

Legacy systems and modernization

Core systems strategy for policy administration systems

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Executive summary

When faced with the economic downturn of 2008, companies focused on cost-cutting measures and many significantly reduced strategic investment in technology. As the markets and economy improved and companies achieved better margins and returns on their investments, they were able to build their reserves. During the past two to three years, these improved economic conditions made it possible for many life and annuity (L&A) insurers to renew their interest in strategic investments. As a result, modernizing and replacing legacy systems has surfaced as a top priority for many L&A insurers. The focal point of the modernizations has been the policy administration system (PAS) and the immediately surrounding interfaces to the insurance ecosystem, like new business and underwriting, policy services, compensations, billing and collections, and claims.

In mid-2016, Deloitte and LIMRA co-authored a survey to investigate the state of modernization efforts by L&A insurers in the US and Canada. The goal was to gain understanding and perspective on their efforts to simplify environments and modernize the PAS ecosystem.

This report addresses the following insights on core systems transformation (CST) as part of an insurance system modernization initiative:



- What are the **primary business drivers** behind CST initiatives?
- What are the **key factors affecting the solution** decision criteria?
- How **big is the legacy PAS problem** and where is your organization in the modernization journey?
- What **approaches are insurers employing** to modernize systems?
- How can **insurer success** be achieved?

The insurance systems modernization journey can be a long and challenging endeavor. Many organizations are now seeing the benefits of their labors. With the sharing of information comes knowledge and the rewards of others' experiences. It is hoped that the best practices provided in this report contribute to the success of your modernization efforts.

Key points

- Ensure business strategy and objectives alignment with the modernization initiative.
- Develop the business case for modernization early and socialize it often to gain buy-in from stakeholders.
- Choose vendors and partners based on knowledge and experience. Have a back-up plan for risk mitigation.
- Start small and simple and increase program scope and velocity after initial success.
- Assess the business and technology value and leverage insight before making recommendations on the approach to modernization.
- Rigorously pursue benefits to achieve expected results: Manage to the "outcomes."
- Select a strong leader with experience and courage.

Why modernize?

To succeed in the long term, each project is associated with a compelling set of business events or imperatives. Projects as large as replacing a PAS require a strong business case, socialization with key stakeholders, and alignment to the overall business strategy. Ultimately, business and technology leaders will likely commit significant financial and human capital to an effort that could span several fiscal years and may pledge multiples of the “business as usual” budget in a single year. The stakes are high if you fail—so why do it?

Our survey canvassed L&A providers to learn more about the primary business drivers for a PAS modernization (Figure 1). Forty-two of the nearly 60 survey participants (71 percent) are in the process of or have already completed performing a PAS modernization. Clearly, this confirms the focus on this business issue.

Those companies currently modernizing were subsequently asked about the influential business drivers impacting the decision to begin the transformation. We made the following observations based on survey results for insurers selecting very or extremely influential business drivers:

The **highest rated business driver was product** strategy and objectives. Eighty-six percent of the respondents are looking to bring products to market rapidly while simultaneously modifying product attributes as they refine the offering. This has been an industry focus for at least the past decade, but now product has become a strategic advantage.

- Two-thirds of the responses indicated **technological relevance** as the second most selected business driver. Legacy solutions lack flexibility and carry a significant technology debt due to dated languages, databases, architectures, and a limited supply of aging baby-boomer programmers. This liability prevents many organizations from advancing and supporting analytics, real-time transactions, and a digital experience.
- The third most selected business driver among respondents was **service enablement**. Digitizing insurance operations into a paperless, automated enterprise is a focus for many organizations. Many insurers are aspiring to automate the insurance interactions from initial application capture, underwriting, policy issue, and ultimately providing a completely digital experience.

