

# The Hidden Costs and Challenges of Insurance Legacy Systems Modernization

A Novarica Research Partners Program™ Report  
*Underwritten by Tata Consultancy Services (TCS)*

# Executive Summary

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As Novarica has written, “Legacy systems are fine, as long as insurers are serving legacy customers, with legacy products, with legacy processes, through legacy channels.”

But few insurers have the luxury of clinging to the past. Changes in the marketplace, in client expectations, and in distributor needs all require insurers to bring new or modified products to market quickly, and to mine their enterprise data for insights to improve underwriting and loss ratios.

For large insurers who have replaced components of their legacy systems, most report a qualitative difference in the way their business functions and their ability to address challenges, not just a quantitative difference in costs or speed.

While the vendor marketplace is maturing and even large insurers are now comfortable looking to the software market for new core systems, there are still inhibitors to action. Some of these, like the potential business disruption of core systems replacement and the challenge of systems integration, are well known.

But in addition to buying and integrating modern systems, large insurers with large legacy environments are often daunted by the cost of migrating decades of poorly documented and poorly structured business logic to new systems. Whether this involves the logic for products, process, or forms authoring/management, migration is a significant hidden cost to core systems replacement. If not addressed early in the planning cycle, these hidden costs, which can exceed \$10,000,000, can delay or stop a legacy replacement project.

This report, based on interviews with 10 multi-billion dollar insurers, examines these hidden costs and challenges. Insurers who are contemplating legacy replacement should ensure that they have understood and planned for the scope of business logic migration as preparation for these mission-critical modernization projects.

*This report presents and discusses the findings of a survey of 10 large P&C and L/H/A insurers (annual premiums over \$1B).*

*This report is a product of the Novarica Research Partners Program, which enables industry sponsors to underwrite surveys on topics of interest. These surveys are conducted using the same methodologies and with the same respect for participant privacy as Novarica’s independent surveys and reports.*

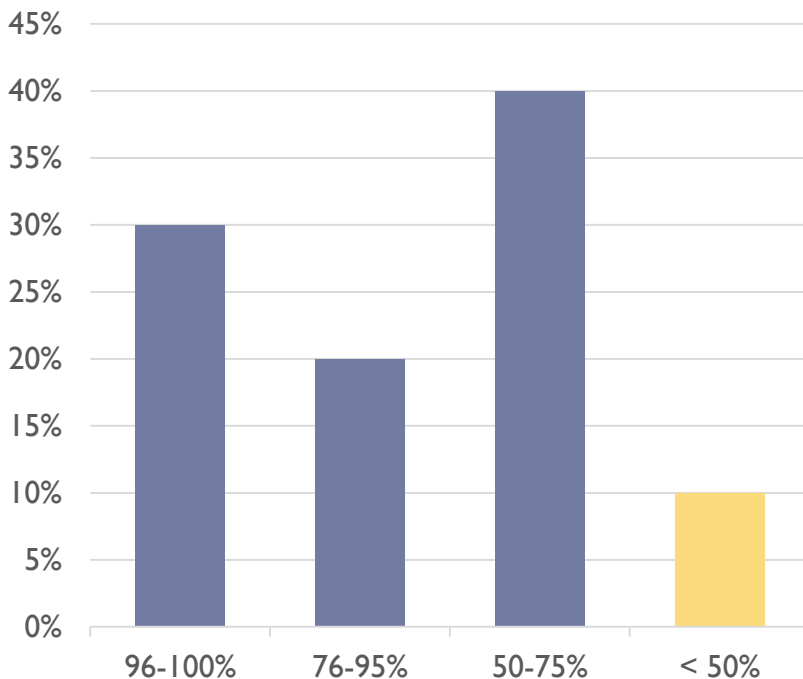
*Underwriting sponsors have input on question design and general characteristics of target respondents only.*

*Novarica conducts the survey and analyzes the results independently. Underwriting sponsors do not have draft approval or other ability to influence content of the final report.*

