Hype Cycle for Digital Life and P&C Insurance, 2023

Published 6 July 2023 - ID G00790901 - 131 min read

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Initiatives: Financial Services Digital Business Strategy and Innovation

> Economic volatility and seismic shocks continue to impact insurers, causing a focus on digital optimization. Life and P&C insurance CIOs need to evaluate and prioritize technologies that harness their foundational IT investments to meet dual needs to optimize and transform.

More on This Topic

This is part of an in-depth collection of research. See the collection:

- 2023 Hype Cycles: Deglobalization, AI at the Cusp and Operational Sustainability

Analysis

What You Need to Know

The insurance industry continues to be conservative with true digital transformation. Gartner surveys and inquiries reveal that insurers continue to prioritize digital optimization over transformation, with a focus on driving greater efficiencies, agility and improved customer engagement. Technologies that move the quickest across the Hype Cycle are typically focused on these fundamental aims (such as automation technologies), while those that will truly transform products, services and business models move at a slower pace. The exception is much-hyped technologies, such as blockchain and low-code/no-code solutions. We generally see these initially gather speed, slow down as a realization of the challenges and disillusionment sets in, and gradually adjust to where the technology adds value.

Life and P&C insurance CIOs must cut through the hype and balance their IT investments. They must focus on technologies that enable the business models today, as well as invest in technologies that will fulfill the products, services and business models of the future. To do so, insurance CIOs need to bifurcate their approach, evaluating today's trends and technologies, along with helping to align their technology decisions with a vision for the future.

The Hype Cycle

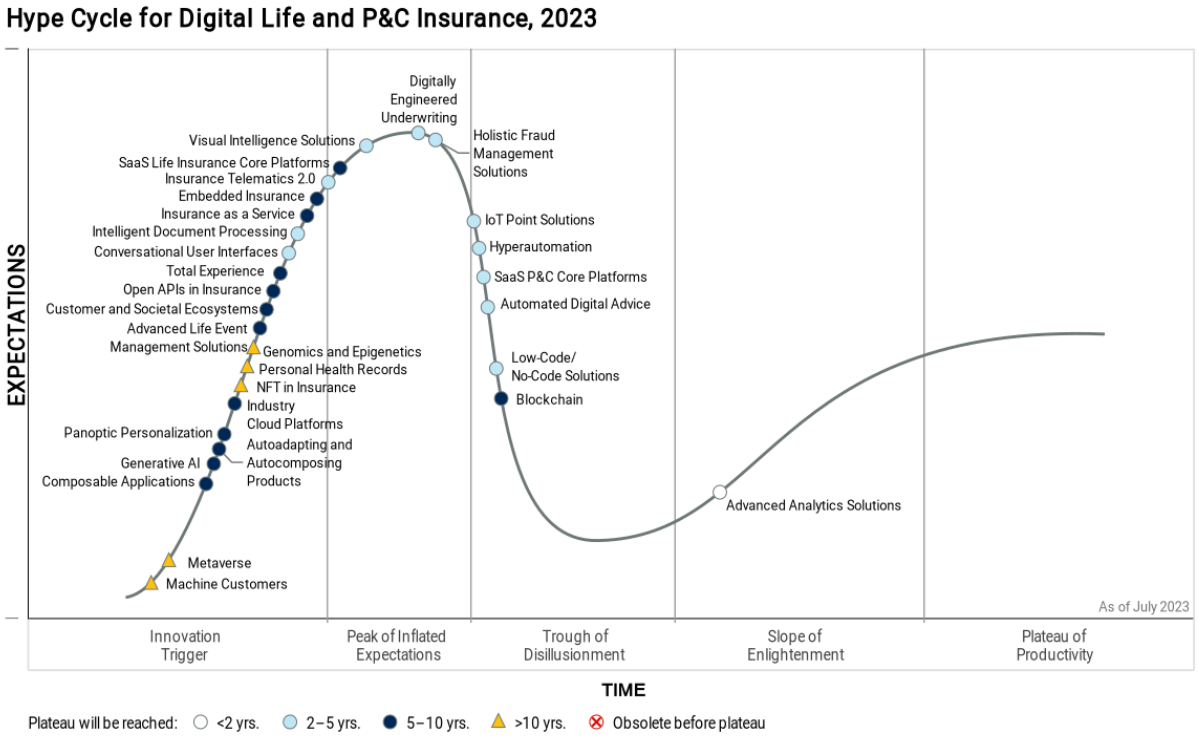
This Hype Cycle tracks the most significant IT directions in applications, analytics and technologies relevant to life and P&C insurance. The 2023 Hype Cycle is aligned to the 30 most important technologies and trends for insurance CIOs.

Some key themes from this year's Hype Cycle include:

- **Artificial intelligence becomes ubiquitous:** The AI profile has been removed in favor of specific technologies and, more importantly, due to its emergence as an embedded element in a plethora of other technologies across the Hype Cycle. Its adoption has also become more pervasive with more-advanced technologies. This is reflected with the additional entry of Generative AI.
- **Automation thrives:** Automation technologies continue to mature, with vendors adding more industry-aligned content, adding analytics for intelligence and building digital accelerators of prebuilt insurance content. Meanwhile, insurers continue to expand their adoption and use a broader set of technologies.
- **Disillusionment and realignment occur:** Some technologies have been overhyped and failed to deliver. With consortium failures and use cases not materializing, blockchain has been downgraded in its impact. Internet of Things (IoT) has also stagnated and been reclassified as IoT point solutions to reflect the targeted and copycat models that are forming. While the overpromise of low-code/no-code solutions heading to the Trough of Disillusionment is starting to be felt, CIOs should learn from this and track technologies carefully and evaluate technologies' true value to deliver on business outcomes.
- **Privacy and regulation uncertainty slows down technologies:** Health-related technologies, in particular, are stagnating due to concerns over data privacy and future regulations that hamper their adoption. Privacy will also alter the future speed of emerging technologies like generative AI as people become more concerned with their data.
- **Data insights to drive efficiency and interpret new risk gain hype and focus:** Internal maturity of existing data is enabling insurers' appetite to extend into wider data sources fulfilled by a variety of technologies that improve risk detection, drive efficiencies and improve SLAs.

Six new innovations were added to the Hype Cycle this year. The technologies and concepts added were generative AI, composable applications, machine customers, metaverse, conversational user interfaces and embedded insurance.

Figure 1: Hype Cycle for Digital Life and P&C Insurance, 2023



The Priority Matrix

The Priority Matrix is a companion to the Hype Cycle, and it seeks to communicate some key attributes contained within the Hype Cycle — namely:

- How much value could an organization expect to realize from the effective implementation of a particular technology?
- When will the technology be mature enough to help deliver that value?

Gartner has identified three technologies that will have a transformational impact on the insurance value chain and a further 18 that will have a high impact. Within these categories, there are ways that insurers can expedite adoption to gain competitive advantage:

- **Expand data usage:** Examine solutions that provide greater insights into risks and customer needs and support greater efficiency and agility.
- **Drive automation adoption:** Move beyond a technology focus and simplistic automation technologies to apply a business-outcome-driven approach, using a mix of automation tools.
- **Prepare for a more open insurance environment:** Invest in APIs generally, evaluating open APIs and industry cloud platforms, while modernizing core systems to build the foundations for the future of insurance.
- **Plan for a true customer-centric approach:** Start to use visioning workshops to apply customer and societal ecosystem logic, and apply panoptic personalization thinking to improve the alignment of insurance products, services and engagements to customer needs.
- **Prepare for autoadapting and autocomposing products:** Start to examine the customer and risk data, touchpoints with customers, and product constructs to identify opportunities to decompose products to make them more flexible and dynamic to customer needs. Examine the impacts of moving to products that adapt in near real time, rather than those that are annually renewable.

Table 1: Priority Matrix for Digital Life and P&C Insurance, 2023

(Enlarged table in Appendix)

Benefit	Years to Mainstream Adoption			
↓	Less Than 2 Years ↓	2 - 5 Years ↓	5 - 10 Years ↓	More Than 10 Years ↓
Transformational			Autoadapting and Autocomposing Products Customer and Societal Ecosystems	Genomics and Epigenetics
High	Advanced Analytics Solutions	Automated Digital Advice Conversational User Interfaces Digitally Engineered Underwriting Holistic Fraud Management Solutions Hyperautomation Insurance Telematics 2.0 Intelligent Document Processing	Blockchain Composable Applications Embedded Insurance Generative AI Industry Cloud Platforms Open APIs in Insurance Panoptic Personalization Total Experience	Machine Customers Metaverse
Moderate		IoT Point Solutions Low-Code/No-Code Solutions SaaS P&C Core Platforms Visual Intelligence Solutions	Advanced Life Event Management Solutions Insurance as a Service SaaS Life Insurance Core Platforms	NFT in Insurance Personal Health Records
Low				

Source: Gartner (July 2023)

Off the Hype Cycle

Each year, Gartner analysts evaluate the existing innovation profiles, and some are removed from the Hype Cycle for varying reasons. The following innovation profiles from the 2022 Hype Cycle have been removed:

- Robotic Process Automation (RPA) has reached the Plateau of Productivity and wider adoption in the industry and is now an integral part of hyperautomation solutions.
- Artificial Intelligence is now ubiquitous in a plethora of solutions.
- Insurance Wallets has seen a failure to progress, with customers having simpler viable solutions in terms of cloud storage and mobile phone wallets that, if not comprehensive, are good enough.
- Commercial Unmanned Aerial Vehicles (Drones) has been incorporated into IoT Point Solutions to focus on the common deployments with IoT.
- Reward and Loyalty Platforms has seen reduced hype and focus.
- Conversational Platforms was replaced with a broader category that encompasses the capabilities — namely, Conversational User Interfaces.
- Digital Business Technology Platform was removed to focus more on industry-driven technologies and concepts.

In addition, the following innovation profiles had name changes:

- IoT has been renamed to IoT Point Solutions to reflect the simplistic and copycat models that make up the majority of IoT deployments and focus.
- AI Remote Inspection Solutions was renamed to Visual Intelligence Solutions to better reflect the description of the technologies.

On the Rise

Machine Customers

Analysis By: Laurie Shotton, Mark Raskino

Benefit Rating: High

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Machine customers are nonhuman economic actors that obtain goods or services in exchange for payment. Examples include virtual personal assistants, smart appliances, connected cars and IoT-enabled factory equipment. Machine customers act on behalf of a human customer or organization.

Why This Is Important

Machines are increasingly gaining the capacity to buy, sell and request services. Further, machine customers will advance beyond the role of simple informers to advisors and, ultimately, decision makers. For insurers, this could disrupt distribution replacing the need for insurance agents in certain situations or for some product lines. Machine customers will change how products are bought and consumed as well as requiring changes to their makeup and servicing to meet changing needs.

Business Impact

Over time, across industries trillions of dollars will be in control or influenced by nonhuman customers.

- As machine customers take hold, insurers will need to adapt their products and develop new ones, expand integrations and extend data sources as the needs and ways in which insurance products are consumed cause a seismic shift.
- In particular, machines will change the buying process by removing agent recommendations, disintermediating insurers' direct communications with customers, initiate and automate servicing and claims requests.

Drivers

- By 2025, there will be at least 15 billion connected products with the potential to behave as customers — for instance, machines will start to shop for services and supplies for themselves and their owners. This will start to impact insurance lines of business for auto and home insurance among others subject to trust and willingness to share data.
- Machine customers are already starting to perform tasks that will impact the risk profile of insured products. For instance, some Tesla cars are already sensing and ordering spare parts which could ensure that vehicles are kept in good order.
- Machine customers could help overcome the friction and challenges that insurance customers in both personal and commercial lines face today. They can help sense and identify actual insurance needs and order appropriate products or subproducts in near real time to the needs avoiding situations where a customer is underinsured or overinsured.
- Advances in AI will accelerate the development of IoT brokers that work on behalf of the customer to make the right recommendations and autocompose products from insurance organizations and adjacent industries to meet the needs of the customer.
- Machine customers will create a financial opportunity for insurers to reduce the costs of acquisition and sales without the need to remunerate agents and advisors.
- Machine customers have the potential to generate new revenue opportunities, increase productivity and efficiency, improve health/well-being and enhance the security of physical assets and people.

Obstacles

Machine customers in insurance will not reach the Plateau of Productivity for at least 10 years due to the following obstacles:

- To take advantage of machine customers, an operating model shift is required to modify how you sell and service, as well as to reimagine what customer experience means.
- Product offerings will need to adjust to meet machine customer needs with more support for near-real-time products (for example, home or auto) or machine advice-based products from digital advisors and virtual assistants (for example, life and pensions).

- Trust in machine customers will also be a barrier, particularly if humans outsource predictions and execution whilst maintaining privacy. Consumers will need to be willing to share their personal data with machines and indirectly with the insurer.
- Enterprises may also be concerned about ethical standards, regulation changes, legal and compliance implications, fraud and risk mitigation, all of which will have to be scrutinized with machines as customers.

User Recommendations

- Identify specific use cases where your products and services can be extended to machine customers (consider starting with auto where connectivity is more mature). Initiate collaboration with your chief digital officer, chief data officer, chief strategy officer, sales leaders and chief customer officers to explore the business potential of machines as your customers.
- Pilot those ideas to understand the technologies, processes and skills required.
- Prepare your technology foundations for machine customers by investing in core and supporting systems to enable more flexible products (including more micro products). Invest in improving the openness of your products, rules and algorithms via APIs to share with external parties and ingest information.
- Build your organization's capabilities around data and AI over the next two-to-three years.
- Follow examples from organizations such as Amazon, Google, AutoGPT, HP Inc., and Tesla, for evidence of capabilities and business model impact.

Sample Vendors

Amazon; Datapred; Google; HP Inc.; Significant Gravitas; Tesla

Gartner Recommended Reading

Why Machine Customers May Be Better Than Human Customers

CIOs Can Maximize Product Lifetime Value by Embracing Machine Customers

Infographic: A Day in Your Life in a World of Machine Customers

Connected IoT Brokers for Autocomposing: An Insurance Trend for 2030

Metaverse

Analysis By: Kimberly Harris-Ferrante, Matt Cain, Tuong Nguyen

Benefit Rating: High

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Gartner defines a metaverse as a collective virtual 3D shared space, created by the convergence of virtually enhanced physical and digital reality. A metaverse is persistent, providing enhanced immersive experiences. Gartner expects that a complete metaverse will be device-independent, and will not be owned by a single vendor.

Why This Is Important

The metaverse is the next level of interaction in the virtual and physical worlds. In insurance, this could be for agent onboarding, selling insurance through virtual stores on the metaverse or even insuring digital asset. Although the goal of the metaverse is to combine many of these activities, there are currently many emerging metaverses with limited functionality.

Business Impact

Enterprises can expand and enhance their current businesses in unprecedented ways, opening up innovative opportunities. In insurance, this lends itself to four main business opportunities:

- Support of training, onboarding and internal meetings/events.
- Marketing and brand awareness in the digital world.
- Operation support, such as claims visualization.
- Revenue generation, as products are sold to be sold, in turn, in the metaverse or through the insuring of digital assets.

Drivers

The metaverse have three important functions:

- **Transport:** The ability to “go and immerse oneself” in a virtual world is integral to metaverse, which may be a 3D simulation and/or in virtual reality.
- **Transform:** Bringing digital to the physical world allows the user to have access to real-time information, collaboration and experiences in the physical world.
- **Transact:** This is the economic foundation of the metaverse through the use of cryptocurrency, NFTs and blockchain.

Some of the main activities for the metaverse that will require one or more of these drivers are:

- **Collaboration:** Metaverse encourages collaboration and participation from a diverse group of stakeholders, wherever they may be located.
- **Engagement:** Employees and customers are often disengaged. The metaverse facilitates a feeling of presence (“being there”) as if the participants were in-person, turning their focus to the task at hand with less distraction.
- **Connectedness:** Metaverse enables us to connect in a more immersive way with shops, work environments, schools and communities of interest — regardless of where they are or if they exist in the physical world.

Ultimately, people desire to enhance and/or augment their lives in digital and physical realities. In insurance, companies are attracted to metaverse as it helps them fulfill their digital vision by:

- Providing a means to reach new audiences (especially young and digitally savvy) or niche audiences that use a specific metaverse.
- Promoting more modern brands through a digital medium, which helps with customer acquisition and talent requisition.
- Enabling internal and agent collaboration.
- Visualization of claims for complex situations, where situations can be replicated or where risks for physical entry are high.

- Creating new revenue opportunities for traditional products that can be sold in the metaverse, and for newly created products to cover metaverse digital assets.

Obstacles

- Insurers lack the recognition and understanding of metaverse when developing long-term digital strategies. Most are not even considering this in their digital footprint or vision.
- While metaverse has high long-term potential, insurers have bigger short-term priorities and are staff-constrained. Hence, they will prioritize them over the metaverse, which will not reach the Plateau of Productivity for over 10 years.
- Insuring non-fungible tokens (NFTs) and crypto is difficult overall. While insurers have tried this in the past, it has proven difficult. Additionally, determining financial value of an intangible object is often challenging.
- While technology plays a key role in achieving a mature metaverse, another challenge involves establishing user-centric guidelines for ethics and governance covering different aspects of the metaverse.

