

NORTH AMERICAN LIFE INSURANCE AND ANNUITY POLICY ADMINISTRATION SYSTEMS 2017

AN ABCD VENDOR VIEW

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20 November 2017

This authorized reprint contains material excerpted from a recent Celent report profiling and evaluating 26 different life / annuities / pension / health policy administration system vendors in North America. The full report is more than 175 pages long. This report was not sponsored by Sapiens in any way.

This reprint was prepared specifically for Sapiens, but the analysis presented has not been changed from that presented in the full report. For more information on the full report, please contact Celent at info@celent.com.

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INTRODUCTION

KEY RESEARCH QUESTIONS

- 1** *What is a life insurance and annuity policy administration system?*
- 2** *Who are the vendors in the North American marketplace by line of business?*
- 3** *Which systems win Celent's 2017 Life Insurance and Annuity PAS ABCD Awards?*

This report is part of a series on policy administration systems (PAS) in North America, Latin America, Europe, and Asia. It profiles the majority of the life insurance and annuity administration systems available in North America today.

It uses Celent's ABCD vendor view, which is our standard representation of a vendor marketplace, designed to show at a glance the relative positions of each vendor in four categories: Advanced technology, Breadth of functionality, Customer base, and Depth of client services. Insurers should consider which factors in breadth, technology, experience, and client service are most important to them, and review the detailed profiles in this report to assess vendor suitability.

This report includes 12 systems that fully met the inclusion criteria for Celent's ABCD Vendor View as described in the "Report Methodology" section of this report. Eight additional vendors that did not meet the ABCD criteria are also profiled; these vendors are either market entrants or, for a variety of reasons, did not fully meet the inclusion criteria. For a full list of vendors in this report, see Table 1 on page 8.

Since Celent's first report in 2005, new sales have remained active. Celent estimates that vendors made 48 sales of policy administration systems to insurers during the two-year period from July 2015 to July 2017. Forty-four sales were to US insurers, while four were to Canadian insurers.

In the past two to three years as the markets and economy have improved and better margins are obtained, the economic conditions have made it possible for insurers to renew their interest in strategic investments. As a result, modernizing and replacing legacy systems has surfaced as a top priority for many life and annuity insurers.

Core system modernization is about establishing a platform that will allow an insurer to execute the business decisions it needs to succeed in an increasingly unknowable, but probably disruptive, future. Innovation is difficult to pull off unless it is built on the solid foundation of modern, data-rich, and configurable core system. Data availability is a differentiator for a modern core system. Benefits can be measured in outcomes and business value. Modern systems require fewer human, event-driven transactions and provide more system, rule-based transactions. The objective is to build a platform for the future that releases business users from process tasks to focus on value-added knowledge tasks.

Vendors have expanded the usability, mobility, and personalization of their systems. Web-based and mobile portal interfaces that benefit customer service representatives, underwriters, producers are increasingly common in PAS systems. Mobile and web-

based policyholder portals are also being offered by most vendors as well as web services and open API's for transferring data. Some insurers are building their own portals and taking advantage of the ability to easily transfer data from a modern system. Within a few vendors' systems we saw strong advances in product and rules configuration as well as testing capabilities; however, overall, these changes continue to be implemented at a modest pace. In many cases, Celent did not see any change in how products were configured or tested. User- friendly configuration is important for insurers that wish to be self-sufficient.

Systems continue to add support for new lines of business, particularly group and voluntary benefits products. Increasingly, vendors provide data analytics as part of their core offering and offer the solution in a private or public cloud.

On a macro level, the US economy improved since our last report, which has helped unemployment decrease to pre-2007 levels and GDP rise slightly; however, salaries remain stagnant, and interest rates are low. This means consumers still are struggling to find discretionary income for life insurance. Insurers continue to search for the right products to sell and ways to improve the effectiveness and efficiencies of their back offices. Their legacy systems do not give them the flexibility they need to meet the product, data, and omnichannel demands of their producers and customers. As a result, insurers continue to renew and/or replace their PAS.

This report will help insurers define their core systems requirements and, where appropriate, create a short list of vendors for evaluation. Expanded PAS functionality and improved technology means that insurers continue to have a wide spectrum of systems and vendors to consider when they are looking for a solution to fit their needs.

POLICY ADMINISTRATION SYSTEMS: DEFINITION AND FUNCTIONALITY

Key Research Question

1

What is a life insurance and annuity policy administration system?

The primary systems of record for life insurance and annuity business operations, handling all business transactions from the front-end processes of individual policyholder management to the back end of billing and premium payments. They also store all product rules and definitions.

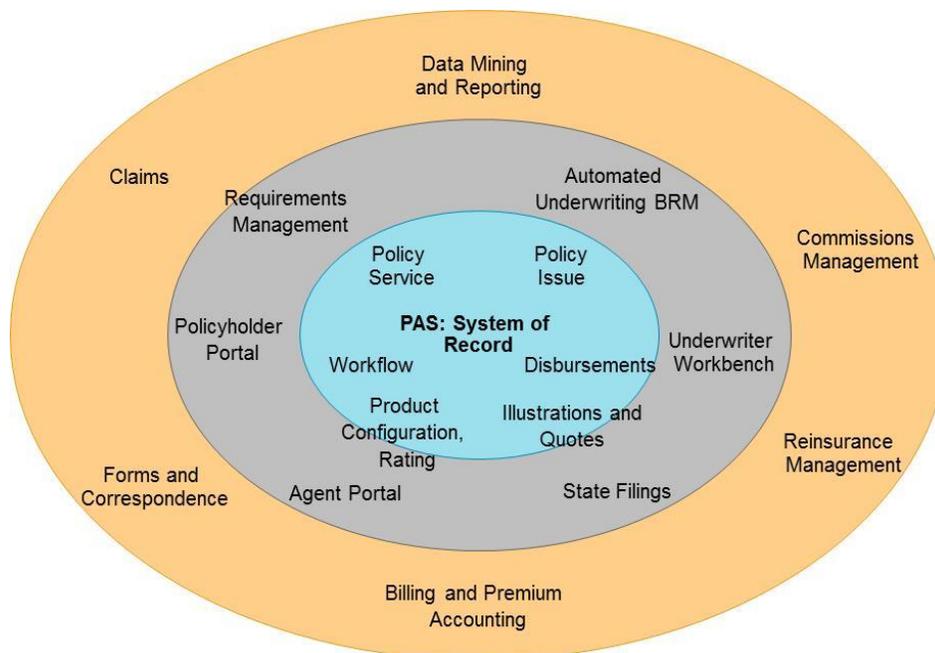
DEFINITION

In one sense, the definition of a policy administration system (PAS) is very simple: It is the system of record for all policies that an insurance company has written. At this most basic level, a PAS is a repository of policy-level data related to objects of insurance, policy coverage, conditions, exclusions, duration of the policy, endorsements, beginning and end dates, and so forth. A permanent policy record is created at the time a policy is issued and includes the complete history of the policy through renewal, termination, cancellation, and/or reinstatement.