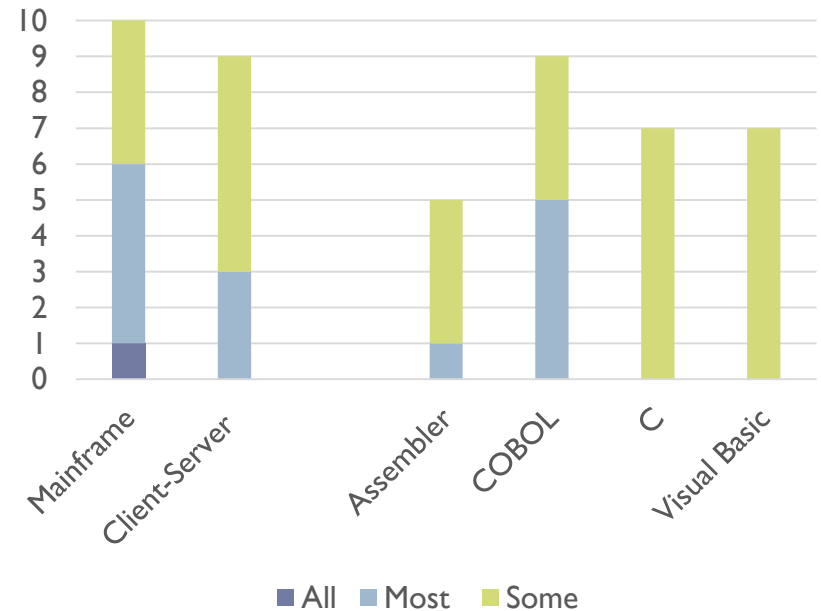
# The majority of large insurers are heavily dependent on complex legacy systems

Only one in ten large insurers report an infrastructure that is less than half legacy. “Legacy” systems are a mix of older platforms and languages.

### Percentage of IT Infrastructure Running on Legacy Systems



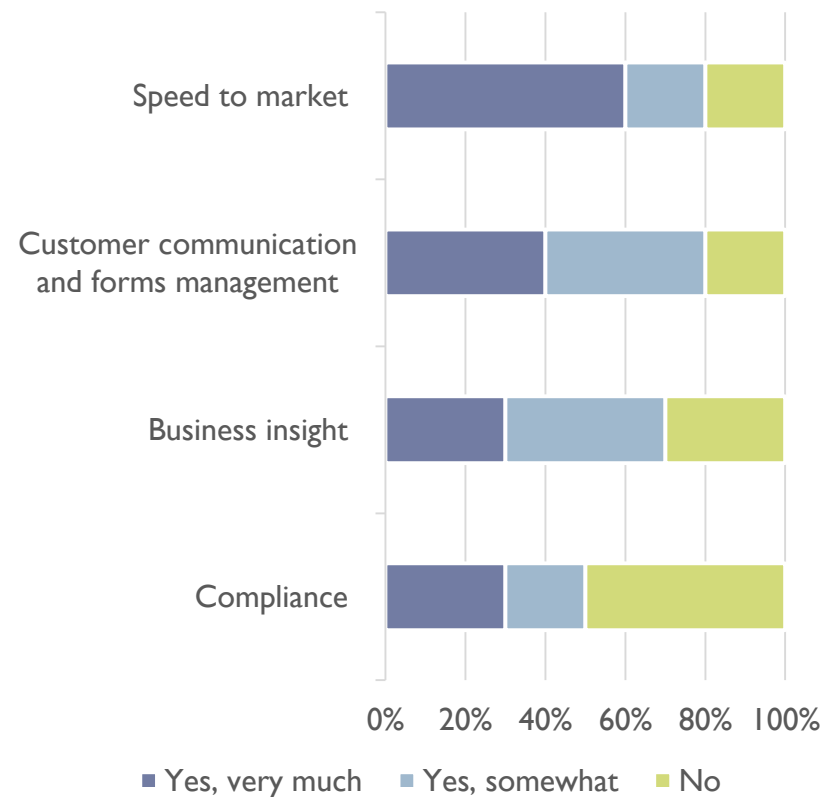
### Breakdown of Architectures/Languages in Legacy Systems