User Recommendations

- Task an innovation team to look for opportunities where metaverse technologies could optimize digital business, or create new products and services around insuring digital assets or providing business/commercial customers with new options for cyber protection.
- Engage with marketing to determine how metaverse can be leveraged to promote a digital brand.
- Involve HR and heads of distribution to identify opportunities around using metaverse for agent and employee training and onboarding, and internal team meetings.
- Be careful when investing in a specific metaverse, as it is still too early to determine which investments will be viable in the long term.

Sample Vendors

Animoca Brands; Decentraland; Linden Lab; Meta; Microsoft; NVIDIA; Roblox

Gartner Recommended Reading

Emerging Technologies: The Future of the Metaverse

Emerging Technologies: Critical Insights on Metaverse

Quick Answer: What Is a Metaverse?

Quick Answer: How Will the Metaverse Shape the Digital Employee Experience?

Composable Applications

Analysis By: Sham Gill, Yefim Natis, Anne Thomas, Paul Vincent

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Composable applications are built, in part or in whole, as flexible assemblies (compositions) of software components that represent well-defined business capabilities, packaged for programmatic access. The business-centric modularity of composable applications empowers democratized access to technology and business innovation. Composable applications support faster safe and efficient digital business innovation. Advanced use of composable applications allows cross-application compositions.

Why This Is Important

Composable applications help support resilience, adaptability and growth of business in the context of increasingly frequent challenges, disruptions and opportunities. They support fast-paced business change while protecting the integrity of the outcomes, and bridge application software and business operations by using coarse-grained business-centric software modularity. Insurers enabled by composable applications are far better placed to efficiently respond to product, service, customer and societal changes.

Business Impact

On average, companies with high-business composability have reported higher overall business performance. In return, insurers need access to composable applications that promote faster business thinking. The improved agility of business technology strengthens the ability of an insurer to grow their business through rapid innovation.

Drivers

- In the continuously changing business context, demand for business adaptability directs organizations toward technology architecture that supports fast, safe and efficient application change.
- The demand for active participation of business decision makers in the design of their digital experiences promotes adoption of technology models that are accessible and useful to business experts as well as technical professionals.
- The need to reduce the costs of redundancy in software capabilities across applications and business units drives organizations to reusable business modularity and from there to composability.
- The increasing number of insurance core platform vendors offering API-centric SaaS providing modular application components, such as underwriting, policy administration, billing and claims management. Insurers can use these as building blocks for their modular business applications.
- The emerging architecture of micro frontends and superapps advances the principles of composability to the multifunctional user experience, promoting broader adoption of composability for digital insurance.
- Fast-growing competence in mainstream organizations for management of broad collections of APIs and event streams creates a technology foundation for safe operation of a composable business technology environment.
- Composable applications enable reuse of assets through discoverability across the enterprise. For example, Assicurazioni Generali developed its smart automation platform for delivering reusable and discoverable solutions, use cases and global engines to enable scale (see Case Study: Building Scale in Financial Services Automation (Assicurazioni Generali)).

Obstacles

- Limited experience of composable thinking complicates composable design efforts and transition plans. Gartner's 2022 CIO and Technology Survey found that insurers are less likely to utilize the practice of composable technologies than the cohort of highly composable respondents.
- While insurers will readily find vendors that support modularity, these modular solutions are unlikely to be decomposed sufficiently to support the level of composability required for business agility.
- Limited practice of business-IT collaboration for application design delays the effective composable design that depends on expert talent in multidisciplinary fusion teams.
- Legacy insurance applications will struggle to participate in composition, providing minimal autonomy and difficulties in supporting APIs and event streams. This will delay the benefit realization of a composable architecture.
- Insufficient mapping of architectural thinking and models between business and technology planners makes digital representation of business functionality less prepared to track the real-world business change.

User Recommendations

- Promote modular thinking as the means to great flexibility in business and software innovation
- Champion API-first business software design, whether or not the application is also packaging the traditional UI capabilities.
- Build competence in API and event stream management as the precursor to managing composable business software modularity.
- Prioritize formation of business-IT fusion teams to support faster and more effective adaptive change of business applications.
- Build an investment case for composability by highlighting how aging digital assets endanger the future success of the business by forming barriers to innovation, competition and customer satisfaction at the pace of market change.
- Gradually modernize (or replace) existing applications toward architecture of business-centric modularity.

Gartner Recommended Reading

Becoming Composable: A Gartner Trend Insight Report

Quick Answer: Who's Who in the Life Cycle of Composable Applications?

Predicts 2023: Composable Applications Accelerate Business Innovation

Use Gartner's Reference Model to Deliver Intelligent Composable Business Applications

How to Design Enterprise Applications That Are Composable by Default

Autoadapting and Autocomposing Products

Analysis By: Laurie Shotton, Alistair Newton

Benefit Rating: Transformational

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Autoadapting products adapt their structure, function, delivery mode and pricing, to reflect external context and data. Autocomposing products step further, reacting to situational data to construct — or compose — a loosely coupled package of components designed to address specific customer needs. Autocomposing products will autonomously combine based on a series of predefined, customer-led rules, leveraging subproduct components or services from multiple industry segments in real time.

Why This Is Important

Financial services products face a reinvention. Advances in AI, data analytics capabilities and expansion in flows of contextual data from Internet of Things (IoT) and other data generating sources will influence how customers — whether human, corporation or machine — consume products in the future. These advances in contextual technologies will require providers to make a significant change to enable financial services products that sense and respond to their environments, and to the context and situation in which they are consumed.

Business Impact

Autoadapting and autocomposing has the following impacts:

- Autoadapting products offer the opportunity for financial services institutions (FSIs) to develop personalized products aligned to customer needs
- Autoadapting products aim for lower customer attrition as products adapt frequently with the customer's individual needs and context at the center of that adaptation.
- Autocomposing products will likely be orchestrated and initiated by nonfinancial services enterprises, with power shifting into the hands of the customer and away from the FSI.

Drivers

- Increased investment in integration technologies, such as external and open APIs, will enable the frictionless exchange of value and data required to support autoadapting and autocomposing products (see 2023 CIO and Technology Executive Agenda: An Insurance Perspective).
- Autoadapting products offer an opportunity to increase customer relevance and reduce resultant churn for financial services products.
- Autoadapting products represent an opportunity to invoke a substantive shift from provider-defined product centricity to real-time, customer-defined service and customer centricity in enterprise thinking.
- The rise in composable architecture and thinking within enterprises, coupled with the increased role for ecosystem models for the distribution and sale of product and services, will enable the data flows, engagement points that are critical for autoadapating and autocomposing products to function.
- Technology expansion in customer points increases the touchpoints and real-time interaction opportunities across an array of devices.
- Growth in IoT machines and sensors will increase the variety, volume and velocity of customer- and machine-generated data that will shape these new product and service offerings.
- The emergence of machine customers will enable human and corporate customers to interact with autoadapting product solutions.
- The development of autocomposing products will arise from the convergence of multiple industries in order to meet wider customer needs. As such, this complexity will cause autocomposing products to lag autoadapting products by a number of years.
- Autocomposing products will rely on significant increases in the analytics capabilities and AI/machine learning (ML) modeling to underpin the composition of these new products and services. The acceleration of large language models and Generative AI could cause an acceleration in the development of autocomposing products.

Obstacles

- Autoadapting and autocomposing products require bank and insurance enterprises to have flexible architectural foundations, core systems and product configuration capabilities to externalize products, processes, algorithms and rules.
- Traditionally architected products will not enable autocomposing to function, requiring organizations to break their products down into more microproducts or ones with totally flexible components.
- Success relies on executive foresight, vision and patience to iterate upon in order to meet customer needs and drive substantive business model change.
- Autoadapting and autocomposing products will expose and utilize more sensitive data. Therefore, enhancements are needed to security and privacy architectures and compliance and regulations will need extra scrutiny in order to fulfill the products.
- Autoadapting and autocomposing products will change the customer engagement models and test their trust in providers increasing the frequency of interactions and invoking changes on the customers' behalf.

User Recommendations

- Host visioning workshops with executive colleagues to ascertain the enterprise's appetite for involvement in autoadapting and autocomposing product innovation and assess the potential impact on technology roadmaps, such as requiring deeper ecosystem integration to support embedded models.
- Monitor developments in machine customers that could accelerate the need for autoadapting and autocomposing products.
- Engage insurance underwriters in different sectors (for example, marine, manufacturing and energy) to ascertain new types of rapidly evolving risks that would warrant more frequent pricing and adaptation of products.
- Prepare your enterprise for product evolution by developing foundational data science and AI/ML capabilities to support new types and forms of data, models and partnerships.
- Accelerate the shift to data-led, intelligent, real-time decision making that such products will require, and specify appropriate data analytics, AI and governance capabilities to support this need.

Gartner Recommended Reading

How Financial Services CIOs Can Prepare for Autoadapting Smart Products

Top Trends in Financial Services Product Reinvention for 2021

Quick Answer: How Will Autoadapting and Autocomposing Products Enable Digital Business Disruption?

Generative AI

Analysis By: Kimberly Harris-Ferrante, Brian Burke

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Generative AI technologies can generate new derived versions of content, strategies, designs and methods by learning from large repositories of original source content. Generative AI has profound business impacts, including on content discovery, creation, authenticity and regulations; automation of human work; and customer and employee experiences.

Why This Is Important

Generative AI has gained a lot of attention due to the entry of solutions such as ChatGPT. Insurers have begun experimenting with generative AI already, deploying it in select use cases — mostly back office or with internal operational functions. While concerns over validating results and governance are high, the long-term outlook for use in the industry is positive. Generative AI has the potential to improve existing use cases (such as document processing) and open up new use cases in customer self-service, marketing, data science and operations (e.g., IT, claims and underwriting).

Business Impact

Most technology products and services will incorporate generative AI capabilities in the next 12 months, introducing conversational ways of creating and communicating with technologies. For insurance, this means business impacts from helping with competitive intelligence gathering in marketing, personalization of products/services, improved cross-sell/upsell with agents, and improved analytics and user interfaces. It will assist employees with decision making and productivity, as well as helping improve customer satisfaction and online closure for digital channels. It is also a security and societal threat when used for nefarious purposes. Responsible AI, trust and security will be necessary for safe exploitation of generative AI.

Drivers

- The hype around generative AI is accelerating. Currently, ChatGPT is the most hyped technology ever.
- AI use in insurance continues to grow. Insurers have been AI users for many years and, while their AI maturity is still moderate, it continues to advance as they use new AI technologies and seek to explore new use cases.
- Insurance is a traditional business with many opportunities still for enhanced automation, such as the use of intelligent document processing (IDP). Generative AI will be leveraged by vendors in this market, introducing it to insurers as they purchase new automation tools.
- The use of digital channels, especially chatbots, is increasing as insurers seek to improve customer interaction and promote self-service.
- Customer experience solutions will leverage generative AI to enhance call center interaction.
- ML and NLP platforms are adding generative AI capabilities, making them accessible to AI teams.
- The continued talent crisis in the industry will continue to drive executives to find new ways to promote productivity, including knowledge management between skilled and unskilled workers and helping skilled workers be more productive (e.g., doing more work with fewer or the same number of employees). This is especially true in claims and underwriting.

Obstacles

- Democratization of generative AI uncovers new ethical and societal concerns.
- Generative AI adoption may be hindered by regulations. Governments and insurance regulators are currently soliciting input on AI safety measures.
- There are talent gaps around AI overall in the industry and a lack of expertise around generative AI
- Hallucinations, a black-box nature and a lack of experience with a full AI life cycle may preclude the use of generative techniques for critical use cases.
- Some vendors will use generative AI terminology for trying to sell sub-par “generative AI” solutions.
- Generative AI can be used for fraud, malware, disinformation and instigation of social unrest. Generated deepfakes are dangerous in politics, business and society. Full and accurate detection of generated content will remain challenging and may not be fully possible.
- Compute resources for training generative AI are high and not affordable to most enterprises.
- Sustainability concerns about high-energy consumption for training and using generative AI are on the rise.

User Recommendations

- Determine initial use cases where you can improve your solutions with generative AI by relying on purchased capabilities or partnering with specialists. Consult with vendor roadmaps to avoid developing similar solutions in-house.
- Start with use cases with “human in the loop” where you can carefully assess output quality and validity as you put in place oversight and governance programs. Save projects aimed at customer-facing use cases for later as the technology matures.
- Communicate with executives and business leaders on the opportunities and risk of generative AI. Develop best practices and guidelines for how your organization plans to use generative AI, updating them regularly as the technology matures.
- Quantify the advantages and limitations of generative AI. Supply guidelines, as generative AI requires skills, funds and caution. Weigh technical capabilities with ethical factors.
- Mitigate generative AI risks by working with legal, security and fraud experts. Start with data security guidelines, and implement AI governance to ensure regulatory compliance.
- Work with regulators to draft guidelines for AI governance.

Sample Vendors

Adobe; Amazon; Anthropic; Google; Grammarly; Hugging Face; Huma.AI; Microsoft; OpenAI; Schrödinger

Gartner Recommended Reading

Emerging Tech Roundup: ChatGPT Hype Fuels Urgency for Advancing Conversational AI and Generative AI

Quick Answer: What Should Insurers Know About ChatGPT?

Quick Answer: What Role Does Generative AI Have in the Insurance Industry?

Insurance AI Expansion Will Require Use of Greater AI Techniques and Maturity

Artificial Intelligence Use-Case Prism for the P&C and Life Insurance Industry

Panoptic Personalization

Analysis By: Laurie Shotton

Benefit Rating: High

Market Penetration: Less than 1% of target audience

Maturity: Emerging

Definition:

An enterprisewide strategy to combine data sources and technologies, incorporating artificial intelligence, to deliver actionable insights and emotional connectivity that enable the tailoring and adaptation of insurance products, pricing, services and interactions at all touchpoints. The key to panoptic personalization is an intimate feel from the user's point of view.

Why This Is Important

Insurance business leaders are focused on improving customer experience (CX) to drive revenue. Applying panoptic personalization allows them to do this across the value chain, including pricing, product and claims, improving CX. The aim is to improve the relatedness of insurance to the individual or enterprise by using data and technology to make every inflection point feel individualized even if in reality it is clustered.

Business Impact

A panoptic personalization approach can:

- Improve customer sentiment and resultant profitability through churn prevention, enhanced CX, product innovation and improved risk-based pricing based on individual risk data.
- Enable faster processing time and drive cost optimization with points of friction removed, support tailored products, and processes that drive greater straight through processing with more aligned products.

Drivers

- Customer communication and personalization is seen as a top priority for leaders with Gartner's CIO survey revealing that 67% of respondents stating their digital initiatives were focused on panoptic personalization.
- In some lines of business where markets are crowded, insurers need to differentiate, especially in commodity consumer markets.
- Consumer needs and expectations are evolving, and traditional static and commoditized pricing models do not match evolving customer needs. This requires more dynamic products and tailored offerings that go beyond pricing.
- The expansion of data sources and willingness to share data (e.g., consumer and Internet of Things [IoT]) alongside improvement in insurers analytics technologies creates the environment to leverage data to create personalized experiences. Data and improved technologies are helping enterprises to collect risk data, and support predictive and advanced modeling using AI/machine learning.
- Insurers investments in system architecture, core systems and automation are enabling more openness of data and streamlined processes that support more real-time decision making. These foundations can be used to improve customer outcomes, reduce process friction and speed up service levels which have dual impacts on customer satisfaction and transaction processing costs.
- Insurers also see an opportunity to increase customer satisfaction and improve Net Promoter Score (NPS) by making the customer feel listened to and fully engaged. Using technologies like voice of the customer tools to sense customer feelings and emotions, and tailor responses in call centers can drive increased connection with customers.
- Increased customer engagement can help drive new revenue streams. Insurers have an opportunity to increase frequency of customer engagement that will enable more aligned products and services, improving the opportunity to upsell and cross-sell an increased number of products per customer.

Obstacles

- A misuse of panoptic personalization can lead to customer manipulation and potential fines by regulatory authorities.
- A reduction in customer satisfaction or unethical use can result from overstepping with panoptic personalization. Using data that the customer doesn't expect or know that you have about them has the opposite effect to increased engagement.
- Panoptic personalization requires solid foundations in core systems and CRM plus greater understanding of customers through extended data sources to support customer centricity and many insurance organizations are still trapped by legacy.
- Approaches may require data sharing with partners to complete the engagement, and this requires trust and governance to ensure that partners behave and use data correctly.
- Insurance has been built on a collective-risk approach and a barrier to adoption is the risk of panoptic personalization, creating an unbalanced risk pool.
- There is a fundamental need to appreciate the privacy requirements of individuals and how that impacts your engagement with them.

User Recommendations

- Examine evolving panoptic personalization use cases within and outside the industry (e.g., retail and healthcare) to inspire the art of the possible by tasking a member of the team with reporting on developments at regular intervals.
- Develop a panoptic personalization strategy by documenting the entire value chain touchpoints with end customers and examining how data and technology can enable personalization across every inflection point.
- Invest in the foundational capabilities of back-office system flexibility and data and analytics needed for panoptic personalization by reprioritizing your IT roadmap to focus on core competencies (core systems, APIs and integration capabilities, CRM, and data analytics support).
- Use Gartner's digital business technology platform (DBTP) framework to prioritize technology decisions that support the foundational capabilities and help with the visualization of the interconnection of technologies to support a panoptic personalization approach.

