



Digital Systems & Technology

How APAC Insurers Can Modernize with Next-Gen Digital Policy Administration Systems

Insurers across the Asia-Pacific region need to rethink their PAS strategies to keep pace with customer demands and stay relevant. Based on our engagement experiences with a variety of insurers, we offer our perspectives and a model for business success in the digital world.

Executive Summary

Across the Asia-Pacific (APAC) region, insurers are experiencing disruptive business-technology shifts like never before. Customer expectations are changing across customer segments – from millennials to older folks, through high-net-worth individuals (HNIs) and expat populations. Meanwhile, distribution channels have expanded to include digital brokers such as aggregators and nontraditional partners looking to bundle insurance along with their offerings.

New-age risks are also coming into view, with the emergence of the Internet of Things (IoT) and other technologies that are transforming business across industries. Insurtechs have entered the market with differentiating and competitive positioning, which is pushing traditional carriers to rethink their business and operating models. (For more on this topic, please read our white paper "[Setting Up a Successful Insurance Venture.](#)")

Insurers across the region must differentiate through innovative products such as parametric and usage-based insurance, enhance their customer-centricity, explore alternate distribution channels, increase their operational agility and seek ways to adapt to business changes. As insurers navigate these disruptions, many have realized that their existing policy administration system (PAS) or core system does not have the capability required to keep pace.

There is an increasing, albeit delayed, understanding among insurers that the foundational components of yesterday's PAS – architecture, tech stack and functionality – contribute to reduced flexibility and scalability challenges and digital readiness. Most have realized that patching or incrementally upgrading legacy systems is suboptimal: It is expensive and undermines the very agility that businesses seek. Numerous questions loom in this scenario: Are we building tomorrow's legacy? What is the risk of maintaining the status quo? How will change affect business as usual? How expensive is this? How long will it take to implement?

The accelerated pace of digital change has many industry leaders wondering if they are on the right track, and all the uncertainties noted above make it hugely challenging to establish a convincing business case. Therefore, a rethinking and redeployment of PAS is critical for APAC insurers to achieve current objectives and ensure future success. Our discussions with carriers have made it clear that the traditional way of approaching a PAS overhaul is untenable. Core functional capabilities are table stakes. Essential features of a future PAS will be the ability to accommodate ever-changing business models and flexibility in supporting nontraditional distribution channels or an ecosystem-driven insurance business, such as one that includes insurtechs.

The overall need is for an enterprise PAS strategy, involving business, digital and technology change levers. This white paper presents the capabilities of a future-ready PAS, explains the relevance of an enterprise makeover and examines the solution blocks for end-to-end holistic PAS transformation.



Importance of PAS modernization

Historically, APAC insurers developed separate PAS systems to support specific product lines or markets. Subsequent industry consolidation, channel expansion and globalization has created a veritable Gordian knot where it is difficult for insurers' PAS landscapes to interoperate with other operational systems and to flex with changing business requirements. The impact is bound to be higher on the life insurers than the general insurers since life policies are usually long term, which presents issues during modernization related to data tendencies and integration/migration.

Policy administration improvement is being driven by several converging needs: to shorten

time-to-market with product innovations/upgrades, improve responsiveness to regulatory changes and offer hyper-personalized customer experiences.

More than 80% of our clients across the APAC regions are either just embarking on a PAS transformation journey or are already on their way.¹ Moreover, more than 70% of the APAC insurers' 2019 IT budgets was spent on PAS enhancements/modernization initiatives, according to market researcher Celent.² Most of these initiatives are focused on modernizing decades-old platforms and thus entail major data and code migration efforts. Insurers typically follow one of the options in the table on the following page.



The five R's of PAS modernization

REVITALIZE

Build digital fabric around legacy core systems – adoption of a portal strategy, data analytics.

| A leading HK-based life insurer wanted to enhance the customer experience layer with an integrated workflow.

RE-PLATFORM

Migrate the PAS platform from current infrastructure to cheaper, modern, more robust option.

| APAC entity of a leading global life insurer wanted to remediate applications and convert mainframe code to cloud-based technologies.

REPLACE

Migration to adaptive, modern-rule-based PAS, enabling rapid product launch, improved service & enhanced experience.