# Legacy systems are a significant drag on speed to market, customer service, and insights

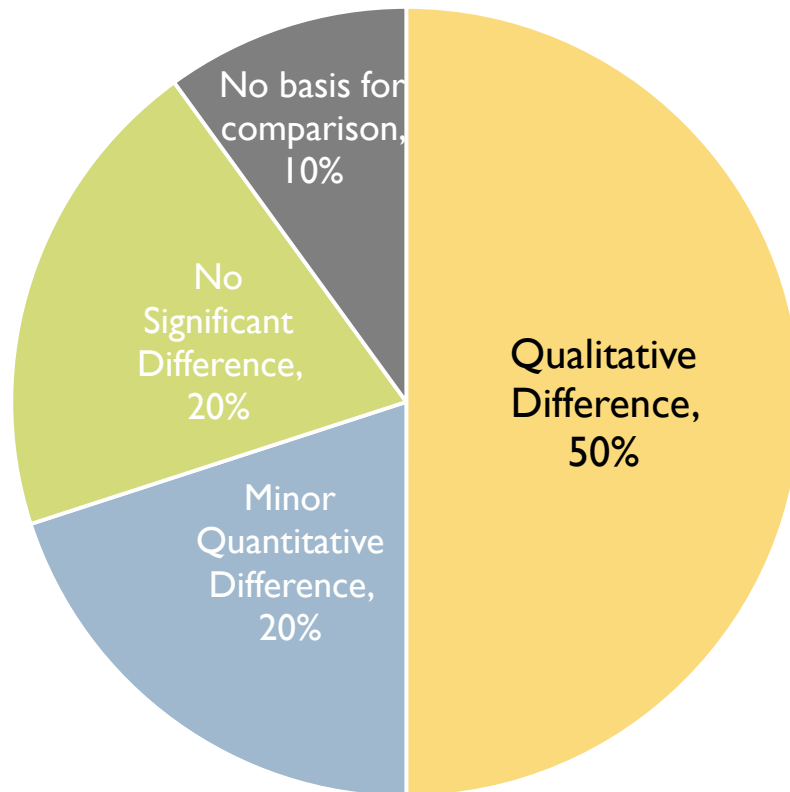
- ▶ Nearly all insurers interviewed reported that legacy systems greatly inhibit their speed to market for new products.
- ▶ Other areas of impact include customer communications and forms management, and ability to deliver effective business insight through analytics.
  - ▶ Forms management capabilities not optimized for omnichannel or rules-based authoring
  - ▶ Data to drive analytics can be inaccessible, poor quality
- ▶ Compliance was also an issue for half of the insurers in the group.

“Are legacy systems an inhibitor to delivering needed capabilities?”



# Non-legacy systems are qualitatively superior

How do modern systems change the game?



“Replacing legacy systems provides a qualitative difference in business agility.”