Gartner Recommended Reading

Panoptic Personalization: An Insurance Trend for 2022

Quick Answer: Emerging Use Cases of Personalized Insurance That Go Beyond Pricing

Build a Digital Business Technology Platform to Support Emerging Insurance Business Models

Industry Cloud Platforms

Analysis By: Sham Gill, Gregor Petri, James Ingham

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Embryonic

Definition:

Industry cloud platforms address industry-relevant business outcomes by combining underlying SaaS, PaaS and IaaS services into a whole product offering with composable capabilities. These typically include an industry data fabric, a library of packaged business capabilities, composition tools and other platform innovations. IT leaders can use the composability of these platforms to gain the adaptability and agility their industries need to respond to accelerating disruption.

Why This Is Important

Thirty-six percent of insurance IT leaders claim to have adopted an industry specific cloud platform, with a further 28% considering adoption. This adoption is likely to consist of industry specific applications that are deployed in the cloud, rather than adoption of an insurance cloud as defined above. Broader insurance adoption of industry clouds will require more vertical-targeted solutions that follow defined industry process models, rather than technology-oriented solutions that insurers have to largely configure and integrate themselves.

Business Impact

Insurance industry clouds have the potential to enable far greater adaptability, security and resilience by bringing together separate insurance industry solutions in a composable and modular way.

- This can enable insurers to offer products and services more quickly, while reducing risk and cost.
- For example, providing an insurance data model that can ease consumability of IoT endpoint data and insights to support automated decision making for underwriting, rating and claims.

Drivers

- As the complexities of both business and technology continue to increase, insurance companies are looking for more outcome-based engagements with their cloud providers. However, such outcomes must be flexible enough to be able to adapt to the changing circumstances.
- Today, industry clouds are largely being initiated and created by large cloud service providers, SIs and core platform technology vendors. According to a recent survey into enterprise perception of industry cloud platforms, insurance respondents more commonly expect to purchase an industry cloud platform from a specialist vertical industry software provider.
- Insurance industry cloud platforms can create value for CIOs by simplifying sourcing, implementation and integration. Leaders in this space are expected to leverage composability to create more holistic and comprehensive industry offerings, which enterprises will be able to readily discover and access to meet unique or special insurance specific requirements, including regulatory compliance.
- Currently, industry cloud platforms are being initiated and created by various technology providers. In addition, we see some enterprises considering creating — often in collaboration with a technology provider — a dedicated industry cloud platform as the basis for a more autonomous industry ecosystem.
- Insurers can gain value from industry clouds through shared best practices and thought leadership offered through vertically specialized go-to-market and implementation teams, and fully vertical-specific solutions combined with collections of composable building blocks available in insurance industry cloud marketplaces.
- Providers are on a pathway to creating whole-product offerings that cater directly to the established needs of vertical industry enterprises.

Obstacles

- Most offerings are better described as insurance capabilities in the cloud, rather than a cloud built specifically for insurance.
- Insurance industry clouds are at risk of following the same path as classic government and community clouds where providers created difficult to support or slightly outdated copies of the original cloud with specific functionality.
- Insurance offerings from hyperscale cloud providers will often be a subset of a wider ambition to create a financial services cloud, making identification of insurance specific capabilities more complex.
- It is difficult to distinguish between providers' marketing hype and actual capabilities deployed. Most offerings will not be holistic enough to cover end-to-end data, function, line of business, geographical and regulatory requirements.
- Value from preintegrated capabilities, such as AI, fraud detection and data and analytics, will require adoption of the underlying insurance data model offered by the industry cloud provider. However, creating insurance industry data models is hugely complex and challenging.

User Recommendations

- Assess industry-specific features promoted by cloud providers, and distinguish between deployment ready offerings versus marketing messages.
- Focus on compliance of the infrastructure platform with industry-specific regulations, analytical capabilities to mine the data from existing and new applications, and industry-specific add-on applications.
- Determine if an industry-specific cloud approach is right for the enterprise by examining areas in which workloads require a higher level of focus on regulation, security and governance. Evaluate the architectural, functional and regulatory fit for the geography and line of business under consideration for industry cloud adoption.
- Consider the current and future impacts on master data management (MDM) where the insurance industry cloud vendor is offering an industry specific data model. The data models will evolve rapidly over time, requiring adopters to keep pace with the changes.
- Establish communications with current application and infrastructure providers about their plans for industry cloud adoption for their solutions or services.

Sample Vendors

Amazon Web Services; IBM; Microsoft; Oracle

Gartner Recommended Reading

The Future of the Cloud in Insurance: A Vision for 2027

Top Strategic Technology Trends for 2023: Industry Cloud Platforms

The Future of the Cloud in Insurance: A Vision for 2027

NFT in Insurance

Analysis By: Ali Merji, Christophe Uzureau, David Furlonger

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

A non-fungible token (NFT) is a blockchain-based monetized record of unique noninterchangeable information that represents a piece of digital media. NFTs can link to any form of a digital asset, such as digital art, text, videos, photos, songs (or samples), lines of code and so on. NFTs can also represent, in a tokenized form, any digitally represented artifact (i.e., a physical asset that has been digitized).

Why This Is Important

NFTs are an opportunity for insurers to rethink digital product development, customer engagement and risk management suitable for digital or tokenized assets. Simply replicating what we do with nontokenized assets is likely to result in failure. NFT insurance offerings are evolving as NFTs become used for recording intellectual property, not just as a speculative instrument — this may become more important than supporting operational processes.

Business Impact

NFTs can enable insurance firms to create new business models and enter new markets by:

- Presenting an opportunity for insurers to launch new products for crime, specie and cyber that can help an insurer diversify its portfolio away from physical assets.
- Improving identity management and compliance using NFTs for the authenticity of ownership and to reduce or eliminate fraud opportunities.
- Creating loyalty and reward opportunities using NFT programmability for sustainability initiatives.

Drivers

- NFTs offer a wide-open market opportunity where they can work with clients to define new products. New product opportunities to underwrite NFT and digital asset wallets, underlying assets and secure transfer of ownership. The size of the opportunity is driven by the expansion of decentralized finance. (See Crypto and Digital Asset Opportunities for Insurance). Early adopters include Lloyd's (in partnership with Coincover) offering individuals hot wallet coverage and OneDegree (backed by MunichRe) providing coverage for NFTs.
- Insurers have the opportunity to provide coverage for NFT-related businesses. As currently, only a handful of providers offer this kind of cover to NFT companies, there's a good opportunity to demonstrate competitive advantages. Early examples include Aon's pilot program for offering digital asset firms coverage and Evertas' crypto asset liability coverage for directors and officers.
- NFTs can be programmed to reflect and execute predetermined conditions or rules set out by the issue such as incentives for sustainability.
- Smart contracts and insurance policies issued as NFTs are another emerging use case. For example, yInsure's smart contract insurance is available as NFTs.
- Emerging use cases of certificate of insurance (COI) issued as NFTs as more insurers figure out ways to ascertain risk, we could see more players offer NFT insurance and potentially smart-contract-based insurance policies as NFTs. (See IMA Brokers Issues Blockchain-Based Certificates of Insurance, Ledger Insights.)

Obstacles

- There are a number of challenges within the insurance market when considering the provision of cover for NFTs. The NFT market still remains in its infancy and as such brings with it a lot of volatility and variation in value.
- Digital NFT on products such as property policies struggled with physical loss to cover property. NFTs could not trigger property claims because they exist on an intangible infrastructure and, if decentralized, cannot access direct physical damage. However, as large brands are getting involved and use cases are emerging beyond the speculative domain this will be less of an issue.
- NFT scams, wash trading, hacks, etc. have serious implications for insurers in loss control and adjusting where they don't have the skill and expertise to assess claims of this nature.
- There is still a lack of data around NFTs for the insurance market to be able to confidently underwrite and price NFTs for the risks that they present.

User Recommendations

- Focus on programmability by acquiring a better understanding of the ecosystems and how value flows through their customers and business partners since the introduction of NFT presages the restructuring of industries, products and processes.
- Track and monitor early adopters. The obvious disruptive shifts in the music, media, art, gaming and sports industries will be felt first.
- Treat NFTs as indicators of the decentralization of finance. Adoption and progress with NFTs also contribute to accelerating the decentralization of finance (DeFi) by further testing the underlying blockchain technologies that support them and provide new P2P tradable assets, enabling new financing models.
- Participate in data market creation. Insurance firms should consider the opportunity provided by NFT protocols to monetize that data by creating new markets to more efficiently value such data assets.

Sample Vendors

Dapper Labs; Enjin; IMA Financial Group; OpenSea; Rarible; YellowHeart

Gartner Recommended Reading

Top 10 Technology Trends for Investment Management CIOs in 2023

3 Focal Points for Bank CIOs to Create Business Value From the Metaverse

Top 3 Trends in Insurance Asset Management for 2022 and Beyond

Personal Health Records

Analysis By: Richard Natale

Benefit Rating: Moderate

Market Penetration: Less than 1% of target audience

Maturity: Emerging

Definition:

Personal health records (PHRs) provide consumers access to and control of their data from across the patient health and wellness continuum. Consumers choose a PHR independent of the healthcare organizations they do business with. The PHR automates the ingestion of data from permission sources; enables consumer data sharing with providers, caregivers and insurers; exposes data to consumer applications and devices developed by third parties; and manages identity, consent and security.

Why This Is Important

PHRs can reduce redundant and costly diagnostic testing by providing direct access to a consumer's healthcare data as an alternative to electronic health records (EHRs) or attending physician statements. PHRs mitigate the need to integrate with multiple EHR systems. The PHR acts as a consumer-controlled consolidation point for EHR-originated data.

Business Impact

Impacts include:

- An insurance ecosystem where PHRs are fully functioning would change the way life insurers collect health-related data, reducing the cost of underwriting and the time it takes to collect medical evidence.
- Improved drop-off rates and instant decision-making are driving increased revenue and improving process cycle time.

- PHRs provide an alternative source of underwriting data when getting an exam completed will be impossible or difficult.

Drivers

- Some jurisdictions such as the National Health Service in the U.K. have a significant push underway to implement electronic health records. This could spur growth in PHRs to promote health self-management.
- The use of rule-based decision engines for automated underwriting requires real-time availability of health-related data from electronic sources.
- Insurance companies are seeking ways to lower new customer acquisition and underwriting costs through the use of electronic sources of health data.
- There is a lack of straight-through processing in insurance underwriting.
- Consumer trends are moving toward life insurance products that do not require invasive medical testing in underwriting, and that result in improved customer satisfaction from improved customer experience.
- Insurance company access to health-related data that consumers provide will offer the potential to develop more-tailored products and services that can be priced more accurately than generic risk categories.

Obstacles

- PHRs can yield numerous pages of health information for an underwriter's review. Formats and coding standards do not exist. In the absence of intelligent document processing, processing of PHR output may be excessively time intensive.
- Access to PHRs and digital sources of health data varies geographically driven by local regulations, access to the internet and affordability of smart devices.
- Consumers may not always update their records or be aware of all the information that a life insurer would require.
- PHRs are not always connected to healthcare providers or EHRs which can make it difficult for insurance companies to verify data accuracy.
- PHRs have multiple sources of data such as multiple provider EHRs and pharmacies. It is the consumer's choice as to whether or not to include them.
- EHRs have wider adoption and are controlled by healthcare providers making them a more accurate source of health-related data.
- Not all segments of the population have access to this technology to manage health history, presenting the possibility of socioeconomic inequality in insurance services.

User Recommendations

- Develop and adopt an unstructured data ingestion component of your automation strategy including from digital sources such as EHRs and PHRs to improve underwriting productivity and costs.
- Before opting for PHRs as a source of data, compare them to EHR providers to determine which path will offer the best chance of automating health data acquisition in your market.
- Evaluate third-party partners that specialize in PHR data extraction, analytics and sorting capabilities that would make the use of PHRs worthwhile.
- Continue to track the possibility of using PHRs by developing relationships with health payers that are also interested in the possible use of PHRs to evaluate consumer and provider adoption.
- Analyze developments with PHRs in different geographies across the world to prepare your organization for future opportunities.

Sample Vendors

360ofme; Apple; Human API; Knapsack Health

Gartner Recommended Reading

Life Insurance Underwriting Must Evolve to Support Emerging Insurance Business Models

Predicts 2023: Changing How Healthcare Provider Services and Operations Are Delivered

Quick Answer: Who Owns Electronic Health Information?

Advanced Life Event Management Solutions

Analysis By: Richard Natale

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Embryonic

Definition:

Advanced life event management solutions supply context via data about prospective and current customers that could trigger a life or personal P&C insurance purchasing or surrender decision. Life event data augments traditional demographic data to reduce premature surrenders, improve sales conversions, cross-sell and upsell opportunities, and personalize services. These solutions include life event tracking, access to life-event-tailored content, and a product and service recommendation engine.

Why This Is Important

- Consumer life event milestones can affect consumers' insurance needs and propensity to purchase insurance products. Life event examples include the purchase of a home, a marriage, starting a family or planning for retirement.
- Using life event triggers for existing policyholders, insurance companies can proactively reach out at key life stages to reduce unwanted customer attrition.

Business Impact

Advanced life event management solutions can improve sales and marketing processes, resulting in increased revenue, reduced customer acquisition costs and lower customer attrition. Additional benefits include:

- APIs and integration with life event data sources
- Advanced analytics and machine learning to continually improve purchase recommendations
- Propensity-scoring capability
- The ability to test and optimize messaging and content
- The ability to trigger multichannel messaging

Drivers

- Highly personalized communications based on life event triggers can produce significant improvement in response from targeted audiences.
- Insurers are looking to be more relevant to consumers' life events in order to create more meaningful interactions, reduce churn and lower their customer acquisition costs.
- The availability of external life event data is one essential element that can support more dynamic products that adjust to the data and specific needs of the customer. Gartner refers to these dynamic products as "autoadapting" and "autocomposing" products.
- With the increase in insurance online sales and competitors a "click" away, insurers need to get as close to the customer as possible at the point of sale. This increases their relevance to the consumer over companies that offer generic content based on less granular segmentation.
- With the abundance of fintech options for personalized products and segment-specific offerings, it's crucial for traditional insurance companies to deliver a tailored experience for prospects during the buy cycle of the customer journey.

- Insurance marketing departments must invest in a variety of strategic partnerships and guided selling tactics and technology to support consumer consideration at different stages of the customer journey. Insurance CIOs must be in a position to adapt their technology and data platforms accordingly.

Obstacles

- Collecting, storing, processing and analyzing personal information do not come without risks. While the use of advanced life event management solutions could meaningfully improve insurance sales and marketing performance, investment in third-party data acquisition, training and integration could prove expensive.
- To avoid data integrity issues and unnecessary operational costs, introduction of life event data into insurance processes should be preceded by an established data governance and data management capability.
- Balancing the benefits of improving revenue with a comprehensive data ethics program and the privacy expectations of consumers is critical.
- Companies struggle to measure the impact of life event triggered communications, which inhibits their ability to reap value from them. Acquiring life event data is one thing; building the predictive analytics capability that makes the data useful is another.
- While most consumers accept some personalization efforts by businesses seeking to engage them, their willingness to share data varies by age and income groups.

User Recommendations

- Expand the use of advanced life event management solutions as they embrace direct-to-consumer business models for insurance companies.
- Evaluate and select the type of life event data provider that best suits your business needs and technical and analytics capabilities, such as point-in-time data purchases versus API-based subscription life event monitoring services.
- Work with your chief marketing officer to develop an event-driven marketing program that optimizes the use of life event data.
- Factor the use of life event data into the product design process by determining what life event data could trigger an autoadapting product change that, in turn, could be introduced to a policyholder as a cross-sell/upsell opportunity.

- Collaborate with the chief data officer, privacy officer and COO to build a consent management process that ensures consumer privacy requirements are met when using first-party or third-party personal data in insurance processes.

Sample Vendors

Acxiom; Atidot; datadecisions Group; Experian; Fenris Digital

Gartner Recommended Reading

3 New Customer Experience Requirements That Will Impact Digital Insurance in 2023

The Financial Services Marketing Leader Research Guide

What to Do With All That Data: The Top Areas Where AI Is Applied in Insurance

Insurers Must Implement Dynamic Customer Engagement to Solve the Customer Experience Dilemma

Ignition Guide to Implementing Your Event-Triggered Marketing Program

Genomics and Epigenetics

Analysis By: Richard Natale, Reuben Harwood, Michael Shanler

Benefit Rating: Transformational

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Genomic and epigenetic data are utilized in insurance for underwriting and product development by incorporating individual and population genetic information as well as studying how behaviors and the environment influence gene expression. Genomic and epigenetic testing has the potential to provide data for predicting morbidity and mortality, enabling actuaries to improve modeling accuracy and personalize insurance product offerings.

Why This Is Important

Genomics and epigenetics represent transformational capabilities for the insurance industry. Genomic profiles, combined with individuals' environmental and behavioral characteristics, can provide actuaries with more accurate measures of biological age, mortality and morbidity. And as life insurers redefine and grow customer relationships, they can use genetics to differentiate their experience by helping provide a more accurate understanding of their policyholder's life expectancy.

Business Impact

Impacts include:

- Genomic and epigenetic testing can provide information on susceptibility to diseases that can result in improved risk rating and profitability.
- Epigenetics could be used as part of a well-being offering to change people's lifestyles and could reduce lifestyle-induced claims.
- Epigenetics could be used as input into product design to personalize insurance products and services as more is understood about how behaviors and environmental factors impact individuals' well-being.