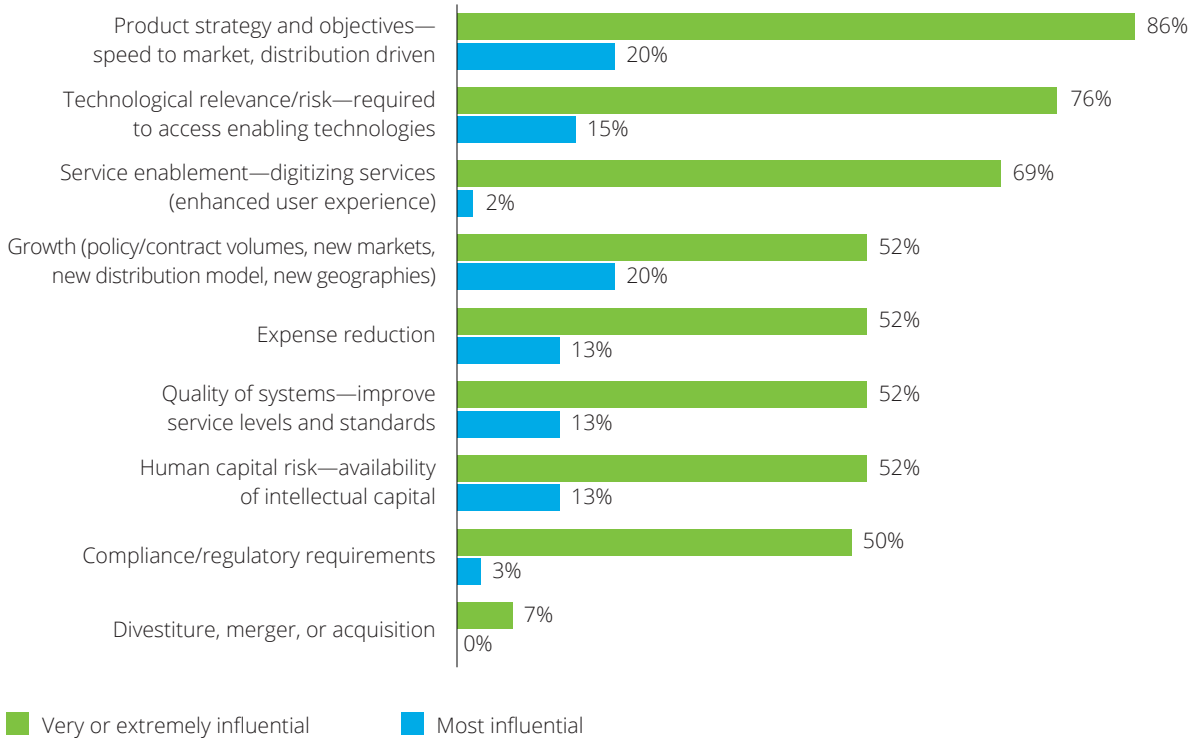
- When asked which factor was **the single most influential business driver**, one in five respondents chose product speed to market/policy volume growth.

We also asked companies how they expected to “pay” for the modernization. The alignment of the business case levers to the above business drivers was consistent. As to the question of benefits targeted, the responding companies confirmed that product capabilities/speed to market, an improved customer experience, and quality and access to data were essential to the growth of the business in support of the business case.

Each insurance company situation is different. One key is to initiate a modernization program so the **business strategies and objectives align with and drive the direction of planned initiatives**. Modernization programs are not exclusively technology based activities.

Figure 1. PAS systems: How influential were each of the following business drivers with regard to your company’s CST strategy?

N=42, 40



Source: LIMRA and Deloitte, 2017

From an expense perspective, respondents favored three key expense reductions: 1) fewer operations resources (28 percent); 2) hardware/software costs (20 percent); and 3) quality improvements (20 percent). The less important need to reduce IT resources represented only 12 percent of the replies. As expected, the resource expense reduction issue has additional emotional/social implications that influence some organizations’ decision to exclude it from the business case. Concerns that businesses may be outsourcing too much and are running operations on a shoestring budget forsaking experience and knowledge for a low cost alternative are growing. Quality improvements can be difficult to quantify if your organization does not actively measure and manage quality. Ultimately, decision makers may need to be challenged, motivated, and incented to **“commit”** to the savings.

Activities for developing the modernization business case should commence at the start of the project. Defining benefits in economic terms will require as much time as determining what to do. The business case should be developed in parallel with the approach. Engage your stakeholders early in the process. Further, socializing the business case and getting buy-in with affected executives who will sign up for the benefits is as important as a hardened economics proposal.