- | Leading Australia-based GI insurer wanted to modernize its current PAS by leveraging best-in-class COTS products.
- | Leading Middle East insurer is looking to replace its legacy COTS with a custom build solution.
- | Global insurer in Japan is replacing its legacy COTS with a leading insurtech solution.

REENGINEER

Core system modernization and decentralization to microservices-based architecture & APIs.

- | A leading Malaysia-based insurer wanted to transform IT to support digital business based on Agile, modular operating platforms & higher efficiency.
- | Global insurer in Australia is defining digital business models and reengineering PAS 3.0, aligned to Agile/futuristic themes.

RESTRUCTURE/ RENDER AS A SERVICE

Existing PAS deconstructed as system of records

| Leading HK insurer wanted to look beyond a classic PAS; instead, it sought to convert existing ones into a simple system of record while business process capability is rendered externally using specialized modular solutions.

Figure 1

Impediments in the PAS modernization journey today

Insurers have embraced various PAS modernization strategies, based on their operating models, budgets and product considerations (see Figure 1, previous page).

Each approach has its pros and cons. For example, “Revitalize” enables digital channel options to fine-tune customer experience. However, it does not contribute much to cost or process efficiencies. “Replace” unlocks high business benefits, but it is the most expensive of the various approaches. “Restructure” provides the greatest process and cost efficiencies, but the dependency on vendors increases drastically.

These PAS transformation approaches have yielded mixed results. Some of insurers’ common concerns include:

I Which way is the right way? Insurers worry that they are building a PAS that is not adequately future-ready. This concern is partly fueled by uncertainty over business requirements vs. customization cost

tradeoffs when implementing third-party software.

I What is the overall business case? Insurers are building phase-wise business cases focusing on cost and technology improvements and do not have a strong overarching business case.

I What is the critical path? In our experience, insurers are blaming cost and budget overruns on unforeseen implementation delays. These delays are usually associated with improper planning of business requirements such as external integrations. This is especially problematic for insurers seeking operational consistency across all their regional entities while satisfying local (often regulatory) requirements.

I How do I manage change? Insurers are unclear on how to manage change during the transition to the new PAS.

Don’t build tomorrow’s legacy

The PAS landscape is evolving quickly. Prior to 2010, technology consolidation was a common theme among APAC insurers. This was motivated partly by desired IT cost reductions and improvements in operational efficiencies, which pushed carriers to transition from homegrown stand-alone systems to integrated PAS solutions. Sadly, little has changed since then. As a result, some carriers ended up with monolithic PAS platforms – either built in-house or bought from leading vendors to ensure comprehensive best-of-breed functionalities across the value chain.

The early 2010s saw the rapid entry of digital, which powerfully disrupted the insurance market. While

online, mobile and social technologies transformed the user experience, the next-gen exponential digital stack such as Internet of Things and AI brought forth seismic shifts in the insurance product and business models. For example, manufacturers sought to bundle insurance into their products or services, and millennial customers wanted on-demand insurance solutions. As a result, life and general insurers must incorporate capabilities that support these requirements. The insurtech floodgates also opened, unleashing new digital solutions with improved functionality and usability at scale. Figure 2 (next page) depicts emerging business model scenarios for next-gen insurers, focusing on PAS capabilities that are required.

Globalization has created a veritable Gordian knot where it is difficult for insurers’ PAS landscapes to interoperate with other operational systems and to flex with changing business