Drivers

- Reduction in cost of sequencing is making access to these data more affordable.
- As the amount of personal genomics data collected and shared increases, and if actual individual genetic details are shared, actuaries can tailor pricing, products and services to the specific genetic makeup of the individual and improve mortality risk classification.
- Improvements in polygenic risk scores (PRS) (tools used to evaluate an individual's likelihood of developing heritable diseases) are particularly valuable to insurers due to two main advantages: (1) the ability to identify high-risk groups by using PRS alone or in conjunction with traditional risk factors, and (2) the potential to guide early interventions that could potentially modify future disease incidence and mortality.
- In concert with genomic testing for predisposition to disease, epigenetic testing can enhance an understanding of policyholder behaviors and environmental conditions that can negatively or positively impact mortality and morbidity and biological age. This data can be used to then nudge a policyholder toward healthy behavior.
- The effects of behaviors such as smoking and excessive alcohol use are evident for significantly longer periods of time using epigenetic testing versus standard blood and fluid tests making it more effective at better understanding hazard ratios.
- The scientific breakthroughs from genomics and epigenetics will change understandings of life expectancy, causing insurers to build mortality changes into their actuarial modeling. In particular, insurers will adjust predictive analytics models to incorporate changes in genomics studies.
- Artificial intelligence and machine learning now have great potential to aid in leveraging this data for risk analysis purposes.
- New direct-to-consumer genomics testing services are on the rise. This will only expedite the progress and awareness among consumers of their life expectancy. If investment is not made in this technology it could result in a risk of adverse selection for the insurer as more people acquire private genetic information.

Obstacles

- Consumer willingness to share personal genetic makeup with insurance companies and their concerns over how it is shared.
- It is challenging to make this knowledge actionable by insurers such as underwriters, as they are not well-trained to incorporate an actionable insight from genomics within their workflows.
- Epigenetic testing services specific to support life insurance are not expanding making it difficult to find innovation partners.
- Genomic testing measures a person's immutable genetic makeup. It is out of an individual's control, which could lead to discriminatory underwriting decisions in the eyes of regulators.
- Regulatory restrictions in many countries (such as HIPAA and GDPR) will halt insurance companies' progress in genomic testing until the use of health data is legalized. There has been little movement in this regard.
- Genomic testing assesses an individual's predisposition to a disease but does not provide a definitive guarantee of its occurrence.

User Recommendations

- Track global developments with regulatory authorities around genomic testing versus epigenetic testing to determine the willingness of authorities to allow for the use of either one in life insurance underwriting.
- Create an impact analysis of current and future regulations for genomic and epigenetic adoption by working with your legal counsel and risk management teams to determine the organization's risk appetite for using this type of data in core insurance processes.
- To assess consumer interest in genetic awareness, consider offering genetic testing as a side benefit in a wellness program. Don't confuse covering genomic (as a benefit) with tailoring benefits based on genomic testing which are two different things.
- Start evaluating the technological and usage developments in epigenetics to get familiarized with its capabilities. Engage with epigenetics medical institutions and technology startups to quantify the latest developments. Many jurisdictions treat genetics and epigenetics as fundamentally different.

Sample Vendors

23andMe; ActX; Ancestry; Eurofins Genomics; FOXO Technologies; Helix OpCo; Illumina; OmniTier; Sentieon

Gartner Recommended Reading

The Future of Insurance: Vision for 2027

Healthcare and Life Science CIO's Genomics Series: Part 1 — Understanding the Business Value of Omics Data

Healthcare and Life Science CIO's Genomics Series: Part 2 — Formulating an Omics Vision

Customer and Societal Ecosystems

Analysis By: Laurie Shotton, Alistair Newton

Benefit Rating: Transformational

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Customer and societal ecosystems describe the connections and the data flows that develop as machines, sensors and associated technologies become increasingly integrated into the domestic and work environments for both citizens and companies. These ecosystems will increasingly define the environments within which financial services products and services are delivered and consumed, and will prove pivotal to supporting new business models and revenue for financial services and insurance (FSI).

Why This Is Important

Innovative, industry-leading FSI CIOs are increasingly being called on to map out a vision for how technology will influence their specific market sector. FSI CEOs are pushing to grow their enterprises, but this objective cannot be achieved with existing business models, products and services. Customer and societal ecosystems describe substantive aspects of how technologies impact their customers and how FSI may support them with new products and services.

Business Impact

Customer and societal ecosystems will set the context in which financial services products are consumed by customers:

- They will offer FSI new ways of engaging with their customers and establishing new products and services; thus, moving beyond traditional offerings blending and orchestrating in other industry products and services with a drive to generate net new revenue.
- These ecosystems will be based on direct customer relevance, enabling FSI to align with actual consumer needs, combining embedded finance and insurance opportunities into other business models and marketplaces.

Drivers

- The evolution of technologies embedded in people's lives and within enterprises are expanding data flows and touchpoints, creating an opportunity for FSI to develop net new products/services that sense and respond to customers in the wider context of their values.
- Business opportunities also arise from adjacent industries, developing marketplace and platform offerings that create a financial services need or product positioning opportunity that addresses the needs of the enterprise or end customer.
- Customer and societal ecosystems act as a common descriptor for a range of ecosystems and platform models that are developing across industries. These ecosystems are developing with the emergence of embedded Internet of Things technologies and sensors, autonomous machines and other connected technologies that evolve within the realm of cities, buildings, transport systems, personal devices and business environments.
- FSI can, with relevant permissions and privacy guarantees, access connected devices in a citizen's home or business to interact and source data, helping the owner to run their home or business more efficiently. The data is used to maintain the property, manage costs and keep the property secure.
- The access to data and the ability to interpret and analyze it, will allow FSI to rethink how they provide products and services to their customers. It will enable them to better understand their customers' needs and deliver their products close to where customers will actually need and use them. Ultimately, it will enable them to innovate new underlying business models.

- The application of customer and societal ecosystem thinking will enable a much deeper appreciation of the world around end customers and create relevance for future product and service offerings by creating a focus on three key core components: technology actors — digital infrastructure of sensors, machines and technology that will generate the data; business actors — enterprises manufacturing, managing or owning the technology actors; and data flows — data generated by the technology that will flow across and through these developing ecosystems.

Obstacles

- Customer and societal ecosystems will develop outside the span of control of most of FSI. They involve technologies unfamiliar to many FSI CIOs and business alliances perceived as not within CIOs' span of control.
- To engage in customer and societal ecosystems requires enterprise bravery and a step into the unknown. Developing new product and service offerings, working with extended data sources, and different industry sectors may be considered too culturally challenging and risky for some.
- Many in FSI will be put off from engaging in this space because of real or perceived concerns over the privacy of customer data. However, the models are developing and maturing in other industries, creating opportunities for participation.
- For many in FSI, their legacy will limit their ability to participate in such ecosystems. Deficiencies in analytics capabilities may restrict their ability to meaningfully analyze any of the data output. Risk, regulations, business model and geographical differences will mean ecosystems will not develop in a uniform way across lines of business and markets.

User Recommendations

- Test the appetite to invest in customer and societal ecosystems by running visioning workshops to engage IT and business leaders in the art of the possible, and ascertain the vision and willingness to engage in ecosystems and platform models.
- Evaluate the developments of customer and societal ecosystems across different industries. In particular, document the business and technology actors, data flows and value created from the ecosystem.
- Build a catalog of technologies that are relevant to end customers by examining the sales and utilization of different emerging technologies and sensors within the end customers' homes, businesses and lives.
- Prepare the underlying architectural strategies for customer and societal ecosystems by using Gartner's digital business technology platform framework research to develop a vision of what the architectural approach might look like for your enterprise (see Build a Digital Business Technology Platform to Support Emerging Insurance Business Models).

Gartner Recommended Reading

Build a Financial Services Vision for Customer and Societal Ecosystem Innovation

How Financial Services CIOs Can Accelerate Their Enterprise's Ecosystem Development

How Financial Services Ecosystems Will Change CIO Thinking

Reimagining Financial Services Digital Economics in a Time of Global Disruption

Open APIs in Insurance

Analysis By: Sham Gill

Benefit Rating: High

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Open APIs (aka public or external APIs) are application programming interfaces (APIs) that are published for consumption by third-party users and applications. Insurance open APIs enable consumers (developers) to use self-service portals to register and gain access to insurance products and services.

Why This Is Important

Open initiatives are paving the way for new innovation and possibilities for disruption in insurance, and APIs provide the technology that makes them work. It's important that insurance CIOs recognize that open APIs aren't just a technology issue. They enable connectivity between the insurance company and its external ecosystem partners. As such, they need to be considered as reusable products in their own right, with their own intrinsic business value.

Business Impact

Publication of their own open APIs and using partners' open APIs can boost digital transformation in insurance. Open APIs can expand an insurer's reach to a broader audience and enable innovation and transformation by providing frictionless value exchange with business ecosystem partners. They also enable faster delivery of new products, services and business models that enable the direct and indirect monetization of APIs.

Drivers

- The 2022 Gartner Financial Services Technology Survey reveals that the top three areas P&C insurance CIOs expect open APIs to make an impact are increasing innovation, introducing new products and services, and improving the customer experience (CX). Furthermore, 67% have either already invested and deployed, or are already experimenting with open APIs.
- Open APIs lay the foundations for open insurance, which is a natural evolution from open banking and the whole open finance movement. Open insurance will be driven by a market need for insurers to transform and participate in business ecosystems. This will require insurance CIOs to prioritize open APIs, whether inbound or outbound, in their digital technology platform roadmaps.
- They enable the creation of net new revenue streams through new business models, products and services distributed through partners. Embedded insurance is one such example where open/external APIs play a critical role in providing distribution partners with ease of access to insurance products.
- Changing consumer expectations on digital access to insurance require open APIs to meet the need to access and control personal data
- Open APIs support process optimization by reducing transaction friction between partners and customers. For example, enabling claims data, images and analytics captured at the first notice of loss to be seamlessly exchanged with auto repair partners to optimize estimation and repair scheduling.

Obstacles

- The strategic and business value of open APIs in insurance is not understood. Integrations are still being built using traditional approaches, like custom-built point-to-point product extensions, with associated traditional KPIs like the number of API calls.
- When compared to other financial services business divisions like banking, standard generation and acceptance in insurance has been far lower which obstructs scaling.
- While frictionless value exchange is technically possible, it may not be desirable for business or compliance reasons. For example, enabling insurance provider switching via open APIs may be achievable. But, switching can often be a difficult process that necessitates advice on issues like product fit and regulatory compliance.
- Open initiatives are growing across industries. Insurers probably use APIs more than they produce, thus they need to know which APIs they can use.
- Current use cases focus on specific parts of the insurance value chain, like data aggregation, quotes and new business, and predominantly on simpler P&C products like travel and gadget insurance.

User Recommendations

- Create the case for investment in open APIs by working with business stakeholders to identify the integration points in future open insurance business models that involve external partners.
- Track API transactions by using API management tools to monitor message volumes and trends, and provide business stakeholders with clear evidence of the need for open APIs.
- Foster relationships with external partners by identifying common transactions to help fund the co-creation of new open APIs.
- Entice partners to experiment with creating new open API-based services by creating sandbox environments that require less rigorous scrutiny and registration than production versions to reduce the barriers to adoption.
- Manage the consumption of third-party APIs the way that you should manage SaaS applications: negotiate and enforce SLAs, security compliance, licensing terms and continuity of service.

Gartner Recommended Reading

To Prepare for Open Insurance Opportunities, CIOs Should Strategically Invest in APIs

Case Study: An Insurance API-Driven Digital Ecosystem Transformation

How to Design Great APIs

How to Use KPIs to Measure the Business Value of APIs

Total Experience

Analysis By: Kimberly Harris-Ferrante

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Total experience (TX) is a strategy that creates superior shared experiences by intertwining the multiexperience (MX), customer experience (CX), employee experience (EX) and user experience (UX) disciplines. This is not just about making everything better for the customer and then eventually bringing the EX up to the same level. It's about all of the experiences continually learning from each other, refining and creating an exponentially better experience across them all.

Why This Is Important

TX is a strategy about how to use the technology and interactions to enhance, empower and embolden both customers and employees. Insurers should understand how technology can be leveraged to support policyholder, agent and employee experiences in sales and customer service/claims processes to enable digital success and promote business value.

Business Impact

Impacts of total experience include:

- Improved employee lifetime value and satisfaction to avoid turnover, knowledge loss and improve productivity.

- Enhanced customer loyalty, and churn prevention and customer satisfaction increases.
- Operational improvements, such as reduction in claims handling time or sales closure rates or reduction in operational costs.
- Improved revenue from improved sales for existing and new products/services.

Drivers

- The maturing of digital strategies in insurance where insurers are now seeking more advanced ways to drive interaction with customers, leverage digital technologies (such as cloud, analytics,IoT and omnichannel platforms) to improve operations and enhanced CX for more complex interactions.
- Technology advancements allow greater opportunities to connect across multiple platforms with multiple ways of engagement (voice, gestures, touchpoints, etc.).
- Enhanced sophistication in ecosystem partners and platforms which enable composite applications and open insurance.
- “Connected” devices with cloud-based applications have proliferated across multiple organizations and in consumer electronics/vehicles, providing more opportunity to connect and understand employees, customers and the technology data points at a higher level.
- Talent and staffing issues which are making insurers seek ways to do more with less employees and empower employees to be efficient/productive.
- Employees can be more customer-centric through digital solutions in agent offices, the field (e.g., claims adjusters), home office and in the contact center. This is essential in fulfilling omnichannel interactions and driving consistency in experiences across all products or channels.
- Initial investments can be scaled to add external ecosystem partners to increase the long-term value.
- New technologies such as generative AI which will further help with employee productivity and CX.

Obstacles

- While most insurers are focusing on CX, focus on employees is low. This is not a main driver for digital investments today.
- A disconnect between CX and EX strategies including the roles/teams owning implementation with no shared metrics or outcomes.
- The fact that some CX is out of the control of the insurance company, managed by agents, distribution or other partners.
- Lack of skills in the business such as human-centered design and workforce change management to succeed in TX.
- Even as organizations transform digitally, they still struggle with modernizing for digital experiences that prevent richer MX customer and employee journeys across multiple devices with multiple touchpoints and modalities. This is especially true in insurance as they operate redundant legacy systems which cause MX challenges.
- TX is not a technology which is purchased but a vision where multiple technologies must be compiled and integrated, which may drive IT complexities.

User Recommendations

- Overlay TX with your digital strategy to identify complementary projects across CX and EX, and to highlight opportunities in sales and customer service where TX would help enable business success.
- Gain support by conducting “art-of-the-possible” meetings to show how TX transformation can lead to improved business performance.
- Engage HR to understand EX needs and overlay with automation strategies to identify work enhancements needed.
- Evaluate the needs of all three audiences — policyholders, agents and employees — to select the right experience, technologies and processes which need to be digitized to support growth, customer retention and operational efficiencies.
- Identify gaps in CX strategy by mapping user journeys and processes to assess process bottlenecks, areas for low customer satisfaction or longer processing cycles, for example, then map against MX and experience needs for both human-based interactions and digital transactions.

Gartner Recommended Reading

Build Links Between Customer Experience, Multiexperience, User Experience and Employee Experience

Transcend Omnichannel Thinking and Embrace Multiexperience for Improved Customer Experience

What Do Insurers Need From Vendors to Create a Total Experience Solution?

Enable Total Experience to Optimize Digital Insurance Outcomes

Total Experience Transformation Starts With Business Architecture — Presentation Materials

Conversational User Interfaces

Analysis By: James Ingham, Van Baker, Frank O'Connor, Kimberly Harris-Ferrante

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Conversational user interfaces (CUI) are human-computer interfaces that enable natural language interactions for the purpose of fulfilling a request, such as answering a question or completing a task. The sophistication of a CUI can vary from understanding basic queries to handling complex multiturn dialogs, ranging from Q&A bots to more advanced virtual assistants (VA). CUIs fundamentally shift the interaction medium from traditional point-and-click to human-natural-language-driven.

Why This Is Important

AI-enabled CUIs can provide a single, intuitive, common interface to multiple application functions across the organization. CUIs can improve access to information for internal insurance users, as well as help service basic account queries and transactions for policyholders, to alleviate demand volume on human channels and support fast digital response in times of crisis (e.g., catastrophe).

Business Impact

- CUIs have the potential to improve efficiencies through human augmentation and automation in employee-facing use cases.
- The future of user access through natural-language prompts, by text or voice, can allow underwriters and claims users to accelerate interactions and navigation within their business applications.
- These enhancements can accelerate processing during busy periods and shorten customer response times.