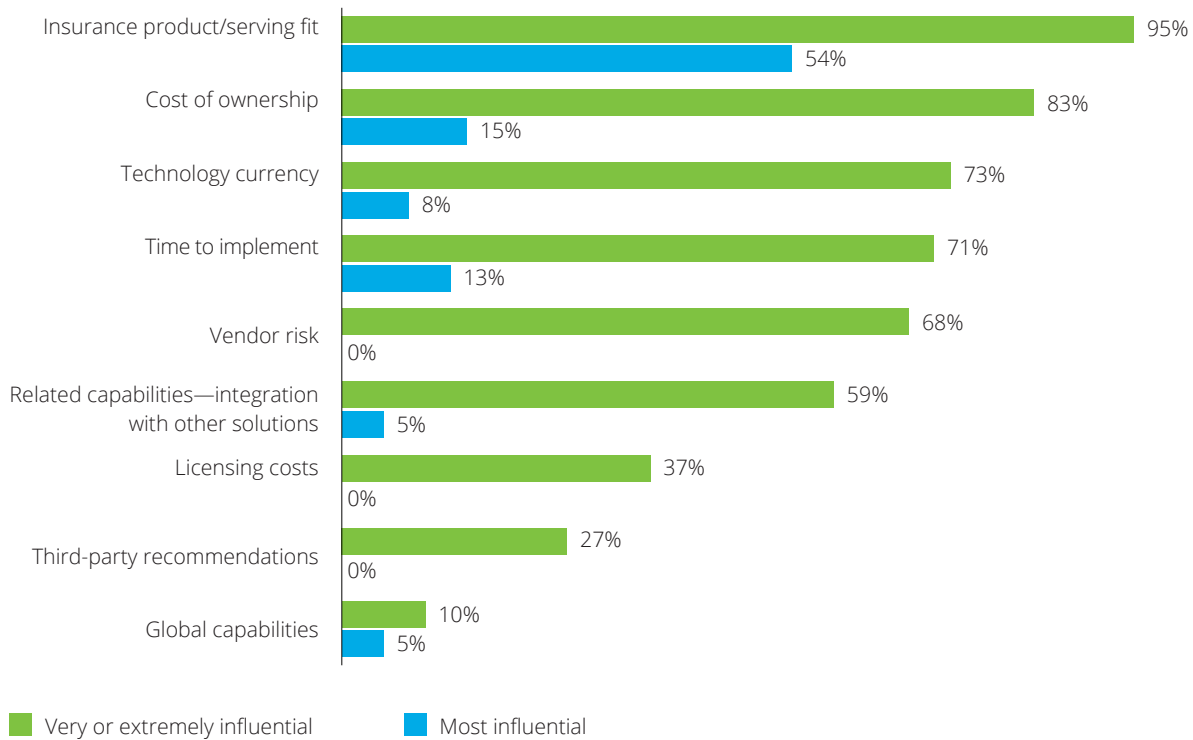
Selecting an approach for moving forward

When considering the options to modernize the PAS solution, surveyed insurers nearly universally (95 percent of respondents) replied that product and servicing fit were crucial requirements (Figure 2). As the most popular requirement identified from a group of nine options, more than half of the respondents indicated that

product and servicing fit was the most important selection criteria when looking for a PAS replacement solution. This response was not surprising given the importance placed on product as a business driver for the CST initiative.

Figure 2. Considerations when making a CST target solution decision

N=42, 40

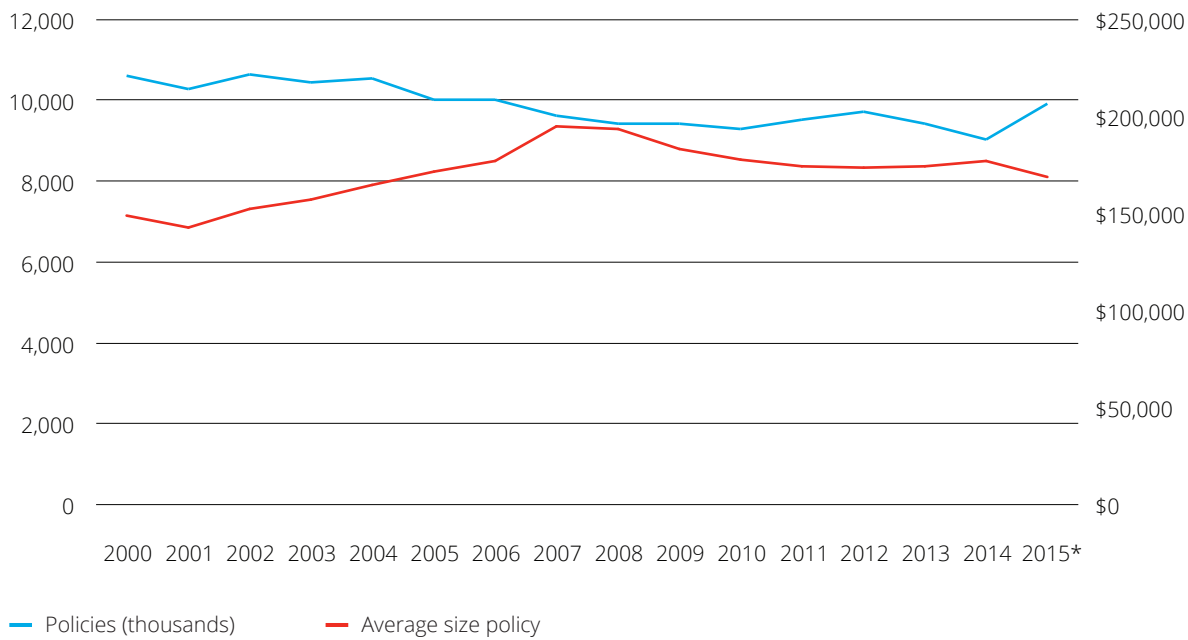


Source: LIMRA and Deloitte, 2017

Cost of ownership, technology currency, and time to implement were chosen as the next most important criteria when selecting a target solution. Time, cost, and technology/architecture are standard evaluation criteria to most software selection processes. Today, L&A insurers are expecting lower costs than with their legacy mainframe environment. The technology must reflect a reusable and portable service-oriented architecture that will allow micro-componentization of services over time. Vendors