- Insurer CIO

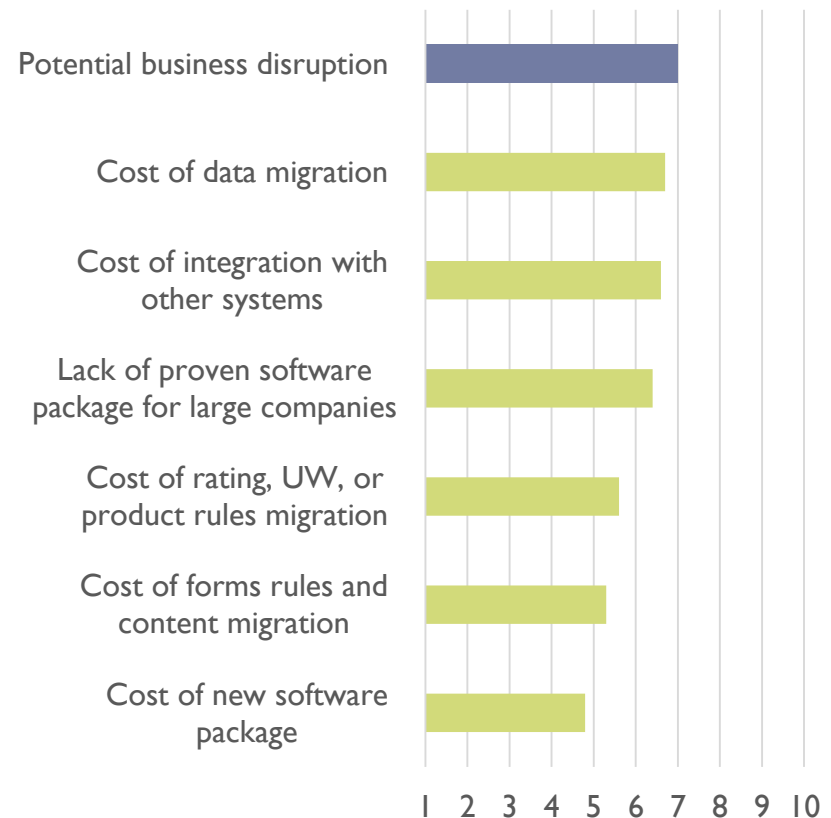
- ▶ Changing legacy systems doesn't just change quantitative cost or performance metrics – it creates a qualitative difference in the way the business is able to execute.
  - ▶ Half of the insurers in the sample agree with this statement.
  - ▶ One admitted they had no basis for comparison since all their systems are legacy

# Although benefits of legacy modernization are clear, inhibitors to transformation are many

- ▶ Since replacing legacy systems is so beneficial, what is it that holds insurers back?
- ▶ The number one inhibitor to transformation is the fear of **business disruption**.
- ▶ While it is a positive that insurers have realized that legacy modernization is an enterprise initiative, not an IT initiative, this realization cuts both ways. Many insurers are apprehensive about the potential business disruption that a legacy replacement project may cause.
- ▶ Even when projects go smoothly, they require the dedication of significant non-IT business resources in order to review and develop product and process logic and workflows, and to do user testing.