Drivers

- Insurance customers value more and better touchpoints, greater general convenience, and increased safety and speed of transactions when engaging insurers.
- Increased use of chatbots in other industries will have a secondary impact of familiarizing policyholders with this technology.
- Insurers can use conversational interfaces to handle simple customer interactions while capturing context, like change of address or beneficiary, or to handle policy cancellations, freeing up call center capacity to more rapidly respond to complex enquiries or distressed customers.
- Life insurers use CUIs to support personal health and wellness enrollment and coaching, as insurers are now progressing from sales-oriented use cases through to additional self-service use cases for policyholders.
- Users increasingly expect to hold conversations and ask natural language questions of applications. CUIs can enhance business applications to create this capability.
- The drive toward task automation, process automation and eventually hyperautomation will necessitate the use of CUIs. This will reduce call center traffic, automate paper processes using voice, drive online quote-and-bind and policy issuance, leverage natural language processing for servicing, and enable value-added services.
- The continued hype around generative AI and large language models (LLMs) will reignite interest in CUIs. Insurers who struggled to deploy effective conversational interfaces or avoided deploying CUIs may feel the accuracy of LLMs are apt for them to begin trials.
- LLMs can decipher wider data sources that could not be consumed by a human, with details that augment decision making for customers and employees alike.
- Insurers can source conversational capabilities through core conversational platform vendors as well as other solution categories. These categories include customer communications management (CCM) and dedicated insurtech point solutions to engage specific areas of the value chain, such as new business and claims processing.

Obstacles

- Lack of CUI personality, poor accuracy and conversational design, as well as unreliability of answers generated by LLMs, can negatively affect user sentiments, and adoption and ROI.
- CUIs that make incorrect decisions or exacerbate poor employee behavior by presenting as next best actions will dent insurance leaders' confidence to roll out this technology; rollout may be slower than in other industries.
- Insurers must source talent in emerging roles to create and support conversational experiences. Roles include dialogue designers, AI trainers, digital coaches and AI interaction designers.
- Insurance customers report chatbots difficult to use when interacting with their provider. Limitations with early deployments may discourage policyholders from using this channel again, reducing the ROI for this use case.
- CUIs will not be appropriate for every application. Systems for actuarial modeling, rating, pricing and reserving are technical applications with limited business benefit when enhanced with CUI.

User Recommendations

- Work with customer service leaders to identify conversational use cases requiring centralized customer experience improvements in the call center, mobile interaction and website. Prioritize point solutions to quickly solve niche problems that cannot reuse centralized tooling.
- Engage with your data and analytics leaders and enterprise architects to identify knowledge requirements to create meaningful and productive interactions.
- Evaluate various customer use cases for sales, customer service and claims, as well as the accuracy requirements for language and insurance terminology. Examine the need to understand and mimic empathy to identify problems and respond appropriately.
- Focus on prebuilt insurance terminology/learning and insurance-specific use cases when evaluating CUIs for internal use — for example, when users want to search for policies or claims using insurance language, such as "beneficiary," "policyholder," "inception date" or "renewal date."

Sample Vendors

Amazon Web Services; Amelia; Artificial Solutions; Avaamo; Creative Virtual; Google; Omilia; Openstream.ai; Spixii; Verint

Gartner Recommended Reading

Tool: Artificial Intelligence Use Cases for Insurance

Selecting Conversational AI Solutions for Chatbot and Virtual Assistant Initiatives

3 New Customer Experience Requirements That Will Impact Digital Insurance in 2023

Magic Quadrant for Enterprise Conversational AI Platforms

Intelligent Document Processing

Analysis By: James Ingham, Richard Natale

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Intelligent document processing (IDP) solutions extract data to support automation of high-volume, repetitive document processing tasks and to provide analysis and insight. IDP uses natural language technologies and computer vision to extract data from structured and unstructured content, especially from documents, to support automation and augmentation.

Why This Is Important

IDP is increasingly important to create operational efficiencies in underwriting, claims, supply chain management processes that need to extract large amounts of information from semistructured and unstructured data for further analysis. IDP caters to a wide variety of predominantly human-centric use cases in both life insurance (underwriting, disability and medical claims) and in P&C (commercial and specialty broker submissions, complex property damage and catastrophe claims).

Business Impact

IDP solutions can help insurers with:

- Reducing human labor to process documents and the improvement of document-based workflows, as a precursor to process automation and as a building block for hyperautomation.
- Extracting relevant data from different input formats for further analysis, validation and preprocessing to reduce error rates from manual rekeying.
- Accelerating underwriting and claims decision making which improves customer and broker service levels.

Drivers

- Nonstandardized formats require humans to spend time deciphering and extracting information prior to performing their assessment task. Cutting this activity in terms of costs and SLAs is appealing for life and P&C insurers, as they ingest electronic health records, personal health records, attending physician statements, statements of values, historical loss runs, and engineering reports.
- freeing up underwriting and claims technicians from reading and extracting information from documents, expert knowledge workers can refocus on decision making and value add tasks. Achieving higher throughput of documents allows an insurer to grow a book at a lower cost through reduced bandwidth requirements.
- Back office processing use cases extend to anywhere documents are manually swapped, scanned or stored, including filing product rates and regulatory reporting.
- Vendors in a wide range of segments are launching capabilities, including dedicated insurance-specific startups, established document processing vendors, and platform vendors. Insurance CIOs have choice and flexibility in procuring dedicated IDP capabilities using IDP in existing solution deployments.
- Vendors are bringing a variety of approaches and can match the insurers ethos of how technology is deployed to assist knowledge workers. Insurance CIOs can select from models that are pretrained on external data, trained specifically on their own data, or trained by its users as part of their workflow.
- Insurers require high accuracy, consistency and efficiency in extraction and automation processes for critical operational tasks while preserving context — especially when extracting contract clauses and exclusions which impact contract certainty and insured exposure.
- Enhanced capabilities to denoise and preprocess semistructured and unstructured data helps insurers better utilize data which may pass through several intermediaries, losing original formatting and lacking consistent data standards. Generative AI capabilities can also accelerate data processing and cope with larger datasets.

Obstacles

- Many insurance organizations are evaluating this technology but are looking for enhanced features to cater to wider use cases and growing business needs. However, integration complexity makes it challenging.
- Upfront investment in model training and skills is required in order to develop acceptable accuracy levels for complex documents, and overcome an inherent lack of trust in the completeness of extracted data.
- Insurers remain skeptical of the accuracy of IDP solutions when dealing with the most complex data capture requirements. Many vendors' production experience is limited to specific LOBs or regions and models may require retraining when expanding usage across the business.
- Large language models (LLMs) have the potential to increase the speed and accuracy of text extraction, however existing IDP solutions will take their time to replatform. Insurance CIOs may face the pressure from internal stakeholders to develop LLM capability more broadly instead of procuring a vendor solution, slowing adoption.

User Recommendations

- Align with business stakeholders on accuracy and efficiency baselines for the process, which may vary across LOBs.
- Make the user base part of the solution instead of pushing a solution on to them. Work with a range of underwriting and claims users at different seniority levels to establish if processes need to change to more efficiently make use of an IDP solution.
- Develop effort estimates during the initial training and deployment phase and their impact on underwriting and claims users. Effort may be duplicated during these phases and users manually corroborate information until trust in the system is established.
- Treat IDP as a component that integrates with other platforms/applications, and prioritize loose coupling based on workflow or event triggers. Deploy in tandem with data prefills that allow for rapid verification of extracted data to support autonomous processing.
- Evaluate embedded industry-specific IDP in claimed “out of the box” insurtech solutions to handle constructs such as insureds, beneficiaries, coverages, limits and exclusions that will accelerate document analysis.

Sample Vendors

Amazon Web Services (AWS); Appian; Cortical.io; Eigen Technologies; EXL; Google; Groundspeed; IBM; Indico Data; Verisk

Gartner Recommended Reading

Infographic: Understand Intelligent Document Processing

Why Digital Life Insurance Success Demands Autonomous Underwriting

Market Guide for Intelligent Document Processing Solutions

Quick Answer: How to Prioritize Requirements in the RFP for Intelligent Document Processing

Tool: RFP for Intelligent Document Processing

Embedded Insurance

Analysis By: James Ingham, Laurie Shotton, Sham Gill

Benefit Rating: High

Market Penetration: Less than 1% of target audience

Maturity: Emerging

Definition:

Embedded insurance is integrated into the process design of a distribution partner, where insurance becomes invisible or a byproduct of an offering. They enable partners to create seamless experiences and offer greater convenience for customers. Progressing beyond simple referral or affinity offerings, the next generation of embedded insurance is co-developed, bundled and integrated in a seamless approach to become integral to the partner value proposition.

Why This Is Important

Insurance protection gaps continue to exist as new risk categories emerge and the gig economy changes the way services are procured. Embedded insurance offers the potential to generate net new revenue streams for insurers beyond more conventional D2C channels. Connected to the platform economy, these products can help create a more attractive proposition and loyalty for the distributor, in turn creating a recurring revenue stream for the insurer at a lower customer acquisition cost.

Business Impact

Embedded insurance is a business led discipline, but Insurance CIOs will need to establish the right technical foundations to:

- Connect to insurtech platforms using a combination of open APIs, white-labeling capabilities, autogeneration of product APIs and intelligence for generating real-time insights.
- React to changes in product consumption patterns that are fully integrated with core systems for end-to-end processing.

Drivers

- It enables insurers to position products and services in closer proximity to customer needs. By doing so, embedded insurance removes unnecessary friction and improves customer experience.
- A significant amount of hype is being driven by vendors and insurers who use the term “embedded” to describe existing simple offerings for affinity (such as extended warranty for smartphones) or referral (offering travel insurance at the POS when booking a flight online) offerings. This hype will spur innovation for players who want to go beyond this to explore net new opportunities, gain first-mover advantage, and secure better commercial terms with partners rather than competing against an incumbent offering.
- Platform economy apps will expand beyond initial categories for property rental, food delivery or ride-hailing into new categories such as nursing, property maintenance, and microbusiness consulting as working patterns evolve. The gig economy will expand the potential revenue associated with small-business owners’ insurance.
- Payment companies such as Revolut, PayPal and Credit Karma are now expanding their offerings across wide financial services capabilities · As these evolve into financial service super apps, insurers have an additional opportunity to lower the distribution costs for simple P&C and individual life insurance offerings.
- Increased cellular coverage and access to mobile phones also creates the opportunity to embed insurance products into telecom services in emerging economies such as Central Africa and South-East Asia.
- Insurtechs are testing both sides of the distribution model by offering their own embedded insurance products as well as offering their technology to enable partners to create new products and services. Insurers can use these platforms to rapidly test and iterate new embedded products at a faster pace than can be delivered by central IT capabilities alone.

Obstacles

- Existing insurance products will need to be simplified so that they can be externalized and bound and issued in a seamless manner without the use of underwriting referral.
- Culture change will be needed by insurers who need to actively go out and seek opportunities to partner with embedded insurance, rather than being responsive to approaches from third parties.
- Most embedded insurance focusses on quote-and-bind. However, the claims experience will dominate customer satisfaction, and innovation will be required in the claims channel to delight customers.
- Embedded insurance will cannibalize existing sources of revenue and take share from existing channels, such as agents and brokers.
- Regulation for embedded insurance varies considerably across the globe. For example, “opt out” mechanisms for embedded insurance are permitted in some European countries, but not in the U.K. or France.
- Ensuring customers understand policy risks and coverages at the embedded point of sale. Insurers will have to take care not to missell policies in the pursuit of a seamless journey.

User Recommendations

- Learn from innovators what might or might not work by mapping their customer journey against traditional offerings to create a capability gap analysis. Choose innovators that offer either: Embedded insurance through superapps designed to orchestrate insurance offerings or embedded finance in banking creating new sources for customer value and distribution.
- Identify viable third-party platforms, including platforms serving the gig economy, as opportunities for embedding insurance. Check with your legal counsel on any regulatory roadblocks that might prohibit uptake of these platforms. Work with your business partners to define how new or existing insurance products could be innovated and embedded in order to elevate the platform proposition.
- Link embedded insurance projections to business value by creating data models that use predictive analytics to ascertain the size of the opportunity for net new revenue versus the impact on existing revenue.

Sample Vendors

Ancileo; Assurely; Bimaplan; Boost; Companjon; Cover Genius; Kayna; Pattern

Gartner Recommended Reading

Top 10 Technology Trends for P&C Insurance CIOs in 2023

Build a Digital Business Technology Platform to Support Emerging Insurance Business Models

To Prepare for Open Insurance Opportunities, CIOs Should Strategically Invest in APIs

Insurance as a Service

Analysis By: Sham Gill

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Gartner defines “insurance as a service” as a platform offering insurance products (typically exposed via APIs) along with technologies for digital customer engagement and service that are delivered on the cloud via a subscription-based pricing model.

Why This Is Important

Insurance-as-a-service offerings are being marketed as platforms for insurance CIOs and other partners, to leverage prebuilt insurance products and distribution capabilities on a subscription basis. They aim to enable insurers to launch new products and services to market them far more rapidly than they could do themselves. These platforms have the potential to enable CIOs to meet CEO’s ambitions for growth, transformation and entry into new markets.

Business Impact

Insurance-as-a-service has the following business impacts:

- Insurance CIOs will need to seek innovative solutions to deliver to market radically new customer experiences and products faster. Insurance-as-a-service offerings may help CIOs meet the demand for rapid product launch and innovation for selected products serving new demands.
- Insurers may seek to launch insurance-as-a-service offerings to expand distribution and service opportunities through new partners to attract net new revenue for growth and counter the threat from insurtechs.

Drivers

- Access to insurance-as-a-service models could enable insurance CIOs to explore the creation of new products, services and business models to accelerate digital transformation, drive net new revenue and enter new markets.
- Insurance CIOs facing pressure to deliver business outcomes more quickly, or in new geographies, will look to solutions that enable them to overcome challenges with legacy technology and internal skills.
- They require lower capital expenditure than self-build options as the platform service is made available to many, with costs shared across users, offering a lower-risk innovation opportunity to trial a product offering and decide whether to pursue it.
- Inherent scalability and in-built regulatory compliance for products reduces the obstacles to rollout innovation in products and servicing.
- Insurance becomes plug-and-play capabilities that insurers can stitch together to suit their business needs.
- Insurance-as-a-service offer a diverse set of capabilities designed to offer speed to market. They can include: (1) The ability to create or co-create brand new products directly on the platform, (2) the ability to white-label preexisting insurance products. These are typically constrained to simple or niche P&C insurance products, or products designed to service new target markets, such as gig economy workers, (3) digital customer engagement tools and accelerators, such as mobile apps, portals and chatbots, (4) customer analytics, contextualization and personalization tools, (5) AI-based risk selection algorithms, (6) compliance and regulatory support, (7) marketplaces for accessing third-party vendor content, (8) insurance capacity and reinsurance management, (9) externally exposed APIs for enabling partners to access and distribute the products through different channels, and (10) cloud deployment for resilience, elasticity and usage-based pricing.

Obstacles

- There is no single, consistent market definition. Offerings are currently a confusing mix of business models, technologies, services and products where marketing is often ahead of reality.
- Platforms are evolving rapidly, with little uniformity in business capabilities, technology capabilities and insurance LOB product coverage. Most products offered on insurance-as-a-service platforms are simple P&C insurance products, such as travel insurance and gadget insurance.
- Given that many commercial insurance-as-a-service platforms offer their own insurance direct to consumers while also offering access to products and tech capabilities as-a-service B2B, there is often unease on whether these platforms are competitors, frenemies or true partners.
- Insurance-as-service quite often morphs into establishing that insurers are actually seeking to explore embedded insurance opportunities, questioning the viability of insurance CIOs investing in these platforms.

User Recommendations

- Ascertain what the business is trying to accomplish, to avoid misplaced investments and missed business outcomes. Each of the insurance-as-a-service models will lead to a shift in control of insurance products, technology, distribution, customer experience and technology.
- Host visioning workshops with business partners, such as scenario planning, to ascertain the enterprise's appetite for a more service-driven model that engages third-party partners for digital transformation and cost optimization.
- Validate who will have access to products, services and intellectual property developed on the platform. This ensures that investments in insurance-as-a-service models do not inadvertently fuel competitors.
- Pay special attention to regulatory-required data privacy that impacts consumer trust, security and data integrity, thus ensuring that technology investments support strong data privacy and security.

Sample Vendors

Boost Insurance; bolt; ELEMENT Insurance; Qover; Slice

Gartner Recommended Reading

Quick Answer: Insurance as a Service — What Is It, and Why Should CIOs Care?

To Prepare for Open Insurance Opportunities, CIOs Should Strategically Invest in APIs

Case Study: An Insurance API-Driven Digital Ecosystem Transformation

At the Peak

Insurance Telematics 2.0

Analysis By: James Ingham, Kimberly Harris-Ferrante

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Insurance telematics 2.0 describes the second generation of vehicle telematics solutions, which leverages a range of data collection, customer experience and supplemental technologies to go beyond simple usage-based insurance. Distracted driving technology, automated e-call, theft recovery and accident reconstruction tools can support more advanced business models leveraging dynamic customer engagement and panoptic personalization.

Why This Is Important

Second-generation insurance telematics offerings combine additional data, hosting and integration to support a new range of behavior- and usage-based products and a growing focus on safety and prevention services. Insurance telematics 2.0 provides a new way for insurers to engage with policyholders to promote safer driving, accelerate accident response and save lives in the event of an auto accident, as well as build stronger relationships and loyalty.

Business Impact

Impacts include:

- Insurers can differentiate in the market by going beyond usage based insurance (UBI) discounting to create longer-term revenue opportunities by becoming an active partner in customers' mobility.
- Loss prevention through safer driving and behavioral change will reduce claims frequency and severity at a time of rising claims costs and extended claims periods.
- New data capture allows deeper insight into high-risk-rated driver and vehicle categories, guiding product pricing and giving a platform to fill this coverage gap.