Core Processes

In actual practice, an insurer uses a PAS, either by itself or closely integrated with specific point solutions, to execute a number of core processes, and relies on several types of supporting capabilities, as shown in Figure 1.

Figure 1: Policy Administration System Components and Functionality



Source: Celent

As shown in the center section of Figure 1, there are six core processes, with two that have both core and supporting functions.

Policy Issue is the ability to create a policy in the system of record. The system must be able to verify that a policy fulfills basic requirements, create or store a policy number that will represent the policy through its lifetime, store additional relevant information about policy features, and make the policy available for servicing and inquiry.

Policy Service includes the activities that begin with issuance of a policy, and continues through the life of the policy, including: riders, changes of status for the insured policyholder, the objects of insurance, lapses or cancellations, beneficiary information, etc.

Workflow is the basic process management functions which allow users to do more than simply store and edit data; workflow instead creates functional paths for users to follow. This is not to be confused with more robust workflow or business process management systems, which are typically third party systems. Some vendors provide visual tools for editing system workflow, while many others require the writing of custom code.

Disbursements functionality supports a variety of situations that result in payments to policy owners or annuitants. For example, loans, surrenders, premium refunds, or annuitization all trigger payout and accounting processes.

Product Design and Rating is a concept which straddles the core and supporting functionality areas. It is core to a PAS to provide a definition of a product and the ability to set some rating rules and variables. Some systems end there, requiring custom code to make changes, while others provide visual or script-based modeling tools for users. Insurers requiring complex rating rules may choose to work with third party rating engines and integrate them into the system.

Quoting and Illustrations is another concept that straddles the line between core and supporting. It is core to a PAS to provide some ability to view the rates/pricing for a policy. Supporting functionality includes the ability to create more robust illustrations and presentation or point-of-sale materials.

Supporting Capabilities

There are six supporting processes, as shown in the surrounding, light blue section of Figure 1.

Automated Underwriting / Business Rules Management Some PAS are capable of supporting advanced decision-making, with minimal human interaction, in an underwriting context and in the context of regular service transactions. Business rules management functionality supports the design, managing, and execution of business rules attached to products, processes, and workflow.

Underwriter Workbench is similar to core policy service capabilities in that it provides an interface for users to manage system transactions. But the focus of an underwriter workbench is on new business submissions, giving underwriters the tools to evaluate, review, track, and make decisions on policy applications.

Requirements Management is a specialized process related to underwriting that provides a case-level view of underwriting requirements, and the ability to order, receive, and process requirements. Typically, this requires integration points to a multitude of data sources, such as Medical Information Bureau (MIB), paramedical providers, credit bureaus, and other sources.

Agent Portal includes all agent-facing online functionality. This is a critical supporting process for a PAS because the combination of the portal and the back end systems is what drives an insurer's ability to handle functions such as inquiry and new business submission effectively.

Policyholder Portal is another supporting capability, aimed squarely at helping insurers deliver web-based functionality directly to consumers. Functions supported can be informational (e.g., policy value inquiry) or transactional (e.g., loan or surrender requests).

State Filings is the final supporting process, and it includes the production and management of forms required to submit new products to states for approval. It is not typically included in PAS, but it is logically related in that it is the expression of products that are run on any policy administration platform.

Advanced Functionality

A good modern PAS will provide most, although not necessarily all, of the advanced functionalities listed below. (Note: Each full profile in this report has a table summarizing whether the PAS in question offers these advanced functionalities, and if so, in what manner and in what form.) This is not an exhaustive list, but rather the most common additional functionalities, and therefore, the ones most commonly provided by vendors bundled with or in addition to their policy administration offering.

Data Mining and Reporting is the true business intelligence and data warehousing function, typically external to a PAS. While many PAS provide basic reporting functionality, well-thought out PAS facilitate the integration to third party reporting and analytic databases. A true BI/analytics tool allows the management of data marts, detailed ad hoc reporting, customized dashboards, and complex data analysis — not just for the PAS but for all an insurer's data.

Billing and Premium Accounting functions are typically handled downstream of a PAS. A billing component will support a broad set of billing methods, such as direct and agency bill, as well as various present and payment options, and configuration capabilities. The PAS may keep track of paid-to dates and billing modes, but a billing system handles the creation and delivery of bills, and an accounting system keeps track of premiums paid and similar functions. Insurers often have an enterprise billing system which is fed by the PAS, but it should be noted that the origination of the transaction happens in the PAS.

Claim management refers to the claims workflow management. A fully functional claims system will record and support all steps in the claims process from first notice of loss to final settlement. The claims systems will exchange data with a broad set of internal and external systems as well. Celent does not consider a claims system to be connected to policy administration, but many vendors offer both for an integrated end-to-end suite.

Commissions Management is where commission rules and calculation of payments to distribution channels are managed. It needs to integrate with several systems to handle this effectively, but a true commission system can manage more complicated commission rules and do better incentive planning. These systems are often closely integrated to agent portals in order to facilitate delivery of critical remuneration data which is used to motivate and incent agents.

Reinsurance Management includes administration of facultative or treaty-based reinsurance, including storage of policy-level data and key reinsurance accounting functions. Most often this is a separate system.

Forms and Correspondence refers to document and content automation systems which allow template-based generations of official policies, underwriting rejection letters, and

any other documentation that needs to be stored or sent. Many policy admin systems have basic forms and correspondence functionality, though a third party system usually handles document generation across the enterprise.

REPORT METHODOLOGY

CRITERIA FOR INCLUSION

Celent's objective is to include in this report as many as possible of the leading life insurance and annuity policy administration systems being used or actively sold to insurers in North America. Celent actively reviews vendor systems in the insurance software market and invites the vendors to participate in reports like these.