How PAS is evolving

	REPRESENTATIVE NEAR REALITY SCENARIOS		KEY CAPABILITIES THAT WILL MATTER
	LIFE AND HEALTH	GENERAL INSURANCE	
USAGE-BASED INSURANCE	Customer gets loyalty benefits based on his lifestyle, as measured by his wearable device.	Customer uses his personal car for sharing purposes. At the end of every month, he receives an additional premium for only the exact amount of miles he has driven while sharing.	<ul style="list-style-type: none"> Manage benefit riders and primary coverage in the same PAS. Flexible & real-time underwriting, pricing & premium billing capabilities. Flexible integration with IoT data providers.
UNBUNDLING OF PRODUCTS	Customer buys primary coverage from insurer A, a rider from insurer B and another rider from insurer C through an aggregator.	Customer buys TV coverage from insurer A, fridge coverage from insurer B and home content excess coverage from insurer C through an online broker.	<ul style="list-style-type: none"> Modularized and flexible product configurations. Externalized rating/quoting system and downstream integrations with external online platforms. Aligned claim processing capabilities.
JUST-IN-TIME INSURANCE	Customer walks into a retail store, gets offered a low premium term policy along with its bill and opts to buy it.	Customer buys a car accessory, gets offered theft coverage which he pays along with the overall bill.	<ul style="list-style-type: none"> Externalized rating/quoting system and downstream integrations with partner vendors.
SUBSCRIPTION-BASED PRODUCTS	Customer plans on a weekend hike and selects to increase his health insurance coverage for the event.	Customer switches on liability coverage for the day as he is expecting guests for dinner.	<ul style="list-style-type: none"> Flexible policy management capabilities (effective/expiry dates, limits, coverages/riders, renewals, midterm adjustments).
PARAMETRIC INSURANCE	Customer buys parametric gestational diabetics products, with a claim paid immediately when diabetes is detected during pregnancy.	Customer buys a parametric travel insurance policy, with claims being paid out on flight delays.	<ul style="list-style-type: none"> Integration with 3rd-party sources (hospitals, travel agencies, data aggregators, etc.). Flexible rules engine and automated claim processing.
ECOSYSTEM-DRIVEN DISTRIBUTION	Customer goes to renew his gym subscription, gets offered a personalized health insurance plan.	Customer goes to a showroom to buy a washing machine, gets a personalized warranty quote based on his AC service history.	<ul style="list-style-type: none"> Scalable upstream/downstream integrations with dynamic ecosystem of vendors. Automated, real-time and AI-based underwriting and pricing of policies.
AUTOMATED PROCESSING	Customer buys a term policy and the policy document is generated instantly.	Customer has a crash. An automated FNOL is created based on telematics data; the claim is adjudicated and paid out in less than five minutes.	<ul style="list-style-type: none"> Subscribe to 3rd-party services & other data sources. Integrate with IoT data in real time. AI-driven capabilities to enable intelligent underwriting and claims processing.
NEW USER INTERFACES	Customer receives a life insurance quote on his Apple Watch, selects to buy and pays through Apple Pay.	Customer requests a home insurance quote through his Alexa device.	<ul style="list-style-type: none"> Integrate (and process transactions) with newer interfaces like wearables, voice assistants and telematics devices. Enable next generation of digital engagement beyond portal and mobile with insurance-specific content for personalized customer experiences.

Figure 2

Next-generation PAS environments will require greater flexibility, agility, scalability and embedded automation than today's offerings. As such, they will represent the next wave of insurance industry offering built on the concept of "granularization." In fact, leading insurers are exploring the possibility of building granular containers (read, APIs and microservices). These blocks can be used as a connection locus with the external and internal interfaces. Figure 3 depicts the waves of PAS architecture change.

The industry is already showing signs of architectural evolution, and in some cases, revolution. In the

quest of greater flexibility, agility, scalability and automation, a few leading APAC insurers are looking to adopt an outcome-as-a-service model. Insurers can be freed from managing these processes and the PAS application. Business requirements and rules will be controlled by the insurers, and the outcomes will be the responsibility of the vendor. Such a model is already being explored by life insurers for their nonstrategic application blocks like closed book management. Vendors that specialize in the PAS-as-a-service model are few today. However, it is not far away from becoming mainstream.