## Average Ranking of Inhibitors to Successful Core Transformations

1 = not an inhibitor, 10 = show stopper

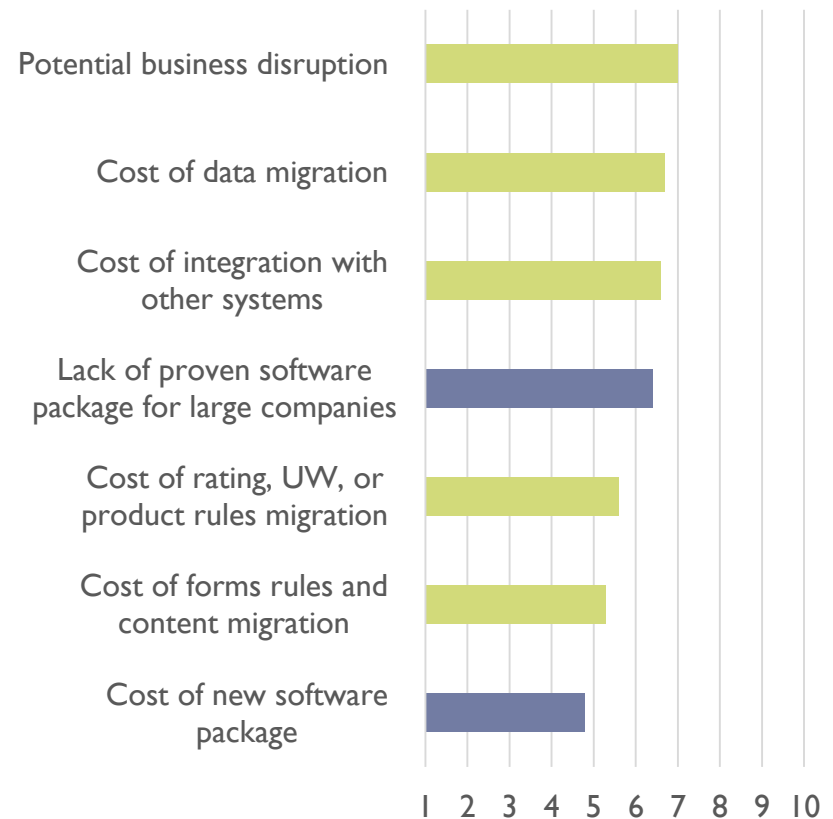


# The old fear of commercially available software viability and cost is receding...

- ▶ Two of the traditional inhibitors to legacy modernization for large insurers have always been a fear of the **cost of new software**, and the perception that there was a **lack of proven software solutions for large companies**.
- ▶ Within the sample group of insurers, these issues now rank lower than many others, with concerns about the cost of new software ranking last on average.
  - ▶ Several of the large insurers in the sample had replaced legacy components (typically rating or underwriting) with new software.
  - ▶ One was completing a full policy/billing/claims replacement onto a commercial software suite.

## Average Ranking of Inhibitors to Successful Core Transformations

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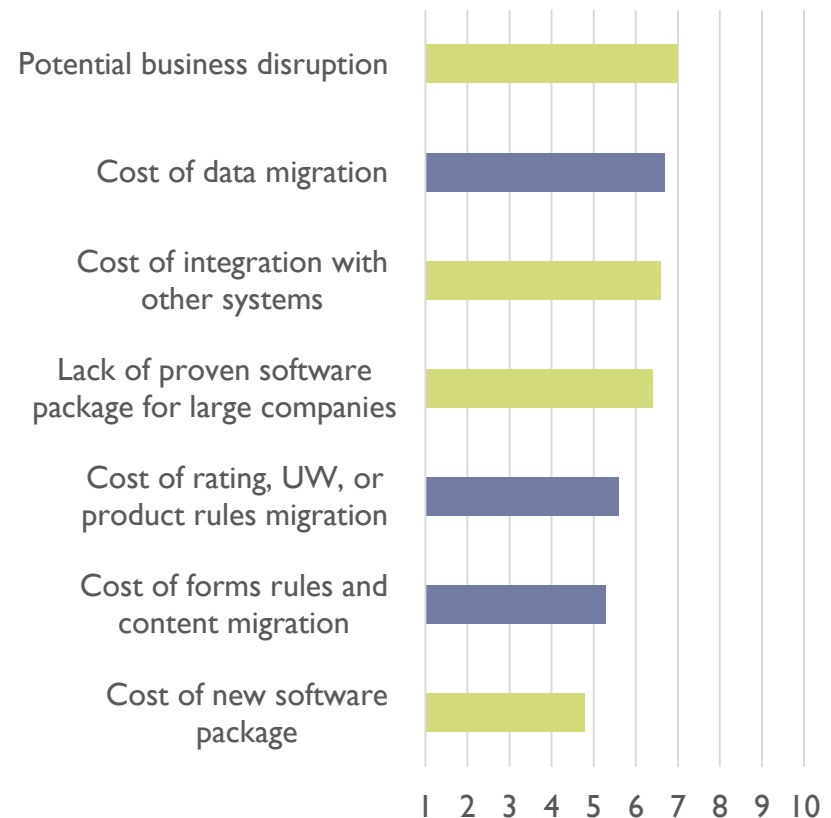


# ...but the fear of the challenges of rules and data migration are still with us

- ▶ While concerns over the cost and availability of new software have receded, costs about **rules and data migration** are still substantial.
- ▶ Legacy systems are generally:
  - ▶ **Poorly documented**, as they were built and enhanced by different internal teams or by different no-longer-extant vendors over a period of decades. This lack of effective documentation is an issue for both technical architecture and business rules.
  - ▶ **Lacking in consistent data models**, for the same reason.
  - ▶ **Full of poor quality data**, for various reasons including poor usability that forced generations of business users to “lie” to the system in order to process work, and different data requirements at different times.
- ▶ These characteristics of legacy systems can make migration a daunting task.