are expected to demonstrate rapid, pre-configured deployments with robust product support and functionally-rich processing capabilities. The state of the software industry and movement of vendors supplying solutions to the L&A insurance industry has been somewhat of a revolving door over the past two decades. All the while, the individual life insurance market is actually contracting, with fewer policies being issued and relatively flat average face amounts (Figure 3).

Figure 3. Individual life insurance sales trends



*Policy growth was particularly impacted by a large carrier shifting from a group to an individual platform

Source: LIMRA

Choose your vendors and partners carefully. Look beyond the shiny new software. Examine whether the vendor has for a track record of successful implementations and a strong revenue stream to support future regulatory changes and additional enhancements. Partner with vendors and providers possessing strong industry credentials and experience. By all means, use your network to connect with other insurers with experience with this vendor. If you decide to take the path on the “road less travelled”, be sure to have a mitigation plan with business partners to help pick up the pieces.

Where are companies on the journey?

The urgency associated with legacy PAS modernization has been growing over the past five years and this research indicates that for at least 90 percent of respondents, this subject is top of mind for L&A executives. The process to complete a modernization from initial selection to the last policy converted could take a decade to complete depending on the staffing and capital available. The L&A respondents reported having from one to 26 unique systems in their

policy administrative environments, with an average of 4.0 systems in their ecosystem (Table 1). Those with a larger number of systems have gotten a head start, but resolution will take years.

Progress is being made with varying degrees of success to date. Before diving deep into the progress report, let's understand the characteristics of the applications in scope for modernization. The PAS application profile suggests a broad range of origins for the source solutions. Among respondents, there are homegrown (3 percent), externally developed custom solutions (20 percent) and commercial off the shelf, or COTS (37 percent) packages. These systems are generally vintage platforms, circa the 1980s and 1990s.



Table 1. How many PAS solutions are in your ecosystem?

	All respondents
Average numbers of systems overall	4.0
Median	2.0
Range	1 to 26

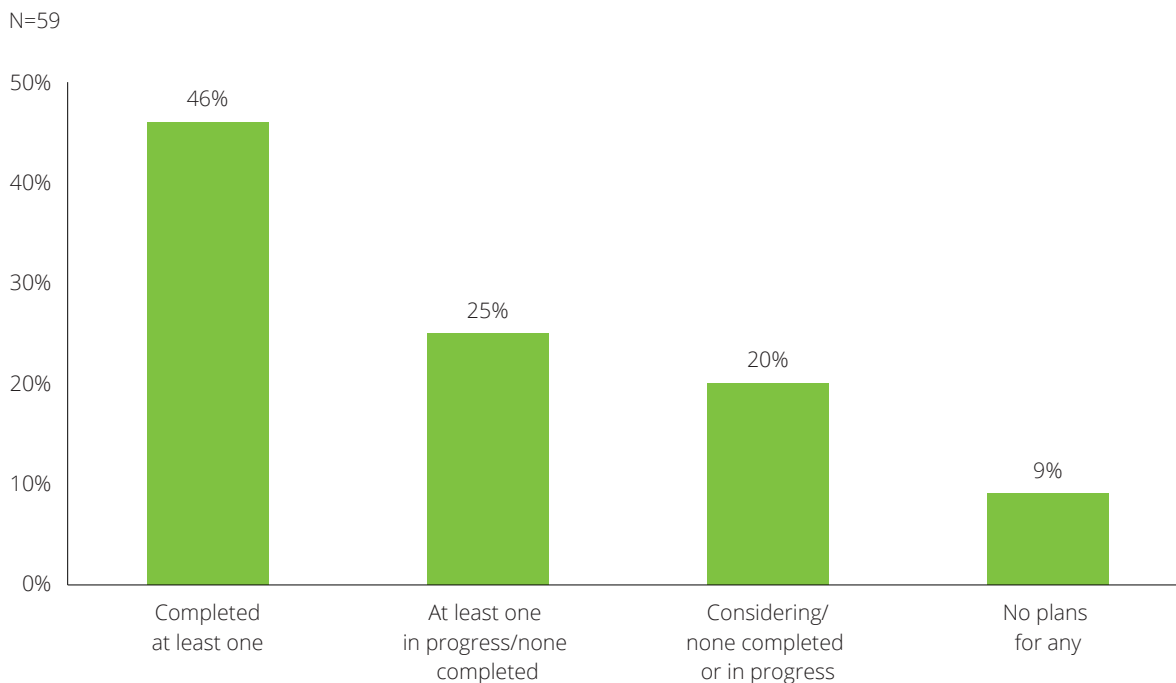
Source: LIMRA and Deloitte, 2017

Nearly half (46 percent) of the companies surveyed have completed changes and updates on at least one of their legacy policy administration systems (Figure 4). Of those that have not completed a modernization yet, one quarter have a modernization underway and one in five are considering a modernization. Only nine percent of respondents do not have any plans at this time.