PAS architecture waves: Past, present & future

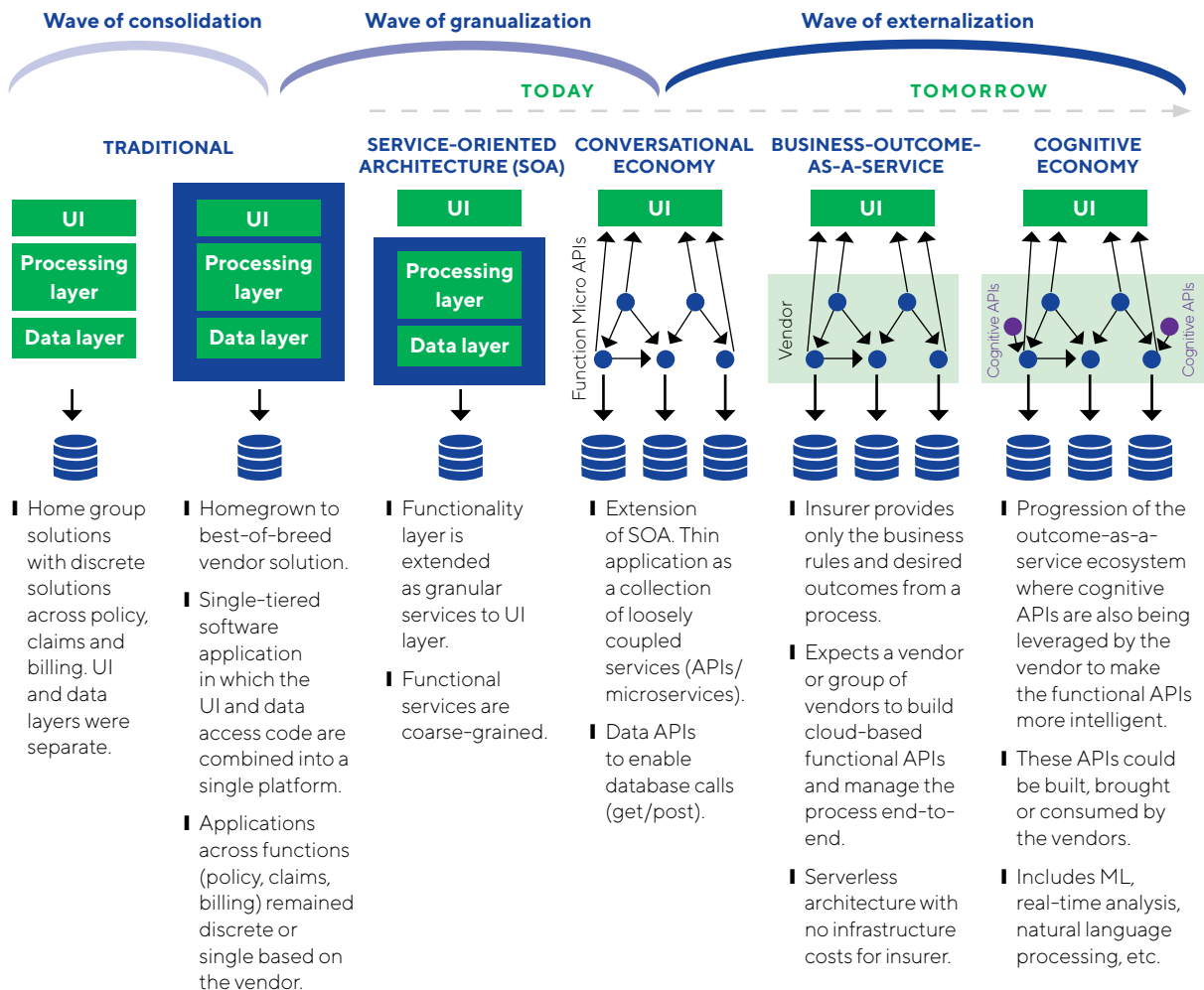


Figure 3

The business and IT architecture models adopted by digital insurgents such as Lemonade, Uber and Trov offer inspiration. Their software architecture is highly modular and multitiered. It also includes API-based functionalities (external, internal and data APIs), flat file databases, and cloud-based (Azure, AWS or Google) infrastructure and services. AI engines built around machine learning (ML) are leveraged to consume structured/unstructured data and facilitate transactions in real time. The architecture is

designed to integrate with newer devices/interfaces, scale to include any new functionalities such as requirements based on regulatory changes, and process large volumes of data and transactions (applicable with new business models such as usage-based and parametric insurance).

Figure 4 summarizes the advanced set of business and technology capabilities of emerging PAS solutions, i.e., those beyond traditional core functionalities.