Drivers

- Telematics data unlocks individualized risk assessment, triggers for business processes such as a first notice of loss (FNOL) for claims, and for future risk selection to drive underwriting profitability (see Optimizing Telematics to Maximize Return on Investment for Auto/Motor Insurance).
- Consumers who try simple UBI products for the first time are exposed to a different way of engaging with their insurer, paying the way to move to advanced business models including panoptic personalization.
- Integrating into a customer's mobility patterns and usage creates a more sticky relationship with drivers to reduce policyholder churn and improve customer acquisition costs for insurers. Finding new ways to engage with customers, such as rewards and loyalty offerings and access to third-party services will also help deepen customer engagement.
- A growing focus on safety and prevention services from auto insurers that seek to apply data to help model risks and share with customers to adjust behavior and prevent claims, or reduce the risk of injury in the most severe auto accidents.
- Increased automation and straight-through processing in auto lines require crash diagnostics data to flag claims fraud at the point of FNOL. Telematics data also supports accident reconstruction as part of the downstream special investigative unit (SIU).
- Vendors are creating platform offerings and microservices that allow insurers to leverage this new technology via outsourced offerings and avoid the need for lengthy IT development cycles compared to first-generation offerings.
- Increased access to services including analytical platforms and scoring output for pricing, claims and fraud will help overcome the lack of in-house capabilities to work with raw IoT or smartphone data. Abstraction of this data into vehicle scores or simplified data feeds by vendors will ease the access and consumability of this data for insurers.

Obstacles

- Consumer concerns around data sharing, ethics and privacy, especially for GPS and video, and regulatory concerns around data use will result in uneven adoption rates across different countries. For example, drivers in France are much more resistant to sharing their data than in Italy or the U.K.

- Ongoing regulator scrutiny around bias and fairness of AI algorithms may force additional costs onto insurers to leverage behavioral data. In the worst-case scenario, insurers may face bias lawsuits if algorithms are found to have discriminated against a protected characteristic such as gender, race or religion.
- A lack of data science and analytical competencies in many insurers increases their reliance on vendors. Insurers using a commoditized set of vendor services will need to add additional differentiating capabilities into the overall experience to set themselves apart.
- Aggregated telematics data can be purchased from data providers which may slow the adoption of telematics 2.0 as insurers can access new data for pricing without proceeding to work with individual usage data.

User Recommendations

- Standardize core data collection and analysis by using vendor-supplied solutions that simplify and abstract data into easy-to-consume scores or feeds. Wrap the core offering in differentiated elements including assistance, recovery and e-call services to elevate beyond simple UBI. Develop an experience that makes it easy for customers to engage with advanced services without having to always open an app, such as push notifications, rewards platforms and marketing outreaches.
- Evaluate and segregate the fragmented vendor market to align with your needs by building a scorecard to evaluate the underlying variable components that constituent a complete telematics offering
- Work with your claims department to assess their requirements for access to new data inputs available from connected vehicles to accelerate the determination of fault in an accident and combat fraud, including data and inputs from safety systems and control planes. Work with the enterprise architect to define the system integrations and workflow triggers required to harness this data to accelerate loss settlement.

Sample Vendors

Arity; Cambridge Mobile Telematics (CMT); OCTO Telematics; Targa Telematics; ThingCo; Wejo; Zendrive

Gartner Recommended Reading

Panoptic Personalization: An Insurance Trend for 2022

Insurers Must Implement Dynamic Customer Engagement to Solve the Customer Experience Dilemma

3 New Customer Experience Requirements That Will Impact Digital Insurance in 2023

Optimizing Telematics to Maximize Return on Investment for Auto/Motor Insurance

SaaS Life Insurance Core Platforms

Analysis By: Richard Natale

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

A SaaS life insurance core platform provides end-to-end insurance functionality, applications, services and content in a secure cloud-based environment, offered as a service using subscription pricing. This holistic solution integrates vertical policy administration with a range of cloud-native horizontal capabilities, such as security, data analytics, business process management, customer experience management and integration with ecosystem partners and insurtechs through marketplaces.

Why This Is Important

Tradition core life system vendors struggle to keep pace with industry business and technology change. SaaS life insurance core platforms provide a path to modernization. They accelerate the delivery of preintegrated digital capabilities, such as advanced analytics to develop differentiating insights, and integration with ecosystem plug-ins, such as insurtechs. These platforms can also accelerate the deployment of capabilities such as portals, chatbots and other customer experience (CX)-enhancing technologies.

Business Impact

SaaS life insurance core platforms shift the focus away from core systems to a platform of digital capabilities that can support evolving business needs, including:

- Improved delivery speed of capabilities needed to support digital business, such as CX, APIs and real-time data analytics integrated with insurance functionality.

- Access to cloud-native capabilities to scale on demand.
- Preintegration to ecosystem partners and insurtechs with APIs designed to reduce integration complexity.

Drivers

- Globally, 43% of life insurance respondents to the 2022 Gartner Financial Technology Survey reported using SaaS solutions from third-party vendors for their core system implementation strategy indicating strong demand for a SaaS PAS.
- SaaS life insurance core platforms are cloud-native and support web-based resource provisioning, autoscaling, fault tolerance, and continuous update and integration. They can be viewed as an excellent foundational starting point for the assembly of a digital business technology platform.
- They offer scalable and secure access to digital tools and capabilities such as analytics tools that many insurance companies don't have the internal skills to implement themselves.
- They offer an alternative to insurers seeking a net new policy administration system (PAS) alternative. They replace legacy OEMs that have containerized legacy offerings to run on cloud infrastructure or that have adapted their legacy solutions to run on a cloud but have a substantial remaining technical debt.
- They offer a foundational platform on which insurers can integrate data, decision making, content, delivery and engagement services to modernize the CX.
- They offer insurers a path to continuous integration/continuous delivery (CI/CD) in lieu of large and costly periodic upgrades, minimizing the accumulation of technical debt.
- They enable insurers to reallocate internal resources currently needed to support on-premises core systems to more value-adding activities.
- They offer preintegrated access to partner solutions and services through marketplaces, reducing integration complexity. They offer access to automated upgrades to reduce future technical and functional debt.

Obstacles

- Shifting to SaaS is complex. It requires core system architectures to be revamped to optimize scalability, to incorporate cloud security, to include instrumentation to manage the software and to track utilization among other things.
- The majority of vendor solutions cannot be considered true SaaS as they do not offer multitenant deployment or usage-based charging. In most instances, they are better considered as managed services.
- SaaS subscription pricing shifts technology costs from capital expenditure (capex) to operating expenditure (opex), which could dissuade CIOs with legacy systems that have low operating costs.
- Most PASs in the cloud today are cloud-agnostic, containerized versions of their on-premises forerunners rather than being cloud-native, the result of which is a limited real difference in capabilities between old and new off-premises versions of the software. Movement from a legacy policy administration system to a new SaaS life insurance core platform is a migration and not an upgrade, making it a risky transition.

User Recommendations

Life insurance CIOs should:

- Look beyond insurance functionality to assess the degree to which the SaaS PAS offering improves product speed to market and agility in responding to changing business conditions in addition to resiliency and scalability improvements.
- Plan for budget changes required for tools, platforms and resources to support SaaS adoption by working with finance to assess the impact of moving from capex to opex.
- Test SaaS life insurance core platform vendor readiness by assessing the degree to which their offerings have generally available components in production. Evaluate each vendor's ability to meet your strategic objectives by securing a roadmap from the vendor with specific components, and generally available products and specific target dates for their availability.

Sample Vendors

DXC Technology; EY; FAST; Haven Technologies; Genasys; NTT DATA; Socotra

Gartner Recommended Reading

Innovation Insight: What Insurance CIOs Must Know When Considering Insurance-Specific Clouds

The Future of the Cloud in Insurance: A Vision for 2027

Market Guide for P&C Insurance Core Platforms, North America

Top 10 Technology Trends Driving Change for Life Insurance CIOs in 2023

How to Evaluate SaaS Providers and Solutions by Developing RFP Criteria

Visual Intelligence Solutions

Analysis By: James Ingham

Benefit Rating: Moderate

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

Visual intelligence solutions catalog property and asset condition as images and videos while adding object and damage recognition, GPS positioning, and transcription, information annotation and third-party data augmentation. Typically hosted in a private or public cloud, these solutions improve data capture, storage and retrieval to help streamline underwriting and claims experiences.

Why This Is Important

P&C insurers are seeking ways to get customers to submit images and videos through a smartphone-based app. Visual intelligence solutions assist underwriters to accelerate underwriting and triage dispatch of third-party use cases for underwriting referrals. Claims adjusters can collaborate with policyholders in real time to identify and document personal or commercial property damage while reducing travel time and expenses.

Business Impact

Visual intelligence solutions reduce friction in the underwriting or claims process — shrinking quote-to-bind and claims-to-cash cycle times, and improving the customer's experience and satisfaction. Improved identification of risk factors can help triage expensive field inspections and inform risk improvements. Application and claims fraud can also be reduced in respect to verifying underwriting information, identifying preexisting damage and corroborating proof of loss.

Drivers

- The ability to combine data sources such as risk indexes and commercial loss databases helps augment visual intelligence to help insurers accelerate processing of risk and loss inspections, reducing reliance on expensive human labor or reallocating it to high-value cases.
- Underwriting losses from the 2022 hurricane season coupled with continued supply chain constraints will force personal auto and property lines insurers to scrutinize premium adequacy, cost-effectiveness of reinsurance and claims costs in the short term.
- Those insurers who invested in solutions to replace in-person risk and loss inspection in the COVID-19 pandemic have seen the average cost of inspection and travel and expenditure reduced for agents in the field.
- A range of vendors from various backgrounds are launching solutions in this space — including dedicated startups, IT outsourcing companies, and incumbent supply chain solutions for auto and property lines — providing flexibility around how to integrate visual intelligence into existing workflows.
- Long-term changes to workforce location and the move to hybrid working will continue to drive usage of tooling that allows collaboration between remote workers. These tools can also ensure productivity is gained over the long term, as opposed to reduced in a new model.
- The continued shift from policyholders being passive actors in the claims process to becoming active participants in P&C insurance claims necessitates that insurers deploy a range of engagement technologies into their processes (see Elevated Customer Expectations for Digital P&C Insurance Claims Demand Emerging Technology Adoption). For example, assessing a commercial building can also identify risk improvement items for the insured.
- Increased digitization of highly transactional personal lines requires applying technology, both into the core customer journey and surrounding processes. Doing so reduces friction from the entire customer journey — not just initial quote-and-bind or claims first notice of loss (FNOL), but through complete policy issuance and claims settlement.

Obstacles

- Solutions that require customers or risk engineers to download an app may find limited uptake compared to those that can be launched through a browser.
- Solutions that have significant hardware requirements limit the ability to engage with customers who may be delaying upgrades of their smartphones or corporate devices due to inflation and supply chain constraints for semiconductors.
- Insurers must still retain capabilities directly or in the supply chain to dispatch in-person inspection for policyholders who are unable to perform an inspection.
- Live streaming and collaboration use cases may not be suitable for rural locations with weak cellular connectivity or Wi-Fi.
- Storage, recall and sharing of visual information require additional consent from the policyholder and additional access rights and controls to ensure ongoing compliance with privacy and data protection regulations.
- Hidden damage to the property or vehicle will still require physical inspection by an approved technician to fully appraise the repair costs, potentially leading to underreserving claims.

User Recommendations

- Prioritize solutions that give flexibility in deployment and can be repurposed for policyholder self-service, remote-agent-guided inspection and use by field adjusters. Look for standardization of hardware and software across different use cases to maximize return on investment.
- Evaluate your existing supply chain management tooling vendors' ongoing roadmaps to avoid building duplications of systems that can be incorporated into existing procurement contracts.
- Define storage, retrieval and access control requirements by reviewing quote-and-bind and claims processing workflows with your business sponsors for personal auto and property lines. Look for synergies that allow for single point access that removes the need for manual emailing or PDF documents. Identify relevant security and privacy regulations that impact the initial processing, downstream storage and content sharing by engaging with the CISO at the outset of a remote inspection implementation project.

Sample Vendors

360Globalnet; Bdeo; CCC; DigitalEyes: LexisNexis Flyreel; Livegenic; Mitchell (Enlyte Group); Munich Re; Revauxy; Snapsheet

Gartner Recommended Reading

Cool Vendors in Insurance

Digital Insurance Success Requires Leveraging Data, Analytics and Artificial Intelligence

Digitally Engineered Underwriting

Analysis By: Rajesh Narayan

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Digitally engineered underwriting is the application of analytical techniques (such as predictive modeling and risk assessment modeling) and technologies (such as artificial intelligence and machine learning [ML]) to streamline the underwriting process. Integration with third-party data providers, and support for improved automation and workflow are also included. Complex algorithms and streamlined reengineered new business processes are adopted to optimize underwriting decisions.

Why This Is Important

Digitally engineered underwriting enables the augmentation of the underwriter to improve response rates to customers and reduces costs where outright automation is not possible. For example, in life insurance, using electronic health records helped streamline the underwriting process, during the pandemic. The biggest P&C opportunity is in commercial and specialty insurance where submissions are complex and span multiple documents, which reduces underwriting response times.

Business Impact

Digitally engineered underwriting helps insurers:

- Support complex risk rating, improve customer service and drive efficiency.

- Enable straight-through processing and cost savings.
- Reduce the deviations from underwriting guidelines through decision automation.
- Enable underwriting decisions based on personalization to tailor product pricing.
- Triage risk assessment so that only high risk/complex cases need human involvement.
- Diversify exposure to avoid accumulation and align it with market appetite.

Drivers

- Increased data proficiency is driving digitally engineered underwriting. Sourcing data from unstructured sources through AI, and use of new data sources from insurtech players and ecosystems is allowing insurers greater clarity in underwriting decisions.
- Increasing digitalization of process steps across industries and use of sensors are allowing for new data sources to emerge, such as routing information for commercial trucking or prescription data for individuals. These new sources are creating new inputs for underwriting specific to a line of business rather than using generic sources of information like credit score or business score.
- High policyholder churn and drop off during the new business cycle creates the need to lower policyholder acquisition costs and support fast-changing consumer expectations for a frictionless experience. This is pushing Insurers to focus on digitally engineered underwriting or “e-underwriting.”
- As AI capabilities within the enterprise increase, there is greater interest from insurance CIOs and core system providers to apply AI to underwriting.
- A number of outsourced service providers and captives are leveraging accelerators to build underwriting tools that include rule engines, AI, ML and robotic process automation (RPA) to augment and automate several tasks in complex underwriting processes. Insurers benefit from greater underwriting insights and a reengineered process that leverages different time zones for processing.
- As more companies sell online, implement modern customer experience strategies, weave together the multiple technologies needed for digitally engineered underwriting and strengthen their data mastery, they will increasingly reengineer and automate the underwriting process.

Obstacles

- The complex nature of deciphering underwriting evidence in insurance where documents are largely unstructured and nonstandard makes it difficult to engineer a smooth process. For example, in life insurance, such documents include attending physician statements and siloed electronic health records.
- Heightened awareness of potential inherent bias in AI algorithms is driving significant focus on ensuring that digitally engineered underwriting does not produce discriminatory decisions.
- The field of application of AI to underwriting is getting fragmented with players focused on solutions like intake, underwriting workbench, data aggregation, portfolio analysis that insurers have to stitch together to truly transform the underwriting process.
- End-user adoption by underwriters continues to be a challenge. The current work process of underwriters is often grounded in relationships with agents/brokers rather than analytics driven processes.
- New data sources offer improved ways to underwrite, but may lack sufficient data to draw conclusive evidence of statistical correlation.

User Recommendations

- Identify key data leaders in analytics, IT, data science and the business. Create a cross-company team to review and determine future approaches to underwriting. This team should identify opportunities for using external data in a meaningful manner based on availability, credibility and volume. For example, small datasets cannot offer actuarial insights, but could alert underwriters to potential red flags that would otherwise be missed.
- Support regulatory requirements by creating a method for transparent score traceability, allowing regulators to assess the appropriateness of digitally engineered underwriting data input.
- Upskill and cross-skill technology and business users of digitally engineered underwriting decisions to accept decision automation as a means of improving acceptance by end users.
- Evaluate capabilities and interoperability of vendor solutions by engaging in pilots that showcase preintegrated solution capabilities.

Sample Vendors

CogniSure; EXL; Genpact; Indico Data; Intellect Design Arena; Kalepa; Orthus Health; UnderwriteMe

Gartner Recommended Reading

Life Insurance Underwriting Must Evolve to Support Emerging Insurance Business Models

How Insurers Are Using AI to Generate Business Impact

Top 10 Technology Trends for P&C Insurance CIOs in 2023

Holistic Fraud Management Solutions

Analysis By: Kimberly Harris-Ferrante

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

Holistic fraud management solutions support the entire life cycle of fraud, including policy submission, underwriting, policy servicing, claims and renewals. These solutions support tasks for monitoring and investigating, including analytics, automation, workflow and case management. They leverage technologies, such as analytics, machine learning (ML)/AI and other automation to support prevention, detection and response.

Why This Is Important

P&C and life insurers are increasingly seeking ways to manage fraud across their entire policy life cycle to support improved, and faster, loss prevention and control. To do that, they need to move beyond mere fraud analytics or detection solutions that focus mostly on claims and incorporate real-time fraud modeling into core workflows, such as policy issuance, renewals and underwriting. Only holistic approaches, such as holistic fraud management solutions, will drive improved loss prevention.