## Average Ranking of Inhibitors to Successful Core Transformations

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# Rules migration can run into eight figures, putting a dent in transformation business cases

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- ▶ Of the ten insurers in the group, four had done projects to extract business and product rules and logic from legacy systems as part of a partial modernization project.
- ▶ These projects included:
  - ▶ A life insurer that unplugged the new business and underwriting component of one of its primary core policy administration systems and implemented a vendor package to replace it.
  - ▶ A property/casualty insurer that replaced its mainframe-based commercial lines rating engine with a Java-based solution that ran distributed on server environment and incorporated third-party predictive analytics.
  - ▶ A property/casualty insurer that moved rating from mainframe-based legacy systems to a software package, and integrated business rules with a BPM platform.
  - ▶ A personal lines insurer completing a policy/claims/billing legacy migration to a packaged software suite. Rules extracted included data validation, cross-line edits, compliance, and regulatory rules.
- ▶ **The average time to complete these migrations was more than three years, and the average cost was more than \$10,000,000.**
  - ▶ Most of these projects required dealing with millions of lines of code. The smallest project was under 500,000 lines of code and cost approximately \$3,000,000

# Concluding Thoughts

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- ▶ The majority of systems at large insurers are still legacy, which inhibits speed to market and business insight.
- ▶ Most insurers who have replaced at least components of their legacy environments report a qualitative change in how the business runs, not just a quantitative reduction of costs or increase in speed.
- ▶ Cost and availability of software is not the inhibitor that it was. Fear of business disruption and cost of data migration are the biggest inhibitors.
- ▶ A hidden inhibitor, often not recognized until projects are in progress, is the cost of migrating business logic (product, process, forms authoring/management) from poorly documented and diverse legacy systems.
- ▶ These costs can exceed \$10M and add multiple years to projects.
- ▶ Insurers should carefully consider this hidden cost when planning their legacy modernization projects.

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# About Novarica and TCS

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**Novarica** provides technology strategy research, advisory services, and consulting to more than 80 property/casualty and life/annuity insurers.

Novarica's research covers trends, benchmarks, best practices, case studies, and vendor solutions, drawing on the expertise of its senior team and relationships with nearly 400 insurer CIO members of the Novarica Insurance Technology Research Council.

Through its advisory services, Novarica's expert team becomes an adjunct member of its clients' strategy and planning functions, providing a force-multiplier that facilitates faster, better, more informed decisions.

Novarica's consulting services focus on vendor selection, custom benchmarking, project assurance, and IT strategy, leveraging its proven methodologies, extensive knowledgebase, and broad network to rapidly deliver actionable insights and recommendations. [www.novarica.com](http://www.novarica.com)

**Tata Consultancy Services (TCS)** is a global leader in IT services, digital and business solutions that partners with its clients in insurance and numerous other industries including healthcare, banking and retail, to simplify, strengthen and transform their businesses.

Managing the success of a large rules extraction program with a large team is not feasible without proper process and metrics. TCS has created a Rules Extraction methodology and focused line of service that minimizes risk with well-defined phases that include Discovery, Rule Extraction, Business Translation, Rule Classification, Rule Rationalization, Rule Governance, and entry and exit criteria. Tools and accelerators form a key part of this methodology. This is enabled by TCS MasterCraft Application Analyzer, which helps focus and analyze rules, as well as applying solutions, industry trends and best practices to accelerate rules extraction and drive effective results in the shortest period of time. [www.tcs.com](http://www.tcs.com)