Next-generation PAS: Emerging capabilities

PRODUCT MGMT.	Modular configurations – riders, coverages	Prebuilt product templates including new-age products	Support white labelling	Robust product dictionary	
CUSTOMER EXPERIENCE	Self-servicing capabilities with advanced UX	One-touch transactions (buy, claims, policy services)	Chatbot-enabled	Integrations with new interfaces – voice assistants, wearables, etc.	
DISTRIBUTION	Scalable integrations to a large set of partners	Robust BPM capabilities to manage ecosystem players	Intelligent workflows (workload mgmt./ assignments)	Flexible commissions contracts/changes across partners	
UNDERWRITING	Real-time and predictive UW capabilities	Automated and straight-through workflows	Intelligent UW dashboard	Intelligent rating algorithms and UW rules engine	Prebuilt integrations with external data
CLAIMS	Integrations with IoT data and automated workflows	Digital capabilities for field adjusters	Intelligent processing (fraud, reserving, assignment, payment)	Prebuilt integrations with external data for claims	
POLICY SERVICING	Automated workflows (renewals, reinstatements, endorsements, payments, etc.)		Loss prevention service support capabilities		
BILLING	Flexible bill schedules and bill attributes	Flexible configuration of payment plans	Next-generation payment modes	Automated receivable mgmt. & reconciliation	
TECHNOLOGY	Cloud-enabled	API/Microservices	Mobile-enabled	Advanced middleware/ enterprise integration	Cybersecurity
AI/ML/Deep Learning Engine					

Figure 4

Quick Take

Fast-Forward: Will Proprietary PAS Be Needed?

With the wave of externalization and the advent of ecosystem-driven insurance, questions naturally arise: Would an insurer of the future require a stand-alone PAS system? Would a simple system of records suffice with capabilities rendered by externalized components?

With granularization of PAS functionalities into APIs/microservices and multitenant-based business-as-an-outcome architectures, insurers are seeking to transition away from a stand-alone PAS. An alternative to PAS pivots around the use of blockchain technology with distributed ledger and smart-contracts-enabled processing.

For instance, a regulator or third-party vendor establishes an industry-wide policy admin system. It serves as a common system of record for all participating insurers. Transaction processing for insurers can be developed as smart contracts encoded onto the ledger. The blockchain will add data blocks across insurers, and the distributed ledger manages the data shared between them. This enables data security (via Public Key Infrastructure encryption and an audit trail), real-time processing and secure data exchange for insurers, all without having an in-house PAS. Consider a reinsurance transaction enabled by the B3i Services AG for the property catastrophe excess-of-loss reinsurance.³ The reinsurance contract is maintained as a smart contract with definitions of the layer and section structure, reinstatements, premium and brokerage calculations, as well as installments due and clauses. Integrated with carrier underwriting systems, the submission package is communicated to each consortium participant in the contract through the distributed ledger. Claims transactions from carrier systems trigger the smart contract that conducts transactions like sending cash calls to reinsurers.

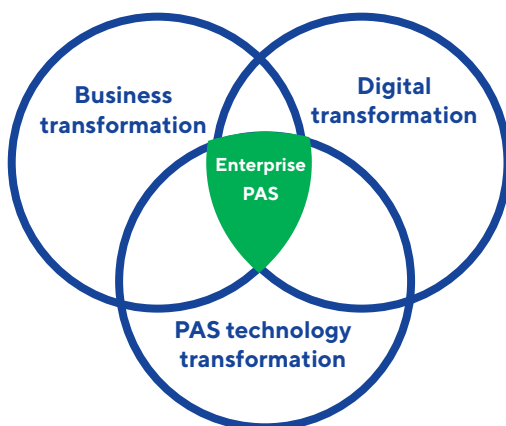
The march toward the next generation PAS mandates a wider lens. Each layer of insurance technologies (engagement, core PAS and data layer, etc.) will experience continuous transformative change. These shifts are highly coupled across layers and thus the impact of a PAS upgrade is better analyzed when viewed together with the other layers.

Enterprise PAS essentials

The integral aspects for a future PAS will be the flexibility and scalability of its architecture and its ability to incorporate continuous business disruptions. These include:

- Integration with nontraditional agencies/channels to facilitate insurance buying.
- Accessibility to ecosystem-driven (B2B2C) distribution and insurance management, especially for general insurance. Also, the ability to integrate functions such as rating and intake in real time with ecosystem/external partners
- and conduct moment-of-truth transactions with customers – marketing, cross-/upselling, buying, claims and policy servicing.
- The ability to go live quickly with a minimally viable product (MVP), subsequent releases and other product variations, etc.
- Reduced total cost of ownership and maintenance.
- Additional depth of AI/ML capabilities across workflows and decision support.