Business Impact

The business impacts of holistic fraud management solutions include:

- Improved visibility into sources of fraud for more accurate fraud modeling and reduced false positives.
- Improved fraud efficiencies and speed as straight-through processing (STP) is introduced from the use of a single platform to support the end-to-end identification, prevention and investigation/management.
- Improved loss reduction, ligation, investigation and underwriting/risks management.
- Improved cost containment, which will help prevent large rises in premiums.

Drivers

- Greater maturity around the need for advanced fraud solutions that go beyond claims to support larger business outcomes, such as loss prevention and underwriting profitability.
- The ability to use ID verification and identification to combat application fraud.
- Growing availability of data to be leveraged for fraud modeling, especially graph technologies to do entity resolution and fraud ring analysis.
- More abundance of data including Internet of Things (IoT), third-party and synthetic data to have precision and help train fraud models.
- Growing volume of online and digital sales where the customer cannot be authenticated, and where more scrutiny is needed for integrity of application data.
- Increased focus on autonomous underwriting where all underwriting is automated without human oversight.
- Increased interest among life insurers who are more concerned with the use of fraud solutions at the point of sale (POS) over claims.
- The heightened awareness that fraud programs need improved automation, workflow and case management to support investigation and other tasks, and not just flagging the claim.
- Shifts in fraud patterns, such as telemedicine fraud and those resulting from virtual work as a result of the pandemic, which make the use of new technologies such as ML and AI more critical than ever.
- Rising fraud costs and losses across the industry that must be contained to prevent premium increases overall.
- The need for simplified fraud detection that is real-time and automated.
- Technological advances, including generative AI, that will improve model precision over time.

Obstacles

- Fears over false positives, especially at the POS or underwriting, which might impact customer satisfaction or revenue growth, or promote discrimination.
- Building the business case for replacing old fraud solutions — cases where they are unsure what the benefit for switching to a new one would be and consider fraud as a "necessary cost" and bigger priorities such as legacy modernization
- Lack of awareness of the need for fraud solutions in POS and underwriting; most people still consider fraud a claims problem.
- Lack of focus on fraud prevention vs. fraud detection and no shift to address this yet.
- Fragmentation and diversity in the vendor market, with some focusing primarily on claims fraud and some lacking deep industry models; many vendors lack the solutions needed.
- Difficulty to integrate fraud into less-modern claims and core systems for seamless and real-time prevention.

User Recommendations

- Build teams that represent the policy life cycle to evaluate, document and compare the fraud risks and opportunities across the workflow. Work with heads of claims and special investigative unit (SIU) to determine short- and long-term fraud requirements as a starting point, then bring in underwriting and digital teams.
- Review digital strategies around how to do autonomous underwriting and drive online sales to determine the best use case for holistics fraud management for policy issuance and underwriting.
- Update your fraud models for new market conditions by testing existing fraud models against historical data to determine if models are relevant any longer. Build new models using ML to identify new patterns based upon telemedicine, consumer behavior and digital use.
- Evaluate the maturity of your fraud program with the SIU by reviewing the current fraud technology landscape through assessment capabilities, type of fraud supported, real-time capabilities, user training requirements and algorithms.

Sample Vendors

FICO; FRISS; IBM; INFORM; Shift Technology; Verisk

Gartner Recommended Reading

Tool: Artificial Intelligence Use Cases for Insurance

Sliding into the Trough

IoT Point Solutions

Analysis By: Rajesh Narayan, James Ingham

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Internet of Things (IoT) Point Solutions are standardized IoT-based offerings that originate from a single industry use case. They focus on proven insurance deployments, particularly around simple telematics, wellness or risk inspection offerings, and are used extensively by insurance companies in a homogeneous way. These tactical point solutions do not scale into other insurance LOBs but act as a precursor to an insurer's use of IoT in a broader way in the future.

Why This Is Important

IoT has long-term potential in policyholder engagement and data monetization but represents a fragmented set of heterogeneous sensors and standards, making adoption for insurers complicated and expensive. Insurers can leverage packaged vendor IoT point solutions to establish connectivity for simple rewards offerings quickly, usage-based insurance programs, and ongoing data capture and risk monitoring — at a lower cost than building out the sensor network and data collection themselves.

Business Impact

- IoT point solutions will lower the cost of entry for insurers into commoditized LOBs such as pay-as-you-drive auto insurance.
- They get the insurer started on basic risk monitoring and prevention strategies and lay the foundations for more regular customer engagement.
- They expose customers to regular data sharing with their insurer as a precursor for more advanced future strategies such as Panoptic Personalization.

Drivers

- Insurers have exhibited limited central IT investment in IoT capabilities in recent years. This limits their ability to innovate products or services in areas such as auto, property, specialty, individual and group life, and workers compensation. Insurance CIOs who need to respond to requests from the business to launch or trial the use of IoT require a point solution offering to get started.
- Vendors are able to offer standardized methods for data collection and analysis, which overcomes the need to manage a sensor network and stream and work with raw IoT data. The ability to consume a small number of parameters or simple imagery lowers the cost of entry and allows fast followers to enter the market quickly.
- In some cases, IoT point solution vendors have launched aggregated data or risk scores that can be used for segmentation, marketing and simple pricing adjustments for the insurer, providing a stepping stone to the benefits of this data more broadly.
- IoT Point Solutions can provide access to new data where historical claims data becomes less relevant. For example, aftermarket auto telematics and smartphone data allow the insurer to adapt product pricing and structures to new societal working models, such as the gig economy for taxi drivers or food delivery.
- More comprehensive IoT-based business models require wider sensors, increased data understanding, and continuous investment by the insurer to succeed. Insurers can use a point solution offering to share the cost of R&D in their chosen area with other insurers using the same vendor-supplied solutions.
- Increased levels of sensor deployment in industry verticals such as transportation, manufacturing, agriculture, retail and power generation — as well as increased adoption of drones and UAVs — will create market space for new vendors to offer point solutions to insurers.
- Vendors are advancing offerings that pull together multiple sensors — such as aerial imagery, weather, machinery, and yield sensors for crop production — which is attractive for insurers in commercial lines who want to add on performance guarantee or yield policies on top of conventional property damage and business interruption.

Obstacles

- Point solutions are generally based on single events or triggers which limits the insurer to offering only discounting or rewards models and may not deliver the required business impact to succeed.

- Insurance companies may struggle with the distribution and education of their agents and brokers in order to launch MVP point solution-based models. Early trial failures may exhaust the required executive patience to learn from point solution deployments and extend to other areas.
- Insurers with rigid pricing engines and core systems may struggle to adapt pricing or product makeup, requiring them to use less effective precalculated pricing factors, limiting their business value compared to even copycat offerings from competitors using the same point solution.
- Complexities around accountability and responsibility for incorrect sensor feeds or misinterpretation of risk factors may dampen insurers' appetite for using a vendor-supplied point solution.
- Insurers will need to demonstrate fairness and transparency that may limit appetite to use vendor-supplied algorithms for decision.

User Recommendations

- Determine with your business leaders the required level of insurance-specific IP to monetize a vendor point solution. For example, a personal auto risk score will require product and pricing expertise to convert into a UBI offering, whereas drone imagery can be used directly as part of a typical risk inspection workflow.
- Make security a priority for all IoT point solutions and stress test the data capture, storage and retrieval mechanisms against obligations to protect personally identifiable or commercially sensitive data.
- Engage early with actuaries to investigate where IoT data will fundamentally change pricing as the rating progresses from historical claims data to usage-, consumption- and activity-pattern-based.
- Examine existing procurement efforts that may give access to broader IoT capabilities in the future, such as embedded IoT middleware components for connectivity, management, storage and analytics services as part of future insurance industry clouds.

Sample Vendors

ABACO; dacadoo; Kespry; Kittyhawk; LeakBot; MākuSafe; Roost

Gartner Recommended Reading

Connected IoT Brokers for Autocomposing: An Insurance Trend for 2030

Important and Compelling Innovations for Commercial IoT Use Cases

Cross-Industry Insight: IoT Market Opportunities and Top Spend Use CasesEmerging Technologies: AI-Enabled IoT

Hyperautomation

Analysis By: Laurie Shotton

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Hyperautomation involves the orchestrated use of multiple technologies, tools or platforms (inclusive of, but not limited to, AI, machine learning, event-driven software architecture, RPA, iPaaS, packaged software and other types of decisions, and process and/or task automation tools). Business-driven hyperautomation is a disciplined approach that organizations use to rapidly identify, vet and automate as many business and IT processes as possible.

Why This Is Important

P&C and life insurers looking for greater automation and an augmentation of their workforce will increasingly turn to vendors who combine traditional automation solutions, such as business process management (BPM) and RPA, with AI and algorithms to automate processes and transaction steps. Hyperautomation tools represent the next step beyond RPA and BPM in automating, optimizing and transforming processes.

Business Impact

Hyperautomation tools continue to evolve into more comprehensive technology offerings.

- They provide integrated solutions to support complex decision processing, improve CX and add agility to the organization's processes.

- The aim being to accelerate processes, reduce error rates and drive down process costs, improve customer satisfaction and achieve a significant immediate ROI. Insurers can make better use of their data to drive actions and automate/augment processes, taking over more decision-based tasks.

Drivers

- Economic headwinds and shocks place an even greater importance on automation to provide the required agility and efficiencies while retaining skilled talent.
- Insurers continue to invest significantly in hyperautomation technology with Gartner's CIO and Technology Survey revealing that 31% of respondents will be spending the largest amount of new or additional funding in 2023 compared to 2022.
- The hyperautomation vendor market continues to evolve and mature with vendors who originated in RPA, BPM, low-code application platform (LCAP), as well as new startups, technology giants and systems integrators, all procuring, building and enhancing their toolboxes of automation technologies.
- Hyperautomation solution vendors are focusing more on creating insurance vertical accelerators that provide preconfigured starting processes that will get insurers 20% to 30% on their way.
- Insurers are also able to acquire a myriad of industry-specific solutions focused on data ingestion, extraction, interpretation and ultimately augmentation of decision-based roles such as underwriting and claims administration.
- Insurance CIOs can capitalize on such developments to become mixologists, using a variety of tools in differing combinations to drive greater business outcomes. In particular, by incorporating nonintelligent tools such as more elementary RPA, optical character recognition (OCR) and workflow, alongside intelligent automation technologies, insurers can augment and orchestrate more complex and decision-based tasks across the insurance value chain.

Obstacles

- Many insurers have adopted RPA and BPM tools to replicate and streamline manual and repetitive processes for a number of years. However, to progress this to a more comprehensive hyperautomation approach requires different organizational structure, skills, culture change and governance approach that is a challenge to put in place.
- Hyperautomation tools remain a work in progress with vendors who started from different baseline solutions (RPA, BPM, low-code/no-code) all moving toward the same destination but with a hodgepodge of tools with differing levels of maturity and integration.
- Building the right vendor strategy and integrating overlapping but disperate tools together to orchestrate, reinvent or recalibrate processes is increasingly challenging with an abundance of choice of solutions and technologies for insurers to sift through.
- Implementation success may appear to be easy based on marketing messages and positioning by the vendors but to be successful a significant amount of the insurers own IP of products and processes are needed to make the solutions function.

User Recommendations

- Avoid accelerating too fast with automation, build solid foundations in governance, organization structures and skills and competencies by growing from simpler use cases using automation tools such as RPA and BPM into wider technologies.
- Establish a mixologist approach to automation tools to avoid obsession with one technology or one vendor by categorizing and aligning your technology portfolio to the solution strengths and capabilities to deliver on business outcomes.
- Develop a use-case triage process by applying a priority assessment to categorize the readiness of automation initiatives and avoid wasted effort on processes not ready for automation.
- Establish a comprehensive set of metrics aligned to business outcomes to measure the success of your automation initiatives.

Sample Vendors

Appian; Blueprism; IBM; Microsoft; SAP; ServiceNow; UiPath; WorkFusion

Gartner Recommended Reading

Financial Services CIOs: Apply the Right Metrics To Quantify the Benefits of Automation Investments

Case Study: Building Scale in Financial Services Automation (Assicurazioni Generali)

Tool: Assessment for Prioritizing Hyperautomation Projects in Financial Services

Tool: Banking and Insurance Use Cases to Drive Hyperautomation

Avoiding the 10 Most Common Mistakes in Financial Services Automation

SaaS P&C Core Platforms

Analysis By: Sham Gill

Benefit Rating: Moderate

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

SaaS P&C core platforms provide end-to-end insurance functionality, applications, services and content in a secure cloud-based environment, offered as a service using subscription pricing. They encompass traditional preintegrated core system modules (such as policy administration, billing and claims management), with additional capabilities for customer engagement, management of data and advanced analytics, and integration with ecosystem partners and insurtechs through marketplaces.

Why This Is Important

P&C insurance CIOs have embraced core platforms, to the point that they are becoming a near-universal path forward for legacy modernization, especially in regions such as North America and Europe. SaaS P&C core platforms offer insurance CIOs the potential to increase efficiency, security, functionality and access to partner solutions at lower costs. They promise rapid cloud deployment to support end-to-end processing from insurer to policyholder and reduced costs and maintenance.

Business Impact

SaaS P&C platforms enable CIOs to increase efficiency by standardizing functionality and use of prebuilt products, content, process workflows and integration accelerators to support end-to-end processing from insurer to policyholder. They have the potential to radically alter the rate at which insurance companies can launch new products, services and business models. They offer preintegrations to ecosystem partners, complementary vendors and insurtechs, and APIs designed to reduce integration complexity and support composability.

Drivers

- Globally, 40% of insurance company executives are reporting that they are using SaaS solutions from third-party vendors for their core systems implementation strategy. This follows findings from the 2021 Gartner From Legacy to Digital Platform Survey, where 45% of respondents were planning to modernize by moving applications to public cloud environments, including SaaS.
- SaaS can be attractive for enabling a shift from capital expenditure to operational expenditure, where the organization's financial objectives warrant a change in the funding model.
- SaaS P&C core platforms can help insurance CIOs mitigate risk. For example, as the vendor is offering the service across the insurance sector, a SaaS insurance core system may also enable insurance CIOs to meet complex regulatory and security requirements more readily.
- For some insurance companies, adopting a SaaS platform will enable them to save costs through being able to redeploy resources currently used to support and maintain the on-premises core system.
- Preintegrated functions and access to integrations to partner solutions and services through marketplaces can be attractive, as they reduce integration complexity.
- True SaaS platforms will provide seamless upgrades and enable insurance CIOs to minimize the accrual of functional and technical debt and reduce the overall maintenance costs for the platform.

Obstacles

- SaaS is often confused with cloud and misperceived as offering easy, turnkey solutions that do not require in-depth evaluation of the impact across the organization.
- The vast majority of vendor solutions are not true SaaS as they do not offer multitenant deployment or true usage-based charging. In most instances, they are better considered as software and service, where the vendor is providing their software wrapped with a service proposition. This complicates the determination of value.
- There are significant variations in software and service offerings, making benchmarking and price comparisons difficult to achieve.
- Will require the business to revisit processes and adhere to greater standardization.
- Availability of vendor platforms varies considerably by region, with adoption greatest in North America.
- IT will be required to revisit its operating model, for example, changing the model to deal with more frequent upgrades and dealing with vendors for change management and environment provisioning, which previously fell under IT remit.

User Recommendations

- Establish an organizational SaaS governance framework by working with the business to agree on acceptable uses for SaaS, how it should be controlled and who should be explicitly responsible for enforcing policy.
- Validate the SaaS maturity of vendors by separating the functional assessment of the software from the service offering from the vendor. Self-sufficiency for tasks, such as promoting configuration changes to production and no-touch upgrades, will be key indicators of maturity.
- Create an impact analysis of current and future regulations for SaaS adoption by working with your legal counsel and risk management teams to determine the organization's risk appetite for moving core processing systems out to vendors.
- Track vendor roadmaps carefully to understand the level of effort required to make the transition to SaaS after each release, whether current infrastructure requires investment and whether internal skills can support the move. Then use this to influence decision making on the optimal time for moving to SaaS.

Sample Vendors

BriteCore; Duck Creek Technologies; Guidewire; Majesco; Salesforce; Socotra

Gartner Recommended Reading

Market Guide for P&C Insurance Core Platforms, North America

Market Guide for Non-Life Insurance Core Platforms, Europe

Insurance CIOs Must Take a Hybrid Approach to Optimize SaaS Insurance Core Platform Pricing Negotiations

Toolkit: RFP Template for P&C Core Platforms

Toolkit: Business Calculator for Projecting the Total Cost of Ownership for P&C Core Platforms

Automated Digital Advice

Analysis By: Chuck Thomas

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Automated digital advice (which includes roboadvisors) is a broad range of automated tools that support wealth management, investment, and retirement and pension analysis. These tools leverage algorithms, analytics and artificial intelligence, and use conversational assistants to provide advice on product selection, premiums, contribution rates and investment selection, either direct to consumers or to agents or financial advisors.

Why This Is Important

Automated digital advice for insurance has followed a similar trajectory as roboadvisors in investments. After a period of high expectations, tools that enable DIY online activities remain, but few collaborative platforms emerged. Progress continues toward more collaborative, comprehensive digital advice bundling insurance, investment and savings offerings of insurance companies. This technology moved further into the Trough of Disillusionment and shortens the runway to broader adoption.