Celent's ABCD Vendor View analysis is used to highlight those vendors who have attained success selling their systems in a particular market, in this case North America. Even if a vendor is not included in the ABCD Vendor Views presented on pages 13 and 14, Celent profiles all vendors who are new or emerging entrants to the market as well as those with re-architected products.

The three key criteria to be included in Celent's ABCD analysis are:

- At least three customers in production with the current version of the system.
- At least one new sale to one new customer within the last 24 months.
- Participation by at least three reference customers.

This report contains 20 profiles. Each of the profiles presents information about the vendor and solution; available professional services and support capabilities in the region; customer base; functionality and lines of business deployed; technology and partnerships; and implementations and cost. The vendors included in Celent's ABCD Vendor View analysis have two additional sections: reference customer feedback and some summary comments.

EVALUATION PROCESS

Celent sent a detailed RFI to a broad set of life insurance and annuity PAS vendors. After Celent received completed RFIs from the vendors, each vendor was evaluated for meeting the criteria for inclusion in the ABCD Vendor View analysis. Each vendor included in Celent's ABCD evaluation provided a briefing and demo for Celent concentrating on usability and functionality for everyday users as well as external portals (if available), product and rules configuration, and other key features highlighted by the vendors.

Celent also asked at least three references provided by each vendor in the ABCD Vendor View analysis to complete an online survey in order to obtain their view of the system's business and technology value. The RFIs, the demos/briefings, and the reference surveys provided quantitative and qualitative data that was used in the ABCD analysis of these vendors. This process is described in the next section.

Additionally, data from the RFIs received from every vendor was included in the system profiles presented in this report. All vendors had an opportunity to review their profile for factual accuracy, but they could not influence the overall evaluation of the system or the vendor's placement in the ABCD Vendor View charts if the vendor was included in the evaluation.

Celent has retained final authority over the content of the published profiles. Some of the vendors profiled in this report are Celent clients, and some are not. No preference was given to Celent clients either for inclusion in the report or for the subsequent evaluation.

Not all data gathered from the detailed RFIs, vendor briefings and demos, and reference surveys/interviews has been included in the profiles. Rather, Celent has attempted to capture key points and values about each vendor at an appropriate level. Unpublished information remains in the Celent knowledge base and is available to Celent's subscription or consulting clients.

**Key
Research
Question**

2

Who are the vendors in the North American marketplace by line of business?

Twenty systems are presented in the profiles in this report; many of the systems are marketed across multiple lines of business.

CELENT'S ABCD VENDOR VIEW

Celent's framework for evaluating vendors is called the Celent ABCD Vendor View. This is a standard representation of a vendor marketplace designed to show at a glance the relative positions of each vendor in four categories: Advanced technology, Breadth of functionality, Customer base, and Depth of client services. The Celent ABCD Vendor View shows relative positions of each solution evaluated. Each vendor solution is judged relative to the others in the group.

While this is a standard tool that Celent uses across vendor reports in many different areas, each report will define each category slightly differently. For this report, some of the factors used to evaluate each vendor are listed below.

Table 1: Examples of Possible Factors Used in Celent's Policy Administration System ABCD

ABCD CATEGORIES	POSSIBLE FACTORS
Advanced Technology (and flexible technology)	Platform and Modernity (Code base, platform, databases, localization capabilities, etc.) UI (Ease of use, mobility) Data and adaptability/extendibility (Openness of application, code base, data model, etc.) Integration (Web services, APIs, reference comments) Scalability and cloud (Cloud readiness, largest installations, etc.) Ease of change (Change tooling, debugging capabilities, etc.) Celent opinion of demo and system
Breadth of Functionality	Functions and features provided in base offering In production lines of business and number of deployments for each User experience Celent opinion of demo and system
Customer Base	Number of live insurers using the system for life, health, or annuities lines of business New client momentum
Depth of Customer Service	Size professional services and support team in region Insurers' post-implementation experiences

Source: Celent

THE XCELENT AWARDS

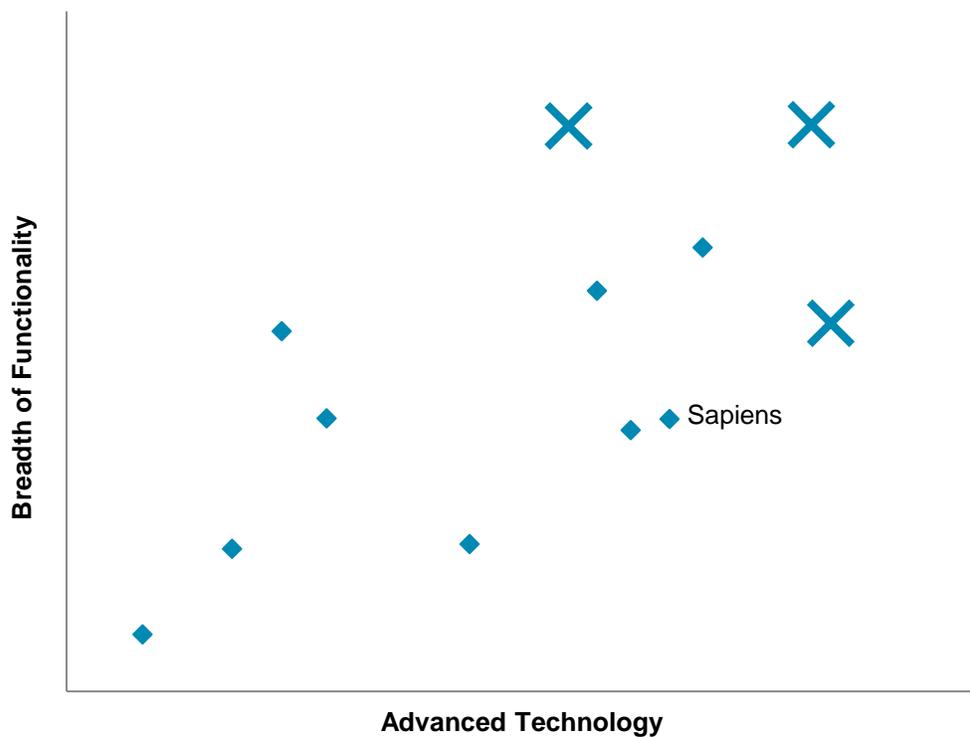
XCelent within this framework, the top performers in each of the ABCD dimensions receive a corresponding XCelent Award:

- XCelent Technology for the leading Advanced Technology score
- XCelent Functionality for the leading Breadth of Functionality score
- XCelent Customer Base for the leading Customer Base score
- XCelent Service for the Depth of Service score

XCELENT TECHNOLOGY AND XCELENT FUNCTIONALITY

Figure 2 positions each vendor along two dimensions: the vertical axis displaying the relative rankings for Advanced Technology and the horizontal axis showing relative Breadth of Functionality rankings.