Roughly two in five companies (39 percent) surveyed have one legacy PAS. Of the remaining companies, about half are attempting their systems modernization at once, often seeking to complete all updates and conversions concurrently.

Those upgrading their systems separately or progressively often start with their smaller systems, seeking to achieve small successes or learnings prior to tackling larger systems.

Figure 4. Status of legacy PAS systems



Source: LIMRA and Deloitte, 2017

Regardless of where you are on the journey, it is useful to take advantage of your industry network and trusted advisors by sharing experiences and lessons learned. The industry is at the mid-point in the bell curve of experiences. There are still as many system modernizations yet to address as those that are already underway or complete. If you have many systems, start with less risky, small, and simple blocks of business, if possible. Develop some “muscle memory” around the process since it will likely be repeated.

How are companies making the journey?

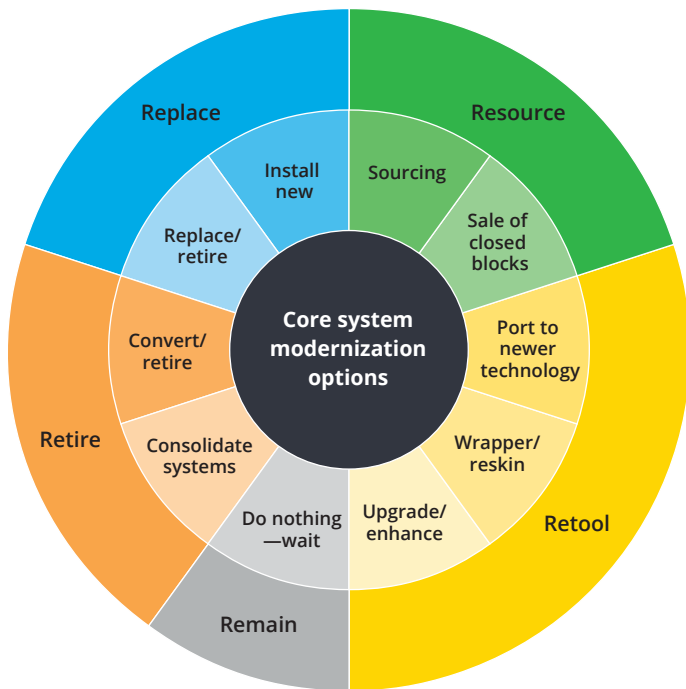
One of the most difficult decisions to make with regard to modernization is which approach to employ. In our experience, this continues to be one of the most frequently asked questions by companies. The following graphic provides a model for characterizing the differences (Figure 5).

The amount of change that results from modernization programs is dramatic. Some insurers prefer to tackle all solutions at once, swapping out their core administrative systems for a single large program, while others march along—one system at a time—taking years to finish.

When we asked companies about their approach to modernization, half of the responses were *considered* nearly equally (with the exception of consolidation, wrapper/reskin, third-party administration, sale of the block, and do nothing).

When asked which alternatives were actually chosen, respondents centered on two most often: Convert and retire (50 percent) and replace and retire (48 percent). Note, the results are not mutually exclusive as companies possess multiple PAS and may have chosen different approaches for different systems. These favored options were followed closely by *install new* and *upgrade existing* PAS at 36 percent each.

Figure 5. CST modernization approaches



- Replace: To improve business and/or technical value with a new solution**
 An implementation of a new solution for future insurance sales with or without a conversion of policies and retirement of the original software
- Retire: To reduce the number of solutions**
 The elimination of a solution as a result of a conversion of policies and/or consolidation of software applications
- Remain: No change** to the current state environment
- Retool: To improve business and/or technical value with an existing solution**
 A modification to the underlying application software, including languages and databases, technical architecture or presentation layer of the application without a conversion
- Resource: To transfer responsibility and risk**
 An outsourcing or sale of the business as a way to eliminate/reduce ongoing accountability for managing the future business and technical management of the solution

Source: Deloitte Consulting LLP

Collectively, half of the insurance system modernizations involved a new PAS solution due to the inability to maintain or sustain current PAS going forward. We suspect that the business drivers for improved rapid product development capabilities, an improved digital experience, and opportunities for growth outweigh the risks of cost and time to implement.