Stepping through PAS modernization



- Business strategy and vision
- Reimagining process/operations
- People and organizational structure redesign
- +
- Customer experience transformation & systems of engagement
- Data ecosystem
- AI/analytics
- +
- API & microservices
- BPM/service orchestration
- Infrastructure & cloud platform

ENTERPRISE PAS TRANSFORMATION

An enterprise transformation strategy can help define:

- Future-proofed core system/functional capabilities, aligned to the digital opportunities in the landscape.
- Enterprise vision on how the core transformation is delivering value.
- Better evaluation of suitable vendor options if required.
- Managing organizational change during the transformation.

Figure 5

The quintessential question for insurers is how to factor disruptive impacts and build a future-proofed PAS? The march toward the next generation PAS mandates a wider lens. Each layer of insurance technologies (engagement, core PAS and data layer, etc.) will experience continuous transformative change. These shifts are highly coupled across layers and thus the impact of a PAS upgrade is better analyzed when viewed together with the other layers. The change insurers need to make is clear: Look at the PAS transformation in unison with business transformation (process and people) and digital transformation (systems of engagement and data/AI), as depicted in Figure 5 (previous page).

Based on our experience working with carriers on enterprise PAS modernization, the following principles are critical:

- I Have clear, shared and confirmed business goals and vision at an enterprise level.**
- I Define a business-goal-driven roadmap.** This helps stakeholders to understand the business goals at every milestone of the program and presents an opportunity to plan other digital and business initiatives. Regional variations need to be considered and factored into the roadmap.
- I Identify future-state PAS requirements** before defining solution options (i.e., build, buy, partner, etc.).
- I Plan the transition path prudently,** with a clear understanding of how the business processes will function along the transition.

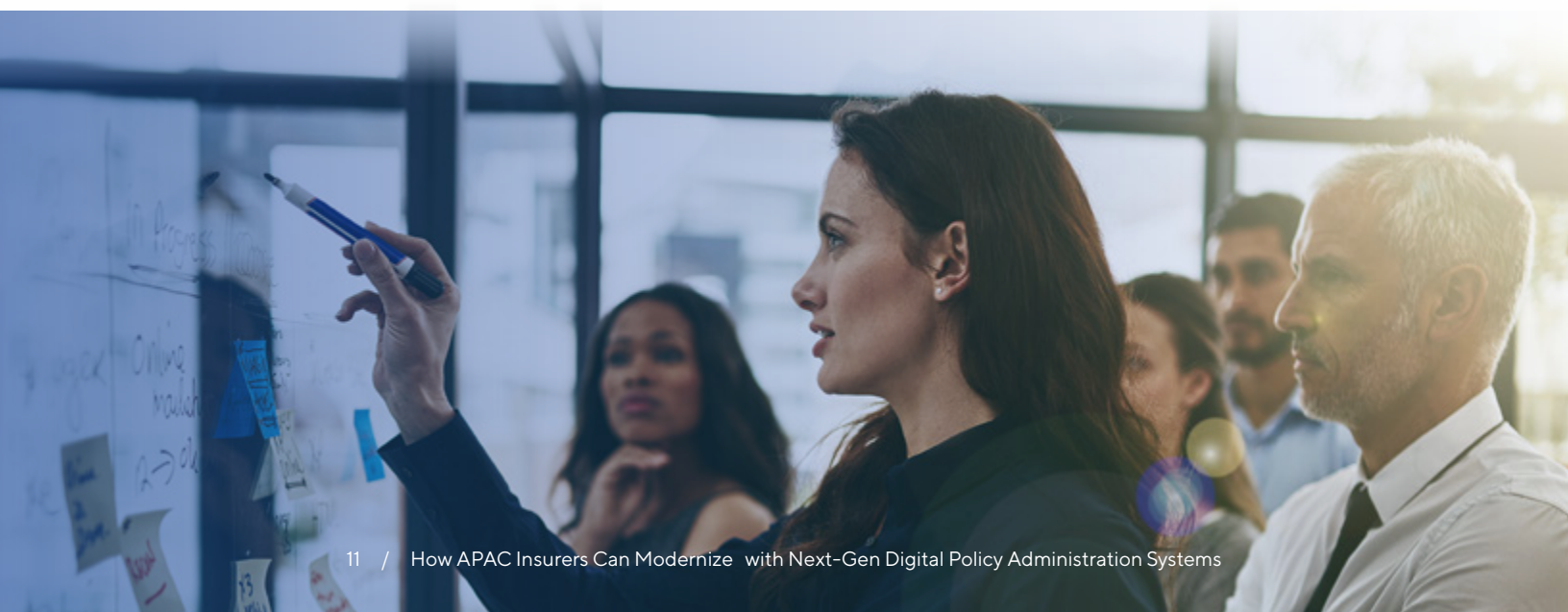
Ensuring an effective enterprise PAS approach