Figure 2: 2017 XCelent Technology and XCelent Functionality

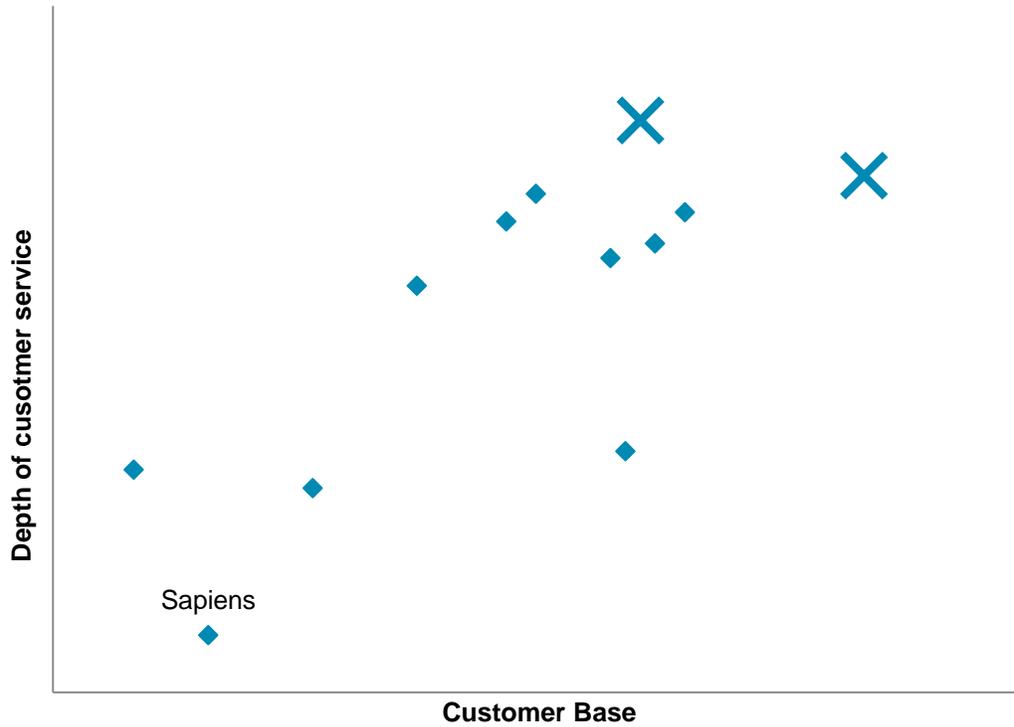


Source: Celent

XCELENT CUSTOMER BASE AND XCELENT SERVICE

Figure 3 positions each vendor along two dimensions: the vertical axis displaying the relative level of depth of customer service and the horizontal axis displaying the relative customer base.

Figure 3: 2017 Customer Base and Depth of Customer Service



Source: Celent

Celent advises insurers to take into account past vendor results, but not to compare the placement of vendors in the charts from prior years because not only is the market changing, but so has our analysis. The criteria used to determine the A, B, C, and D rankings in this report are broadly similar, but not identical, to the criteria used in the previous Celent PAS vendor report published in 2015. For example, in this report we are considering new criteria in Advanced Technology related to integration capabilities and in the Features tab related to digital extension capabilities. We changed how we consider lines of business in production as that is a key determinant of product experience. The market is also evolving due to acquisitions and partnerships, solutions development, and alternative delivery models.

We suggest that insurers consider their specific needs and each vendor for what it offers. Although they are very successful in one or more of the criteria, the XCelent Award winners may not be the best match for an insurer's specific business goals and solution requirements.

VENDOR PROFILES

ABOUT THE PROFILES

Each of the profiles presents information about the vendor and solution; professional services and support capabilities; customer base; functionality and lines of business deployed; technology and partnerships; and implementations and cost. As stated earlier, if a system was included in the ABCD Vendor View analysis, the profile also includes customer feedback and Celent’s opinion of the system and the vendor.

When discussing insurance customers of the various solutions, the profiles may use the terms very small, small, medium, large, and very large insurers. Very small insurers (Tier 5) have less than US\$100 million in annual premium; small (Tier 4) have US\$100 million to \$499 million; medium (Tier 3) have US\$500 million to \$999 million; large (Tier 2) have US\$1 billion to \$4.9 billion.

CUSTOMER FEEDBACK

If included in the ABCD Vendor View analysis, the vendor’s reference feedback gathered through the use of an online survey is presented in the profile. Customer feedback sections include a diagram that displays the average ratings given to the vendor in five categories. Each average rating includes up to eight underlying ratings shown in Table 2 scored by the customer on a scale of 1 to 5, where 1 means poor and 5 is excellent.

Table 2: Customer Feedback Ratings

DIAGRAM AVERAGE (QUESTION ASKED)	RATINGS INCLUDED IN AVERAGE*
FUNCTIONALITY (How would you rate the features and functions you are currently using?)	Producer/agent portal Policyholder portal Customer service desktop Underwriter desktop / underwriting and case management Product configuration/definition and maintenance Workflow / business process design Business rules Document management Business intelligence Analytics Billing Claims management Commission management Reinsurance management Regulatory reporting
USER EXPERIENCE (Do the following users find this system EASY AND EFFICIENT to use? Using a 1 to 5 scale, where 1 is very difficult to use and 5 is very easy to use)	Underwriters Underwriter support staff Policy service staff System administrators Business analysts (doing configuration)

DIAGRAM AVERAGE (QUESTION ASKED)	RATINGS INCLUDED IN AVERAGE*
TECHNOLOGY (How would you rate the TECHNOLOGY of this solution on a scale of 1 to 5 where 1 means Very Poor and 5 means Excellent?)	Ease of system maintenance Flexibility of data model Scalability Continuous improvements in technical performance Configurability Ease of integration with internal and external data/systems
IMPLEMENTATION (If you are familiar with the original implementation of this system at your company, how would you rate this vendor in the following areas?)	Responsiveness Project management Implementation completed on time Implementation completed on budget Overall project success Knowledge of your business
SUPPORT (After implementation, how would you rate the vendor's professional services staff in the following areas?)	Skill and knowledge of professional services staff Timeliness of responses to service requests Quality of response to service requests Cost of services Overall value of professional services

Source: Celent

*Scale 1 to 5, where 1 is poor and 5 is excellent. Not Applicable or No Opinion not included in average.