Insurers seem equally concerned with the technology debt associated with these legacy platforms. Even as they are planning to modernize the core systems, respondents are still concerned

with the total cost of ownership and risk associated with these aging platforms. As indicated in the survey, system retirement weighs heavy on the minds of the executives. Half of the respondents intend to retire a system as a result of their modernization efforts. To retire a life insurance system generally means a policy conversion. Conversion is one of the most difficult projects to provide a business case to justify on economic merits alone. As a result, many insurers have spent the last two or three decades trying to find a way to avoid the dreaded “conversion.”

Table 2. Approaches chosen and considered by companies to achieve CST objective

Multiple Responses Allowed (N=42)

Modernization approach	Considered		Not considered
	Chosen	Not chosen	
Convert and retire existing PAS	50%	26%	24%
Replace and retire	48	29	24
Install new system	36	33	31
Upgrade existing PAS	36	33	31
Port to new technology	29	38	33
Consolidate to the same instances	19	12	69
Wrapper/reskin the solution	17	26	57
Third-party administration	12	36	52
Divestiture, M&A of business	5	10	86
Build new system	0	31	69

Source: LIMRA and Deloitte, 2017

The feedback from survey respondents is most telling. Here is a sample of the commentary provided with a reference to the alternatives they had been deploying.

We needed a system capable of taking us into the digital age at a much faster and cheaper pace. And, we wanted to provide that digital experience for all customers.

— **Upgrade existing/upgrade to new/convert and retire/replace and retire/install new**

We had already wrapped our (vendor software) system. Continuing that approach would not solve the aging developer issue. We wanted new technology to take us into the future to support current and future technological advances.

— **Convert and retire/port to new/replace and retire/install new**

There is not a single correct approach to this problem. Generally, several approaches may be used by a single insurer. A modernization strategy is best supported by an analysis of the existing applications. Understanding the business and technology value associated with the solutions can provide the needed insight and support for recommendations on whether to replace, retire, or retool existing applications. The decision to convert contracts/policies is a separate analysis based on the business value associated with the customers, financial professionals, and the strategic objectives of your business. Conduct a book of business analysis for each product chassis by system to help make recommendations on conversion and modernization.

The core of our PAS works great and serves the current and future needs of the business. However, the look and feel along with the navigation need some work. We need a more modern look and feel with the appropriate edits that are intuitive and easy to use. This is to reduce the onboarding time, and attract and retain talent.

— **Wrapper/reskin**

In the past, we felt it important to ensure that we had all products running through the same software. The realization came that other companies put a front-end on their systems and service their contracts through the front end, thereby not requiring conversion of incompatible contracts to a new system and incurring the cost to make the contracts work within the new system.

— **Upgrade/port to new/wrapper/reskin/replace and retire/install new**



Legacy systems were outdated and inflexible, [so we] selected modern administration systems for P&C and Life that provide a platform for growth and enhanced customer service.

— **Convert and retire/replace and retire/install new**

We are too small to build an in-house solution, so that option was off the table from the beginning. Our current PAS has significant limitations and is a to maintain. This system also is difficult to configure or modify as our product suite evolves with customer demands.

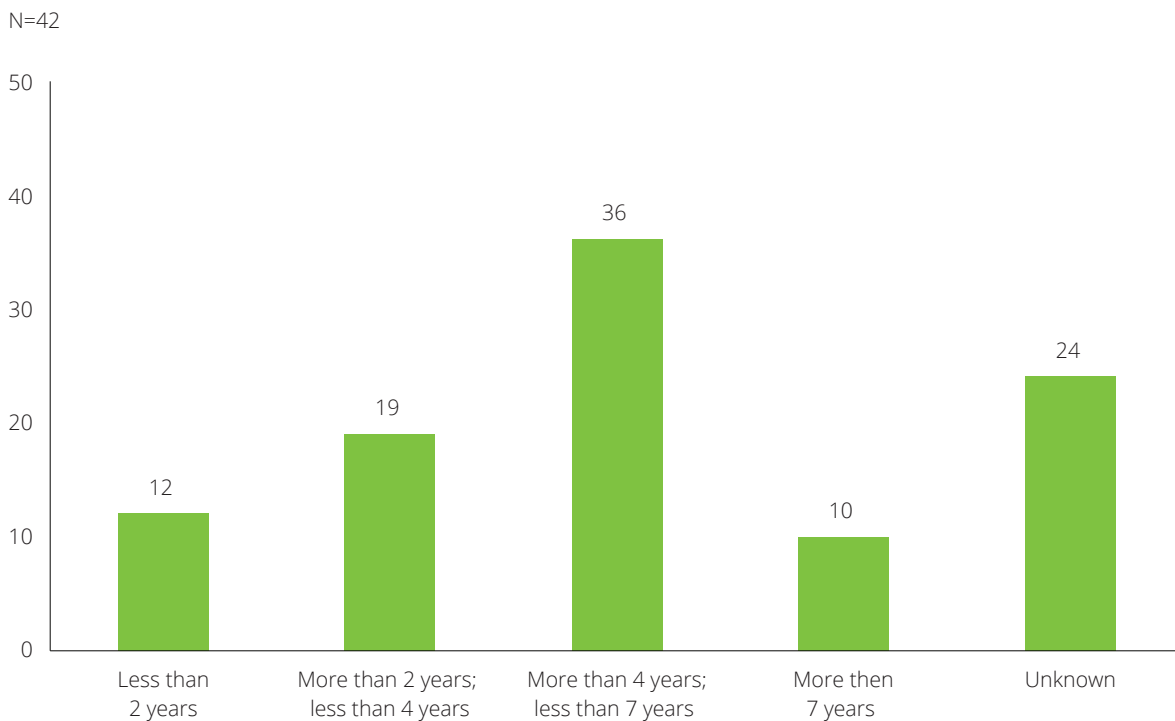
— **Wrapper/reskin/replace and retire/install new**