Insurers must plan an enterprise PAS transformation in an effective and structured manner, anticipating possible future business disruptions and the necessary proofing. This involves:

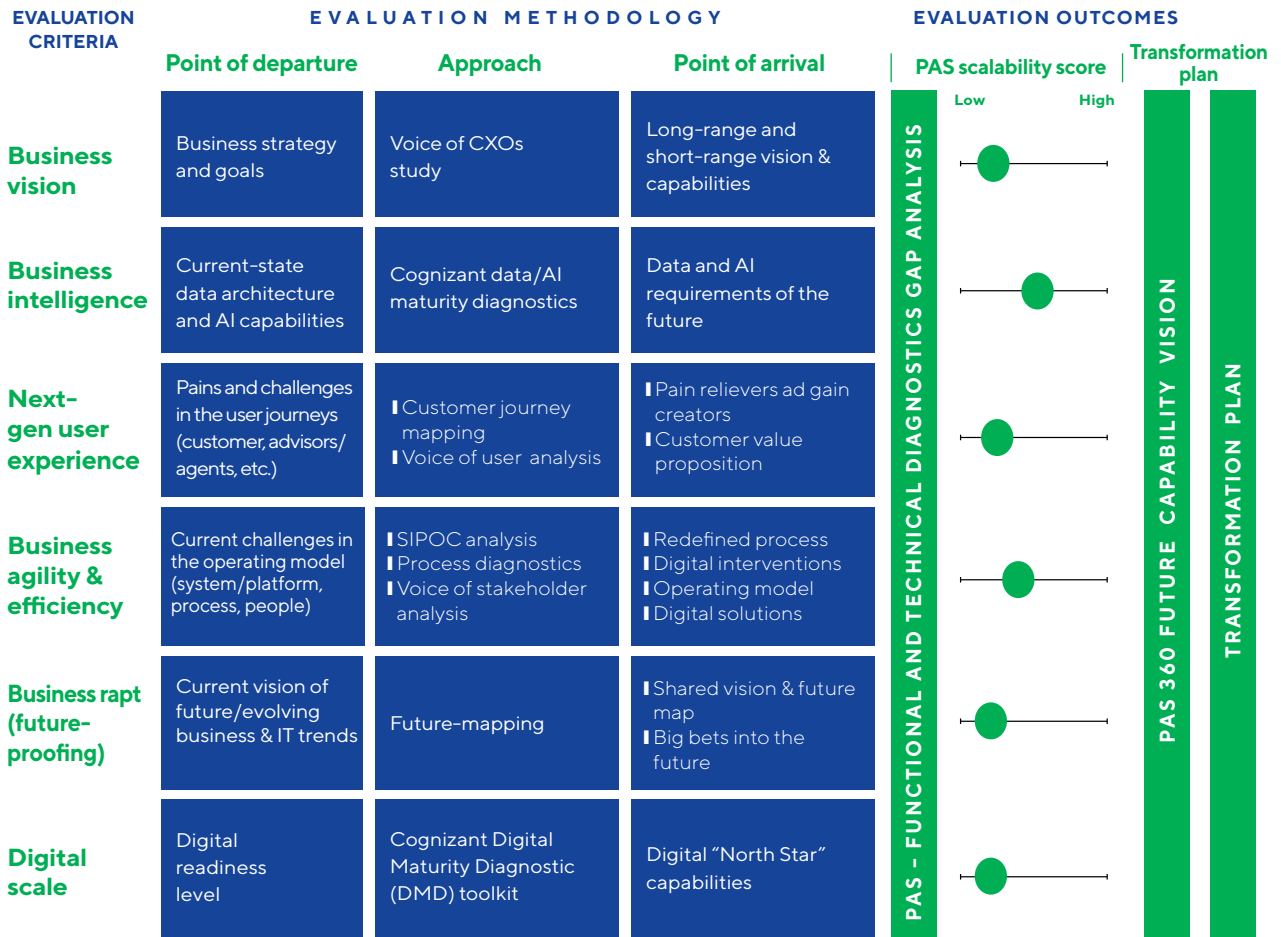
- I Future-state PAS 360 vision definition:** Define a holistic PAS capability vision addressing the strategies across all dimensions (experience, data/AI, process, operating model, etc.).