FUNCTION CATEGORY

Each profile includes a diagram outlining available end-to-end components and the features/functions availability within the systems. The legend describes the color coding for each feature or component; colors were chosen based on the vendor having the majority of possible options in that color. The following table list the features considered for each category:

Table 3: Category Function

CATEGORY	FEATURES
DESKTOP	Customer Service Desktop for policyholder service Email generation
CLIENT CENTRICITY	Supports the ability for client to be an insured/payor/owner on separate policies
PORTAL	Producer Portal Prospective Customer Portal Policyholder Portal
QUOTE/ILLUSTRATION	Performs basic illustration calculations, such as policy values and premium amounts Performs complex illustration calculations, such as solves for different variables Performs basic solve for calculations Performs complex solve for calculations Calculation and side by side display of multiple quotes Ability to create and display illustration output

CATEGORY	FEATURES
APPLICATION	<ul style="list-style-type: none"> Electronic application Dynamic interviewing Ability to upload or import application to avoid data entry Electronic signature
DATA SERVICES	<ul style="list-style-type: none"> Integration and prefill with data from external data services Can upload or import data from Excel
UNDERWRITING	<ul style="list-style-type: none"> Underwriters desktop / workstation Automated underwriter assignment Pre-configured ordering and receiving third party data Automated, rule-based underwriting using third party data
PREMIUM CALCULATIONS	<ul style="list-style-type: none"> Includes an actuarial calculation engine Rate table design and update management tools Rating rules and formulas externalized from programming code Rating algorithm definition and management maintained separately from rate tables Date management capabilities - the ability to manage multiple dates based versions of rate, table, or algorithm changes. Ability to use external party information sources into rate algorithms during real-time calculation
CLAIMS	<ul style="list-style-type: none"> Ability to receive notice of claim and track production statistics Automatic tracking of the status of any requests in relation to a claims case Predefined selection of causes of claims Automatic benefits calculation Automatic calculation of tax reductions and application of interest Claims handling dashboard showing status of claims
WORKFLOW/AUDITING	<ul style="list-style-type: none"> Workflow Management Workflow Management graphic design environment, with automated code generation Business Rules Management Reusable, sharable rules Rules repository Unlimited number of rules can be assigned to a single role Automated work flow alerts, e.g., bottlenecks, past dues Manager-level reports/audit/review capability by staff person Manager-level reports/audit/review capability by work group Ability to track changes in audit logs Configurable data logs in audit function of tracking changes

CATEGORY	FEATURES
SECURITY	<ul style="list-style-type: none"> Role-based security Authority within roles extends to all data fields and functions Authority for an individual user extends to all data fields and functions
PRODUCT MANAGEMENT	<ul style="list-style-type: none"> System supports a product dictionary/repository Ability to design and manage product-specific rules Ability to design separate state specific processing Testing, modeling and product analysis tools are included Underwriting rule definition and management maintained separately from rate rules Product filing management
REINSURANCE	<ul style="list-style-type: none"> Ability to manage and track reinsurance - both treaty and facultative
BILLING	<ul style="list-style-type: none"> Premium Accounting Specification of billing parameters
DIGITAL EXTENSIONS	<ul style="list-style-type: none"> Features related to integration with wearables Features related to integration with robo advisors Features related to integration with chat bots Personalized video based interaction Web recording and replay
DISTRIBUTION MANAGEMENT	<ul style="list-style-type: none"> Calculate and administer commissions Ability to support producer hierarchy management Producer validation and tracking
DOCUMENT MANAGEMENT	<ul style="list-style-type: none"> Includes a content repository/content management tools Can link and display mages, emails, documents, or other file types with the applicable record
DOCUMENT CREATION	<ul style="list-style-type: none"> Document creation tools Multi-channel delivery and output Configurable business rules to support advanced personalization, multiple jurisdictions, languages and output channels
FORMS MANAGEMENT	<ul style="list-style-type: none"> Ability to design and manage product-specific forms Ability to use overlapping dates on forms during product rule transitions Forms can be attached automatically through configurable rules or manually Ability to store templates, to assemble contracts for specific states or jurisdictions, and to store the contract. Insurance document generation E-delivery of insurance documents including contracts and forms

CATEGORY	FEATURES
REPORTING/ANALYSIS	Business intelligence and analytics Management reporting dashboard Management and Financial Reporting Data Store User defined ad hoc reporting
TPA	Ability to track hours/activities Ability to manage different fee schedules Ability to assign to external adjusters

Source: Celent

IMPLEMENTATION PRICING ESTIMATES

Concerning implementation costs and fees, Celent asked vendors to provide information about license and implementation costs (work by the insurer, vendor, or third parties) for two hypothetical insurance companies:

- Insurance Company A, a small insurer, with direct written premium (DWP) of US\$250 million.
- Insurance Holding Company B, with four operating companies, writing multiple lines of business in five or more states, with a total combined DWP of \$2.1 billion.

For these two scenarios, we have asked vendors to provide information on various price elements including license, vendor fees, third party fees and maintenance. The maintenance figure is a percentage of the license fee per annum if not stated otherwise. The vendor fees are the total insurer out of pocket implementation costs including license, customization, etc. to be paid to the policy administration system vendor. Third party fees include implementation costs paid to other third party system integrators.

SAPIENS INTERNATIONAL: ALIS

COMPANY

Sapiens is a publicly traded company headquartered in Holon, Israel with sales and professional services personnel located throughout the North American, European, Middle Eastern, African and Asia-Pacific regions. Sapiens’ business is providing software and services to the insurance banking and capital markets industries. The company has 2,500 employees, of which 600 are available to provide professional services / client support for their Life PAS solution. There are 190 physically located in North America.

The last user conference was in Atlanta in 2016. The conferences are held annually. More than 150 participants were in attendance, including insurance and financial services customers, prospects and analysts from 13 countries. The agenda included presentations on key topics of interest to all insurance companies such as artificial intelligence and machine learning. In addition, there were specific sessions for for General Insurance/Property and Casualty (P&C), Life and Pension (L&P), and Business Decision Management. There was also an Analysts’ Corner discussion featuring analysts from Novarica, Celent, and Aite Group, live demos of the P&C and L&P digital journey (including business intelligence and analytics, portal/user experience platform, core products and partners), and multiple customer case studies with leading P&C and L&P organizations, including decision management.

