existing processes or practices—they are about deploying new capabilities, which usually means new expenses.

Core systems today offer carriers capabilities to improve their agility and speed to market for new product offerings. Companies with the cultural discipline to limit customization and leverage their core systems as foundational building blocks often realize greater operating savings than those who develop highly customized systems. Standardizing integration and design architecture with core systems also cuts delivery times and helps manage overall operating costs.

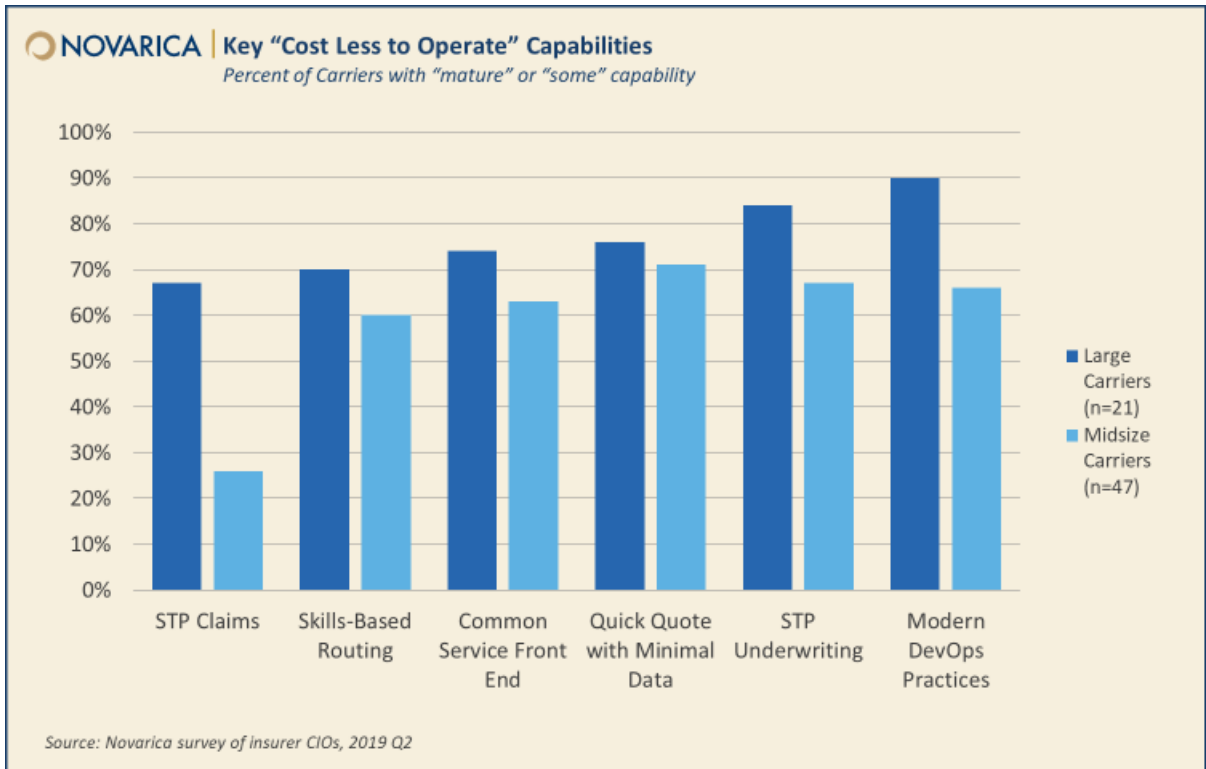
Investments in cloud-based core systems are on the rise from carriers and prominent solution providers of core systems. Core system transformations to the cloud provide carriers with an opportunity to review and redesign workflows and operating procedures that can result in greater operational efficiencies. However, moving to the cloud often increases expenses due to investments in acquiring new skills and limited takeout costs during the transition period.

Key Business Capabilities

Underwriter and adjuster productivity are susceptible to improvement via data and analytical use cases.