- I Transformation plan design:** Identify solution options aligned to the PAS vision and define a robust implementation plan.

Figure 6 depicts our Digital Insurance PAS (DIP) assessment framework, which helps sketch the future business vision, measure gaps in the current PAS, define a future PAS capability vision and draft a transformation plan. These goals are accomplished via a string of workshops, proprietary questionnaires and working sessions.



DIPping into enterprise PAS



Future-mapping	Future-mapping allows us to consider an array of alternative, strategic possibilities and envision new futures to provide context for decision-making. Workshops are conducted with stakeholders to brainstorm about the likelihood of the future events and build a shared vision.
Digital maturity diagnostics	Working sessions based on a structured proprietary questionnaire to gauge the current digital maturity across the organization and identify potential gaps/opportunities. (For more on this methodology, please read our white paper, "How Insurers Bring Focus to Digital Initiatives through a Maturity Looking Glass.")
Data/AI maturity diagnostics	Working sessions based on a structured proprietary questionnaire to gauge the current data and analytics/AI maturity across the organization and identify potential gaps/opportunities.
Customer journey mapping	Persona identification and journey design through collaborative workshops with internal customer-facing stakeholders and identifying opportunities for experience improvement along the different journeys.

Figure 6

Quick Take

How DIP Benefited a Credit Protection Insurer

A leading Japan-based credit protection insurer was engaged in defining a 2022 transformation vision and wanted us to help develop a holistic plan, one which included a PAS modernization strategy.

We leveraged our DIP framework to help this insurer define its business vision, assess the current state and define a holistic future state business transformation roadmap. We also helped them draft recommendations along current state people and processes, measure the gaps in the current PAS systems and provide transformation recommendations for moving to a digital PAS platform.

Our recommendations assumed these potential business benefits:

- I Customer NPS improvement by 10 basis points.
- I A rise of 15% in customer retention and reduced IT and operations costs.

Looking Ahead

The transition to digitally enhanced business is highly dependent on how effectively insurers modernize their technology environments. It is therefore critical to establish a PAS with long-term vision.

Building an enterprise PAS vision is a critical success factor, as it lays a clear path forward and enables a shared and confident view of the PAS modernization plan. Viewing the transformation holistically across all the three layers (engagement,

core and data/AI) helps create an overarching plan. In most cases, the PAS modernization approach would be a mixture of the different approaches insurers have taken so far. However, establishing clear goals, directions, business cases and enterprise buy-in will help insurers stress-test these approaches to ensure that they achieve their business objectives.

Endnotes

- ¹ Based on our experience (executions and proposals), Cognizant, 2019.
- ² "Insurance in Asia-Pacific: 2019 Business and IT Priorities, 2019," Celent, <https://www.celent.com/insights/874141831>.
- ³ "Blockchain Initiative, B3i, Deploys Cat Excess of Loss Product for January Renewals," Oct. 15, 2019, *Insurance Journal*, <https://www.insurancejournal.com/news/international/2019/10/15/545507.htm>.

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Cognizant APAC Insurance

Cognizant APAC Insurance, a business unit within Cognizant's Insurance Practice, comprises over 2,000 associates and manages active working relationships with 60+ clients across regions of Australia, Japan, ASEAN, Greater China, India and the Middle East. We have vast experience working with APAC clients on their transformation journeys end to end - from strategy to implementation.

About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 193 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us [@Cognizant](https://twitter.com/Cognizant).

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