Table 4: Company and Product Snapshot

COMPANY	Annual corporate revenues	\$ 216 million
	Year founded	1982
	Exchanges/Symbols	SPNS (TASE and NASDAQ)
	Headquarters Location	Global: Holon, Israel
PAS SYSTEM	Name	ALIS
	Current release and date of release	The current version number is 7, which was released in July 2017.
	Release intervals	Minor enhancements: 2-3 time a year Major enhancements: Once a year
	Upgrades	Insurers must upgrade by going from one version to the next sequentially (e.g., 4.0 to 5.0). Vendor support for prior versions: They support current versions and more than two prior but not all versions.
	Target market	Typically tiers 1-3, with various LOBs across Individual & Group

Source: Sapiens

CELENT OPINION

Sapiens ALIS 7 is a single platform system that administers individual, group and employee benefits business. It supports multiple lines of business for life, annuities, investments and medical products. Since our last review, Sapiens added group and employee benefits product lines.

In February 2017, Sapiens acquired StoneRiver, Inc., obtaining Life Apply, Lifesuite and LifePortraits front end solutions and a North America based staff. Celent believes this acquisition will help Sapiens accelerate its growth in the US and Canadian markets.

ALIS provides a comprehensive designer tool for configuration and creation of new products or product changes. Templates are provided for products and line of business. A drag and drop capability is available to build the rules. Existing rules can be reused via inheritance or copy mechanisms. ALIS provides a web-based wizard configuration process, Decision, for maintaining business rules. The configuration user interface is clean. While not intuitive, it is easy to see that with training the configurator can be done by a skilled business user. This is especially true for changing product parameters.

Rating and pricing algorithms are supported through the ALIS formula engine which allows for rating to be extended beyond a rate table lookup to be a calculated value, a combination or an adjustment to a rate. Formulas can be defined either in the ALIS rules engine, externally or in MS Excel. Sapiens provides a plug-in for MS Excel as part of a deployment that allows for excel spreadsheets to be executed by ALIS as part of a calculation.

Sapiens client portal provides a modern user interface which displays the client information in an easy-to-use format. Clients can complete a new application on the portal using the traditional method of filling out the application or via a chatbot that asks reflexive questions to complete the application. The chatbot is integrated with IBM Watson artificial intelligence technology. The chatbot technology is not yet in production. Esignature is integrated into the portal.

The agent portal design matches the client portal. It is well laid out and provides a summary of the agent's activity on the dashboard, policy details for pending and in-force policies, and current and historical commissions.

A dashboard is provided to the internal user with a view of the information on the client: coverages, agent, relationships, etc. The user can initiate processing from the dashboard.

Simple workflow support is available. ALIS is commonly integrated with such tools as OnBase, AWD, etc. if a visual tool is desired to maintain the workflows.

Sapiens has a partnership agreement with Life.io focusing on lifestyle and wearable integration. The integration capability allows for wearable data to be consumed by ALIS and used as required for pricing, underwriting, claims, customer communication, or portal interaction.

Personalized videos for policy packets, alerts, up-sell and cross-sell, and education are provided via integration with Idomoo video tool.

Business intelligence is provided via Sapiens Intelligence, a business analytics solution. Sapiens Intelligence is preintegrated to all Sapiens solutions providing for data to be extracted to a defined semantic layer holding Insurance Data Marts, the data is then aggregated to a comprehensive Financial Services data model which enables full corporate data warehouse capability and reporting. Sapiens is currently enhancing this

proposition with a predictive capability scheduled for Q4 2017. The underlying technology framework is SAP Analytics with Business Objects and Lumeira for Data visualization.

Sapiens has continued to invest in ALIS adding capability and additional product support to an already capable system. Celent believes that insurers looking a policy administration system with modern technology, a breadth of product support, and user-friendly portals should consider the ALIS system.

OVERALL FUNCTIONALITY

The majority of the functionality is available out of the box. Exceptions include forms management, which is available with integration to a third party solution, and application, digital, and reporting/analysis, which are available with integration to a separate module provided by this vendor.

Figure 4: Functionality

SUITE FUNCTIONALITY		CATEGORY FUNCTIONALITY		
Illustrations	NBUW	Desktop	Client Centricity	Portal
Billing	Claims	Quote/illustration	Application	Data Services
CRM	Reinsurance	Underwriting	Premium calculations	Claims
Product design/dev	Distribution Management	Workflow/auditing	Security	Product Mgmt
Producer Portal	Prospective Cust. Portal	Reinsurance	Billing	Digital Extensions
Policyholder Portal	Business Intelligence	Distirbution Mgmt	Document Mgmt	Document Creation
		Forms Management	Reporting/Analysis	TPA

 Yes – integrated into the policy admin module	 Available out of the box	 Available with integration to a separate module provided by this vendor
 Yes – separate module	 Available with integration to a third party solution	 Configurable using simple tools targeted for a business user
 Yes – through a formal partnership with another vendor	 Configurable using tools targeted to IT users	 Configurable through a scripting language
 No	 Coding required	 Under Development
 On the roadmap	 Not available	 Could develop (would be considered customization)
		 Not applicable

Source: Sapiens

CUSTOMER BASE

They have a total of six insurer clients in production with their system. The breakdown of their client base is as follows: Tier 2 (three clients), Tier 4 (two clients). There is one TPA client. There is one system under implementation.