- **Straight-Through Processing.** Full or triaged STP: policies can be quoted, underwritten, bound, issued, and endorsed by partners and customers; incoming claims are auto-adjusted, scored, and sent for review or referred for hand-adjusting.
- **Skills-Based Routing.** The ability to define and configure auto-assignment rules in core systems to hand routing of incoming risks to specific underwriters based on risk characteristics, skills match, capacity, etc.
- **Common Service Front End.** Ability to conduct appropriate core system transactions for a customer across policy types from within a single application. These services can be extended and reused to orchestrate experiences across the channels.
- **Quick Quote with Minimal Data.** Providing preliminary quotes or rejecting risks based on key data points within core systems, supplemented with third-party data and predictive models.
- **Modern DevOps Practices.** These include continuous integration, automated testing, dev/test/prod environments, push-button machine imaging, etc.

Figure 4: Deployed "Cost Less to Operate" Capabilities



Case Studies

Below are examples of carriers that leveraged core systems to reduce operational expenses and improve productivity.

Northbridge Financial implemented a new core platform for its commercial businesses over five years to streamline underwriting and improve stakeholder experience. Results include a 3.4-point reduction in combined ratio and projected 25% increase in underwriting efficiency.

Everest built an automated interface that enters bound policies from various internal rating tools into its core system of record in real time. Developed in 18 months, over 80% of policies are now booked through the interface without the need for manual re-keying of premium amounts.

Funeral Directors Life implemented a new content services system over 14 months that was designed to automate workflows and improve document management. The new system has automated over 50% of the carrier's processes and saved over 5,000 hours of operational time.

Great American migrated to a cloud-based contact center that integrated with core systems and transformed business processes. The first 12 months of the project saved 6,000 hours for associates, reduced payment cycle times from days to minutes, and reduced time to process address changes by 50%.

Haven Life built a custom life insurance policy administration system for its MassMutual-issued policies, leveraging open-source technology and AWS cloud. The company designed and developed the system in under a year and has reduced per policy marginal expense and time to market by an estimated 50%.

MetLife implemented a new core platform for its retirement income (RIS) products and migrated off its legacy system. The eight-year program reduced risk, enabled two years of record sales, and reduced overall costs by sunsetting multiple legacy systems.

Principal implemented a new cloud-based core system for individual disability insurance (IDI), extending the capabilities of a vended system to support this product set. The company launched an MVP launched in only 18 months, and early results show a 50% reduction in time to issue and improved customer and user experience.

Symetra converted its variable annuity block from a BPO provider to a SaaS system, including full historical conversion. Symetra completed the project in under a year, reducing annual per policy admin costs by 80%, and expects net-positive ROI within two years. The project also improved service levels.

CONCLUDING THOUGHTS

Developing a solid business case for core system replacement can be a daunting task. Eliminating technical debt and establishing a new foundation for delivering digital capabilities may seem like enough justification for most IT leaders, but most business decision-makers will be looking for more value before deciding to champion the investment.

Core system replacements that are sponsored and led by the business, rather than IT, have the most potential to deliver growth, profitability, and operational expense savings. These initiatives also provide carriers with an opportunity to rationalize and simplify products, processes, and underwriting practices with the adoption of external data sources and AI.

Carriers that achieve a strong foundation with core systems are well-positioned to deliver products to market faster, increase distribution capabilities, and operate more efficiently. By focusing on use cases that relate to the Three Levers of Value (“Sell More,” “Manage Risk Better,” and “Cost Less to Operate”), IT and business leaders will have the greatest potential for success—not only for developing a business case for core transformation, but for achieving it as well.

Related Research

- [Insurer IT Budgets and Projects 2020](#)
- [Predictive Analytics Solutions for Insurers](#)
- [Data Strategy for Insurers: Key Issues and Best Practices](#)
- [Novarica New Normal 100: Digital, Data, and Core Capabilities](#)
- [Insurance Technology Case Study Compendium 2017, 2018, 2019](#)

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