Benefits: Realizing benefits takes a long time

The payback period on PAS modernization is longer than most any other technology investment. The expectations of a two-year payback is fleeting. Moreover, it may take upwards of 4 to 7 years or

maybe longer. Nearly 1 in 4 respondents did not know the payback timeframe for their modernization programs. (Figure 6).

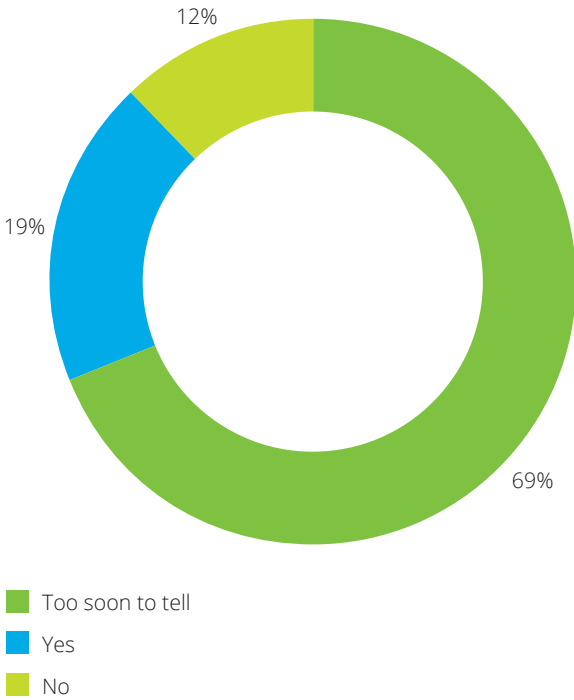
Figure 6. Estimated payback period for the benefits on CST solution: Companies with current and completed transformations



Source: LIMRA and Deloitte, 2017

Figure 7. Have companies realized expected benefits?

N=26 (for companies that have completed changes)



Source: LIMRA and Deloitte, 2017

For organizations that actually track the benefits and aggressively manage to the outcomes, **fewer than one in five companies surveyed (with completed changes) have realized benefits** (Figure 7). For many, the journey is long and may yield a break-even business proposition at best.

The value of routine software support and maintenance cannot be underestimated nor should the risks associated with allowing the core administration platforms to lag behind and fall out of release support. The past will eventually catch up with those who have neglected to maintain current applications. **The costs to upgrade or replace systems increases exponentially after as few as three years of software neglect.**

To achieve the benefits of a modernization program, you should develop a revenue, expense, and capital preservation business case. Rigorously manage to the business case. An executive must own the business case and actively work to achieve the expected outcomes. Establish a set of financial measurements and baselines, measure the metrics, and attach a value to the achievement of business outcomes based on a direct relation to the program objectives. Some outcomes may be unplanned, but by measuring and monitoring, the organization can re-plan and manage them. Doing so will provide transparency to the program economics and maintain the support of leadership for the program as appropriate.

Keys to success

Most insurance executives will only get one chance to complete a successful modernization at their current organizations. These projects are professionally risky ventures due to the perils of time and budget overruns.

Leadership is essential. A modernization program is one of the highest risk projects that an organization can undertake. A typical modernization program impacts many areas. First, consider the technology components of the modernization, including new applications, new data integrations, data structures, and potentially, policy conversions and technical infrastructure changes associated with improving web-based architectures. The business is also significantly affected as the functions and processing procedures are altered. New organizational roles and responsibilities may impact the people and structure of the operation as they adjust to the new ecosystem.