Table 5: Customer Base

NORTH AMERICAN CUSTOMER BASE	In production with prior release/version	2 are on latest version. 4 are on older version.
	New clients since 2015	US: 1
	Deployment method (percentage of client base)	On Premise: 100%

Source: Sapiens

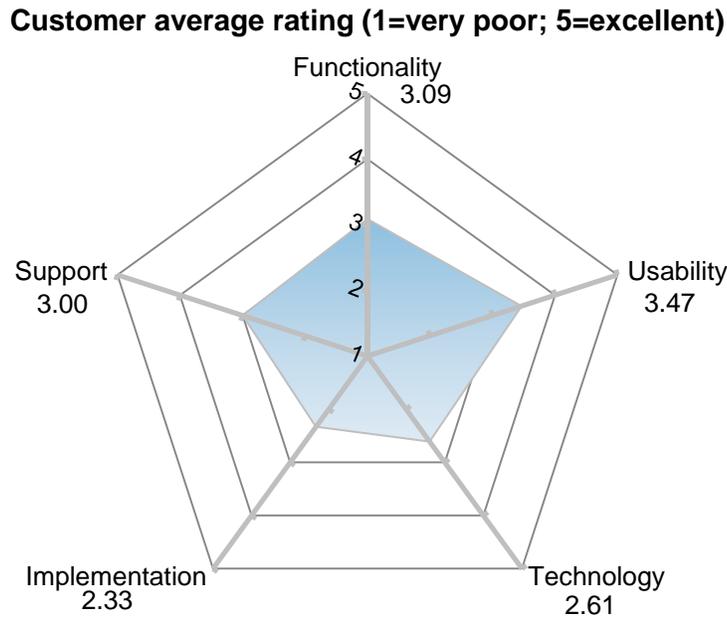
CUSTOMER FEEDBACK

Three clients provided feedback on ALIS. Two of the clients have been using the system for one to three years. One client has been using the system for more than three years. Two clients are located in the United States. One client is located in Canada.

All clients are using the system for individual life. One client is using the system for group/voluntary life.

Functionality received above average scores overall and within functionality, customer service desktop received the highest score while producer/agent portal received the lowest scores. Usability scores were above average and within the category, underwriting was a highlight and the ability for business analysts to do configuration was noted as an area that can be improved. Comments on the technology were below average. The configurability provided the highest satisfaction and scalability scores were less satisfactory. Regarding their implementation experiences, insurers gave below average marks with responsiveness (handling of issue resolution) receiving the best rating and implementation completed on time receiving the lowest marks in the category. Finally, the support was rated above average overall. The skill and knowledge of professional services staff received the highest score while cost of services received the lowest score. Clients said the two or three best things about the vendor were the intuitiveness of the system, the development and incorporation of the services layer and the implementation of new/similar products during configuration. They suggested improvements for the system response time, the lack of an industry standard solution option that does not require customer specific customization for every component of industry products, and the lack of adequate functional or technical documentation for the system.

Figure 5: Customer Feedback



Source: 2017 Celent Life PAS customer feedback survey

LINES OF BUSINESS SUPPORTED

Table 6: Lines of Business Supported

LINE OF BUSINESS	INDIVIDUAL		GROUP	
	AVAILABILITY	NUMBER OF CLIENTS IN PRODUCTION	AVAILABILITY	NUMBER OF CLIENTS IN PRODUCTION
TERM LIFE	In production today	4 (4 production, 1 implementing)	Supported but not in production	0
WHOLE LIFE	In production today	4 (4 production, 1 implementing)	Supported but not in production	0
UNIVERSAL LIFE	In production today	2 (1 production, 1 implementing)	Supported but not in production	0
INDEXED UNIVERSAL LIFE	In production today	2 (1 production, 1 implementing)	Supported but not in production	0
VARIABLE UNIVERSAL LIFE	Supported but not in production	Supported	Supported but not in production	0
SENIOR OR PRE-NEED PRODUCTS	In production today	3	N/A	N/A

LINE OF BUSINESS	INDIVIDUAL		GROUP	
	AVAILABILITY	NUMBER OF CLIENTS IN PRODUCTION	AVAILABILITY	NUMBER OF CLIENTS IN PRODUCTION
FIXED ANNUITIES	In production today	2	Supported but not in production	0
ENHANCED/IMPAIRED ANNUITIES	Supported but not in production	0	Supported but not in production	0
VARIABLE ANNUITIES	Supported but not in production	0	Supported but not in production	0
ACCIDENTAL DEATH OR DISMEMBERMENT	In production today	3	Supported but not in production	0
SHORT-TERM DISABILITY	Supported but not in production	in production for non-US customers	Supported but not in production	0
LONG-TERM DISABILITY	Supported but not in production	in production for non-US customers	Supported but not in production	0
LONG-TERM CARE	Supported but not in production	0	Supported but not in production	0
INCOME PROTECTION	Supported but not in production	in production for non-America customers	Supported but not in production	0
CRITICAL ILLNESS	In production today	2	Supported but not in production	0
VISION INSURANCE	Supported but not in production	0	Supported but not in production	0
DENTAL INSURANCE	Not supported	In development	Not supported	In development
CREDIT INSURANCE	Supported but not in production	in production for non-US customers	Supported but not in production	Supported
ASSISTANCE PROGRAMS / OTHER CONCIERGE SERVICES	Not supported	can be configured/customized	Not supported	can be configured/customized
PENSION (INDIVIDUAL, GROUP DEFINED CONTRIBUTION, ETC.)	Supported but not in production	0	In production today	0
GROUP PENSION (DEFINED BENEFIT)	N/A	N/A	Not supported	
WRAP	Supported but not in production	0	Supported but not in production	0

LINE OF BUSINESS	INDIVIDUAL		GROUP	
	AVAILABILITY	NUMBER OF CLIENTS IN PRODUCTION	AVAILABILITY	NUMBER OF CLIENTS IN PRODUCTION
SAVINGS (BONDS, MUTUAL FUNDS, ETC.)	Supported but not in production	in production for non-America customers	Supported but not in production	0
DRAW-DOWN	Supported but not in production	in production for non-America customers	Supported but not in production	0

Source: Sapiens

TECHNOLOGY

The primary UI for business users, developers and configurers is browser based. The technical architecture is a distributed multi-tier application, scalable vertically and horizontally. The main features are a scalable n-tier architecture (web based system with UI and UX), web-based thin client, SOA architecture, and a ready-made digitized environment providing straight-through processing.

The UIs and process flows are designed to be mobile device-independent. The solution does not natively support mobile apps.

Table 7: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<p><u>Core technology</u>: Java: 60%, C++: 30%, and JavaScript: 10%</p> <p><u>Business users</u>: Java: 60%, C++: 30%, and JavaScript: 10%</p> <p><u>Developers</u>: Java: 70% and C++: 30%</p>
OPERATING SYSTEMS	<p>Implemented in JEE/Java</p> <p>Operating systems deployed on: The majority of clients are choosing Windows as their platform to run ALIS, though Linux/Unix are also supported</p> <p>Planned change to code base: ALIS 2020 plan includes the transformation of C++ business layer to Java</p>
APPLICATION SERVERS	Tomcat 7,8.5, WebSphere 8.5
DATABASES	<p>Preferred: Microsoft SQL Server</p> <p>Additional options: Oracle, DB2/UDB</p>
INTEGRATION METHODS	<p>Preferred: Web Services</p> <p>Additional options: ACORD Standard XML, RESTful HTTP style services</p> <p>Public API integrations: MIB, BACS, inteliscript</p>
SCALABILITY	Largest deployment: 200 users and 1,800,000 policies

Source: Sapiens

The vendor provides documentation and training for API integrations. External systems can trigger events in the system which can be responded to by a workflow or business rule. A good example of this is a “follow-up” feature, which triggers an internal event. Based on the client’s requirements, such events can be made external and call a third party system.

Carriers do not have access to the core code. A configuration tool targeted to a business user is available for insurance product definition. Role-based security integration is configurable using tools targeted for an IT user. Screen definition is configurable through a scripting language. Interface definition and data definition require coding if it is a new interface. Workflow definition and business rule definition are fully configurable. Changes to the system are possible through reusable components, inheritance, and other schemes. All product components (including product features, coverages, benefits, transactions, rules and calculations) are reusable for multiple products.

In North America, the system is preintegrated with Melisadata and Trillium for address verification, MIB and Intelliscript for third party data services, TrueProducer (Calidus) and CSC for agent management systems, SAP-BI for analytics solutions, SAP-BI for business intelligence systems, SAP-BI for data mastery, master data management tools and SAP-BI, for data warehouse, Freedom, Lawson financials, PRO financials (StoneRiver) and SmartStream for general ledger, IMD, AWD and eCase for business process management systems, Freedom financials, BillMatrix and FTNI for billing systems, DocuMaker, Xpression (EMC), FileNet and Open text for document management systems, Freedom financials, BillMatrix and FTNI for payments systems (disbursements), LifePortrait for illustrations, LifeApply for e-applications, LifeSuite and LifeNet for new business and underwriting, Siebel for crm, Sapiens Portal for producer portal (quick quote, illustration, bind, issue), Sapiens Portal for prospective customer portal (quick quote, illustration, bind, issue), and Sapiens Portal for policyholder portal (inquiries and transactions for in-force policies).

Product changes are done manually based on the solution approach and can be tested in a standard way using common tools. They provide a set of prebuilt tests. A restart is required for technical system changes such as new web service creation, data model changes, and screen changes.

PARTNERSHIPS

Although they don't typically work with system integrators, they do have partnerships in place when it is required. They have partnerships with Deloitte, Cognizant, Wipro, and HCL.

IMPLEMENTATION, PRICING, AND SUPPORT

The vendor has 190 staff in the region. The preferred implementation approach is a hybrid of Waterfall and Agile. A typical project team of 15 to 20 FTEs people consists of resources from the insurer (25%) and Sapiens (75%). Service-level agreements are offered. Main SLA services include:

- Error management and reporting.
- Error fixing.
- Call center during business hours.
- Right to receive periodic ALSI upgrades.
- Bank of consultancy hours.

The average time to get the first line of insurance live in a single jurisdiction is typically seven to 12 months depending on the integration requirements and the level of configuration required, with second and subsequent lines taking four to six months in the same jurisdiction. Second and subsequent jurisdiction implementations typically take one to three months.

Sapiens offers term license, perpetual license, SaaS, subscription, and risk-based pricing options. The license fees are typically based on number of functional components/modules, premium volume, number of states or geographies, and enterprise

license / flat fee. Their implementations are either T&M-based, or fixed price based. Carriers may also need to license the following third party software: servers' operating systems, databases, and browser.

The total cost to implement ALIS can vary according to the capabilities and available resources of the client and the overall scope of system use.

Table 8: Pricing Estimates

INSURER SCENARIO	LICENSING	VENDOR FEES	THIRD PARTY FEES	MAINTENANCE FEE / OTHER
<p>IMPLEMENTATION COSTS ONLY: ASSUME TWO YEAR IMPLEMENTATION PERIOD</p> <p>Regional Insurance Company is a single licensed company that writes in five states, for life/annuity producing annual DPW of US\$200 million. What would be typical costs paid by the insurer over the course of the two years?</p>	US\$500,000 to US\$1 million	US\$1 million to US\$5 million	No cost, not applicable	20%
<p>POST-IMPLEMENTATION COSTS FOR ONE YEAR ONLY</p> <p>Regional Insurance Company is a single licensed company that writes in five states, for life/annuity, producing annual DPW of US\$200 million. What would be typical costs paid by the insurer over the course of one post-implementation year?</p>	US\$500,000 to US\$1 million	US\$1 million to US\$5 million	No cost, not applicable	20%

INSURER SCENARIO	LICENSING	VENDOR FEES	THIRD PARTY FEES	MAINTENANCE FEE / OTHER
<p>IMPLEMENTATION COSTS ONLY: ASSUME FOUR-YEAR IMPLEMENTATION PERIOD</p> <p>National Insurance Holding Company has four life companies, writes in 32 states, across multiple life/annuity/health lines of business, and has DPW of \$2.0 billion. What would be typical costs paid by the insurer over the course of the four years?</p>	US\$1 million to US\$5 million	US\$5 million to US\$10 million	No cost, not applicable	20%
<p>POST-IMPLEMENTATION COSTS FOR ONE YEAR ONLY</p> <p>National Insurance Holding Company has four life companies, writes in 32 states, across multiple life/annuity/health lines of business, and has DPW of \$2.0 billion. What would be typical costs paid by the insurer over the course of the four years?</p>	US\$1 million to US\$5 million	US\$5 million to US\$10 million	No cost, not applicable	20%

Source: Sapiens

CONCLUSION

Most insurance executives will only get one chance to complete a successful technology modernization at their current organizations. The following are some key points to set the stage for a successful modernization project.

- Leadership is essential. A technology 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. 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. Include human resources as part of the leadership team. Effective change management is necessary for a successful project.
- Build the 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 the executives. Modernization 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 the right resources. Generally, a modernization 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 best team to deliver this project. Don't forget rewards and recognition at milestone deliveries of the project team, including partners and vendors.
- Establish strong program governance. This recommendation may be predictable, but can be overlooked. 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-term and long-term cost of customization will introduce risk to the program and the overall maintainability of the solution. Whenever possible, stay with the base system and adopt the processes that come with it.

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