As mentioned, these **programs may take many years to complete.** CST failure rates can be among the highest of all corporate initiatives. This program will demand executive courage to approve, manage, and lead.

To be effective, there are a few other best practices to add to a project's critical success factors checklist:

- **Build business case early:** Develop a realistic business case with complete costs and benefits associated with the program. Start the business case development early in the vision and strategy development process. Include key stakeholders in the process and socialize the business case. Be prepared for a marginal or even a negative ROI initially. Continue to quantify the risks/probabilities in financial terms in an effort to provide a balanced analysis.
- **Align executives:** These programs are transformational and the leadership team needs the unwavering commitment of all impacted parties. As most of these programs are measured in years rather than months, fatigue can set in, priorities compete, or management restructuring can sabotage an important initiative. It is imperative to have the personal commitment of leadership to bring these projects to completion.
- **Commit SMEs to project:** Generally a CST program will need to involve a company's most knowledgeable and constrained resources. Subject matter experts need to be able to focus exclusively on the program. Back-fill day-to-day activities with temporary resources and new hire resources to allow the A-Team to deliver this project. Don't forget rewards and recognition at milestone deliveries (results) of the project team, including partners and vendors.
- **Assess realistic capabilities:** Take initial stock of the team. Be honest about employee skills. Companies generally do not get two attempts to do a CST right. Engage with experienced professionals. These projects won't initially be staffed without some incremental staff. Resist the tendency to go it alone. Rather, select partners and vendors carefully in key value-added roles and take advantage of their expertise and experience.
- **Establish strong program governance:** This recommendation is predictable, but bears inclusion. CST programs will usually take several years. Developing robust standards and a cadence for the program are essential to drive decisions, enhance communication, and create transparency and trust among the project team and stakeholders.
- **Adopt, don't adapt:** There is often an inclination to "repave the cow path." The short and long-term cost of customization will introduce risk to CST programs and the overall maintainability of the solution. Whenever possible, stay with the base system and adopt the processes that come with it.
- **Consider conversion alternatives:** For product categories that have had limited sales and are not strategic to the business, consider sourcing and sale as an alternative to conversion. There are many viable outsourcing alternatives for managing the technical infrastructure, applications, or the entire policy servicing operation. Consider some of the other approaches to conversion as listed above. At worst, focus on the bulk of the modernization and evaluate options over time.

- **Focus on data:** Consider your company's overall data strategy as you embark on the modernization. Focus efforts on the data governance associated with operational, transactional, and analytical data uses. The cost to achieve perfection when cycling policies/contracts can be mitigated by keeping the holder unharmed financially.
- **Learn before you leap:** Use the first months of the project—preferably before contracts and commitments are made—to learn the applications, processes, and functions of the new system. This is particularly important when introducing a new solution. Use demonstration labs or conference room pilots to validate system capabilities, learn the system based on critical use cases, and assess which vendor/partners that you want to work with once the project kicks off.

Best practices

Many of the above best practice recommendations are supported by survey participants' CST modernization experience comments:

Business model is to minimize system modifications and keep as current as possible with release updates.

Change business processes to match the new admin system, not try to make the new system work like the old one. Have a strong internal project manager. Vendor selection is not just about the system, but rather forging a partnership with the new vendor, and managing that vendor relationship. Strong testing infrastructure, and parallel processing for a period of time.

Realizing that it is not necessary to convert aged contracts to a new system if you can make the management transparent through a front-end replacement, incurring costs to convert only those contracts that are actively being sold and managing those through the new system.

Patience! It is a long journey. This change for us provides a benefit in that we were forced to review our business practices and modernize not only our system, but our approach to customers; to enhance their experience.

Migration of current policies and associated agent management data represents the single greatest challenge in modernization.

1) It is better to consolidate to as few PAS as practical. 2) A PAS replacement/consolidation project is limited in speed by the number and quality of subject matter experts for each line of business that exists within the company/carrier.

Takes a big commitment and everyone needs to be onboard to make it successful.

Change Management: The biggest barrier was internal cultural attachment to legacy systems and how they functioned.

Train your internal team as soon as possible in how to use the new technology to offset implementation vendors' costs and to allow timely contribution to key design decisions instead of being dependent on a vendor that does not know your business processes.

The programs take executive courage. To improve success, select an executive with experience and success managing prior modernizations, a religious fervor to motivate and inspire a team throughout the duration of the program, and a commitment to achieve the expected results to help drive the program.

To continue the conversation on this and other business and technology related topics affecting the insurance industry, or to ask for more insights, please contact Jim Gauger at jgauger@deloitte.com.

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Methodology

LIMRA and Deloitte surveyed companies in the summer of 2016 to learn more about their current core PAS and plans for modernization. Fifty-eight companies in the United States and Canada responded; one company responded for two areas of their company.

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