Business Impact

Automated digital advice solutions affect:

- Cost of service.
- Clients seeking self-service or collaborative digital channels.
- Advisors or agents benefiting from automated solutions that free up time for higher value activities.
- Product managers benefiting from new distribution platforms. Insurers marketing and supporting personalized advice at scale.
- Line-of-business leaders expanding digital advice capabilities to serve more segments and advice needs (e.g., investments and retirement planning).

Drivers

- Clients are becoming more digital and prefer providers that can support a hybrid digital experience capable of providing hyperpersonalized insurance solutions.
- To the extent coverage levels are discretionary, clients are under pressure to control costs during times of economic uncertainty.
- Fintechs continue to emerge in the automated digital advice space and are beginning to focus on insurance offerings. Insurance companies continue to launch automated digital advice solutions, exerting both cost and competitive pressure.
- Advisors and agents need to differentiate from commoditized offerings through high-value (yet time-consuming) offerings, like financial planning or customized portfolio construction, creating a need for automation of less-value-added tasks.
- Industries outside of financial services and the digital giants are also beginning to explore automated digital advice solutions, including retail, telecommunications and other unexpected potential disintermediation plays. Wealth management firms that traditionally focused on ultra high net worth (UHNW) clients continue to push deeper into the high net worth (HNW) and retail space via automated digital advice solutions, creating new threats.
- Emerging platforms aimed at non-insurer-focused advisors are making it easier for nonlicensed agents to provide insurance solutions to clients, creating more competitive pressure outside of traditional industry competitors. Financial services institutions (FSIs) focused on the pension and retirement space are acquiring digital advice vendors, demonstrating an application of this technology to a captive audience, where scalable advice is more pressing than acquisition costs.
- Most insurers (over 80%) plan to increase spending over the next two years on the technologies that support automated digital advice delivery. These technologies include artificial intelligence and advanced analytics, open/external APIs, and digital customer experience tools.

Obstacles

- Many online solutions are designed to promote more profitable products and not to select products that align with client needs.
- Most automated digital advice platforms were launched as client-facing DIY solutions, not advisor-supporting hybrid solutions, limiting their value.
- Most automated digital advice platforms offer simple planning and basic product selection or portfolio construction tools. They do not support advanced financial planning needs, more-complex annuity and life policy types, or investment portfolios composed of alternative and complicated investments.
- Client acquisition costs are high for digital advice platforms. Even established insurers have found it difficult to break even and scale automated digital advice offerings, resulting in well-known industry players sunsetting solutions.
- The marketplace of acquirable fintechs with proven solutions is shrinking as large financial institutions or technology vendors acquire some of the leading fintechs in the space.

User Recommendations

- Future-proof automated digital advice approaches by building a hybrid approach capable of supporting multiple client segments and evolving advice needs.
- Determine buy, build or partner approaches to automated digital advice by monitoring insurtechs that are marketing automated advice and roboadvisors. Assess their technology roadmap and alignment with your firm's vision.
- Explore various platform approaches by reviewing how firms have deployed the technology and its applicability to insurance business models.
- Test automated digital advice technology in innovation labs or employee pilots to determine use cases for improving client experience and advisor productivity.
- Focus on solutions purpose built for collaboration and advice delivery, not solutions for modified quoting or product selection tools.
- Inspect the ease with which a digital advisor offering can be incorporated or integrated into the existing agent or broker platform by using vendor demos.

Sample Vendors

Anorak Technologies; CLARK; Coverfy; Edelman Financial Engines; Koïos Intelligence; Moneyfarm; Ottermise; SoFi; Wealth Wizards; Wealthify

Gartner Recommended Reading

3 New Customer Experience Requirements That Will Impact Digital Insurance in 2023

Life Insurance Underwriting Must Evolve to Support Emerging Insurance Business Models

Digital Business Benchmarks: Enterprises Must Improve

Low-Code/No-Code Solutions

Analysis By: Laurie Shotton

Benefit Rating: Moderate

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Low-code/no-code solutions are application platforms that support rapid application development, deployment, execution and management using declarative, high-level programming abstractions such as model-driven and metadata-based programming languages, and one-step deployments. Low-code/no-code solutions provide and support user interfaces, business processes and data services.

Why This Is Important

Life and P&C insurers look to low-code/no-code solutions for the promise of fast development of solutions and flexibility in process definition across business lines and value chain processes, with minimal IT involvement. They are seen as a way to harmonize and alleviate legacy systems and spreadsheet processes providing a mechanism to develop applications with modern user experiences while retaining their legacy systems.

Business Impact

Low-code/no-code solutions are applicable across the value chain at life and P&C insurance companies.

- They can be used to create common processes across disparate legacy systems or enable easy-to-create solutions for portals.
- They provide a more robust option for manual processes developed in Microsoft Excel and other less-sophisticated approaches.
- They enable business technologists with business user interfaces, offering them the freedom to create and maintain business applications.

Drivers

- Interest in low-code/no-code solutions remains high with the 2022 Gartner Financial Services Technology Survey revealing that 56% of insurance respondents have already deployed or are in short-term planning/experimenting with low-code/no-code solutions.
- Solutions that promote efficiency and enable rapid change with minimal code cutting have been gaining traction for a while, in particular, robotic process automation (RPA). Low-code/no-code solutions represent an extension of this promise.
- Low code is seen as an approach to tackle application modernization and reduce technical debt.
- The duplicity of core and supporting systems that overlap in functional features have led to business users having to be skilled in different user interfaces to achieve the same goals. Low-code/no-code solutions offer the opportunity to harmonize and streamline process steps.
- Central IT backlogs are driving interest in solutions to solve business application needs with the promise of shorter implementation times and reduced reliance on IT.
- Low-code/no-code solutions offer the opportunity to build standardized persona-driven processes on top of legacy systems that lack that capability.
- Business users are requesting IT to help them launch products quicker to market as their legacy systems make launching new marketable products complex and time consuming. Insurers are turning to low-code/no-code solutions with the promise of more configurable product engines.

- With rapid deployment promises and ease of configuration statements, insurers are turning to low-code/no-code solutions to respond to the challenges of their legacy environments.
- Low-code/no-code solutions address the business need for greater resilience, while also supporting the drive for faster technology deployment and process change.
- Insurers are also looking for alternatives to the incumbent core and supporting system providers, and see low-code/no-code solutions as a way of self-developing their offerings.

Obstacles

- A proliferation of the term low-code/no-code has seen vendors across a spectrum of technologies adopt the term to describe the configuration capabilities of their solutions. This complicates vendor selection processes and requires more scrutiny of the capabilities and differentials of vendors adopting the term.
- Low-code/no-code solution hype doesn't really match the reality of the ease of adopting such solutions.
- Many solutions lack any knowledge of insurance processes and rules, requiring insurers to define and enter the rule base.
- Where insurance-focused solutions exist, they are only available for certain parts of the value chain (for example, claims data ingestion and facilitation) or are unable to support a full range of products.
- Typically, the solutions are no more configurable than traditional core and supporting systems that already contain the insurance knowledge, industry content and rule base.
- Deployments risk masking the inefficiencies of legacy technology, while diluting the business case for legacy modernization.

User Recommendations

- Avoid being led by the term low-code/no-code and look at defining the business outcomes and functional capabilities that solution needs to provide and use that assessment to evaluate a portfolio of vendors.
- Develop a checklist to ascertain the real need for low-code/no-code solutions over traditional incumbent vendors.
- Adopt an adaptive governance approach to low-code/no-code system deployments to balance control with business agility.
- Extend the responsibilities of an enterprise architect to ensure consistency in rule and process definition to create greater reusability and consistency when deploying low-code/no-code solutions.
- Reduce software shelfware by agreeing at an executive leadership or board level that all signoff for purchasing low-code/no-code solutions needs to be centralized to avoid duplicate software being acquired.

Sample Vendors

Appian; INSTANDA; Mendix Technology; OutSystems; Salesforce; Socotra; Unqork

Gartner Recommended Reading

Quick Answer: 5 Considerations for Insurance CIOs to Evaluate Low-Code Vendors

Insurance CIOs: Use This Checklist to Determine Low-Code/No-Code System Adaptability and Flexibility

Insurance CIOs: Low-Code/No-Code Solutions Require an Adaptive Governance Framework

Blockchain

Analysis By: Ali Merji, David Furlonger

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

Blockchain is an expanding list of cryptographically signed, irrevocable blocks of records shared by all participants in a peer-to-peer (P2P) network. Each block is time-stamped and references link to previous data blocks. Anyone with access rights can trace a state change in data or an event, belonging to any participant. Blockchain-enabled insurance refers to a portfolio of activities, potentially transformed by enterprise applications of blockchain technologies.

Why This Is Important

Blockchain technology enables the development of new insurance products, thanks to programmability and more specifically the use of tokenized records combined with smart contracts — cost savings, transparency, faster payouts (oracles and smart contracts supporting parametric insurance) and fraud mitigation. This allows data to be shared in real time between various parties in a trusted and traceable manner.

Business Impact

The transformative impact of blockchain will be seen when:

- Decentralization and tokenization are used to innovate business models (e.g., P2P insurance), and to adjust behaviors, such as reward tokens to incentivize insurance premium reductions.
- But also to support insurance products for consumers and companies evolving into web3-enabled environments, dealing with new digital asset classes (e.g., intellectual property registered as a non-fungible token (NFT) — and rented to brands).

Drivers

- Leaders are predominantly exploring the use of private/permissioned blockchains in support of complex transactions and relationships (such as between insurers and reinsurers, or agents, and brokers and insurers). The goal is to improve collaboration and operational efficiency by reducing reconciliation.
- Our 2022 Financial Services Tech survey, suggests 27% insurance firms have already invested in a blockchain initiative, 29% will be planning/investing within the next 12 months (actively experimenting) and another 14% within the next 12 to 18 months. Current investment is limited to experiments and early production limited production use cases. There is still optimism due to developments around web3, and its promise of creating new business models for Insurance, creating new customer segments with new needs, this can also mean existing insurance products adjust to these new needs.
- Some insurers are using smart contracts in support of simple parametric insurance products, such as flight insurance and disaster insurance, for example, payout example for skiing. Smart contracts used in other industry contexts will also impact how insurance products are priced, sold and supported, as they change the time frames of decision making, payout structures and potentially the legal foundation for the commercial arrangement.
- Blockchain promises to transform the insurance industry in terms of new kinds of monetization of data, customer convenience via enhanced self-service using smart contracts and integration of blockchain with other technologies like AI and Internet of Things (IoT) for faster claims management.
- The development of the metaverse demands new digital asset portability or transfer services — which will demand some guarantees against theft but also technology risks (especially taking into account the current lack of interoperability of blockchain solutions).

Obstacles

- Use cases require cooperation between disparate enterprises with different abilities to share and digitize data.
- The challenges of extending pilots and proofs of concept (POC) into full-fledged production solutions persist.
- The lack of cohesive legal frameworks and the threat of disintermediation enabled by decentralized insurance processes and business models require careful analysis by strategic planners and business leaders.
- The lack of maturity as well as talent to create and maintain the smart contracts essential to parametric insurance
- Lack of clear regulatory treatment for digital assets, notably when dealing with cross-border transactions.
- No clear method of valuing some digital asset classes significantly increases insurance risk.

User Recommendations

- Establish a C-level team to determine the implications of blockchain, cryptocurrencies, central bank digital currency (CBDC), NFTs and metaverse, and plan for assessments of technology, information security, regulations, use-case applicability and insurance technology (insurtech) startup provider viability.
- Educate your business peers on the opportunities and implications of smart contracts, tokenization and web3 in insurance, set appropriate expectations and identify future opportunities.
- Develop a framework for engaging with clients and understand how innovative P2P insurance business models enabled with blockchain will be relevant in their context.
- Focus your pilots and POCs on how to use programmability via smart contracts to support product development and on how to value new digital asset classes.

Sample Vendors

Accenture; Cognizant; Deloitte; Etherisc; Everledger; IBM; Infosys; The Institutes RiskStream Collaborative; Toucan

Gartner Recommended Reading

Top 10 Technology Trends for Investment Management CIOs in 2023

Crypto and Digital Asset Opportunities for Insurance

How to Grow Digital Business to Capture a $163 Trillion Revenue Opportunity

Define and Map Cryptocurrencies, Digital Currencies and NFTs to Future-Proof Your Digital Transformation

Climbing the Slope

Advanced Analytics Solutions

Analysis By: Kimberly Harris-Ferrante

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Adolescent

Definition:

Advanced analytic solutions are tools which support the autonomous or semiautonomous examination of data or content using sophisticated techniques and tools beyond those of traditional business intelligence (BI) to discover deeper insights, make predictions or generate recommendations.

Why This Is Important

Advanced analytics — including but not limited to BI, predictive modeling and machine learning (ML), for example — has high value to the industry as a means to improve decision outcome (e.g, risk selection), personalize interactions and products, and support automation initiatives. Solutions often are industry-specific, supporting in-depth analysis to help business leaders improve performance in actuarial, claims, underwriting, sales and customer service.

Business Impact

Tactically, use of advanced analytics solutions will provide insight into operational efficiencies and productivity, customer intelligence, and corporate performance. Strategically, the use of advanced technologies, like AI and predictive modeling, will empower customer self-service with next best action, new product offerings, personalized insurance and new insights. Examples of insights include using enhanced risk for fraud detection and video analysis for property risk, among others.

Drivers

- Heightened competition and awareness of the value of data in success in the industry which is creating greater interest among insurers to pursue more advanced data and analytics (D&A) technologies and capabilities.
- Greater understanding of the correlation between digital and data strategies.

- Vision from new competitors especially such insurtechs who have stronger data maturity and showcase the value of D&A in areas like automation, intelligent processing and decision intelligence, driving innovation across the industry.
- Greater availability of data exists in the market from IoT devices, consumer shared and third parties.
- Heightening and growing focus on enterprise intelligence is occurring across the industry, especially related to digital strategy maturity and advanced business models (see Quick Answer: What Future Business Models Will Impact Technology Decisions in Insurance?).
- Demand is growing in business, including operations, to use data to promote better business outcomes. This includes real-time risk analysis to support underwriting profitability; behavioral modeling for customer risk segmentation; personalized pricing, like usage-based; and autonomous processing, environmental, social and governance (ESG) analysis, or small business underwriting.
- Greater availability and maturity of horizontal and industry-specific advanced analytics solutions are taking place, including improved analytics from core systems and industry application vendors. Additionally, there has been a great number of insurtechs emerging that offer boutique analytics solutions targeted at specific lines of business or functional areas, for example, fire risk analysis.

Obstacles

- Immature data strategies and governance, including lack of assigned leadership, ownership and strategies for less mature insurers.
- Legacy systems and complex IT landscapes challenge the ability to pull data or access it in real time.
- Data science or analytical resources to support D&A initiatives are lacking.
- A siloed and fragmented vendor market often consists of horizontal vendors that may lack insight into business needs, services providers or niche business applications, targeted at a single line of business or function (such as fraud detection).
- The right data to support analytical aspirations is lacking. Insurers have transaction and application data but often lack the supplemental data (e.g., behavioral or sentiment) that they would want to build holistic customer profiles, and understand risks or exposures.

User Recommendations

- Build a D&A strategy that maps against the corporate digital ambition and addresses problems, such as the governance, resources and KPIs needed to evaluate the initiative's effectiveness.
- Ensure a single view of data, including customer, risk and financial, for example. Apply needed analytics to support business decisions.
- Assess the current-day use of advanced analytics to determine whether solutions currently in use can be leveraged in additional business units or departments. Determine which solutions are built for a single function (such as fraud analytics) and which solutions could be used in more business areas.
- Seek insurance analytical solutions with reduced implementation risk and high-business value by selecting those that contain an industry data model and prebuilt algorithms, and APIs to surrounding systems like core systems.

Sample Vendors

Atidot; CAPE Analytics; CLARA Analytics; Guidewire; IBM; Insurity; LexisNexis; SAS; Tableau; Verisk

Gartner Recommended Reading

Digital Insurance Success Requires Leveraging Data, Analytics and Artificial Intelligence

Insurers Can Enhance D&A Maturity Through Improved Use Cases, Data Use and Digital Alignment

Insurers Must Push Ahead With DBTPs to Fulfill Their Digital Business Aspirations

Appendixes

See the previous Hype Cycle: Hype Cycle for Digital Life and P&C Insurance, 2022

Hype Cycle Phases, Benefit Ratings and Maturity Levels

Table 2: Hype Cycle Phases

(Enlarged table in Appendix)

Phase	Definition
Innovation Trigger	A breakthrough, public demonstration, product launch or other event generates significant media and industry interest.
Peak of Inflated Expectations	During this phase of overenthusiasm and unrealistic projections, a flurry of well-publicized activity by technology leaders results in some successes, but more failures, as the innovation is pushed to its limits. The only enterprises making money are conference organizers and content publishers.
Trough of Disillusionment	Because the innovation does not live up to its overinflated expectations, it rapidly becomes unfashionable. Media interest wanes, except for a few cautionary tales.
Slope of Enlightenment	Focused experimentation and solid hard work by an increasingly diverse range of organizations lead to a true understanding of the innovation's applicability, risks and benefits. Commercial off-the-shelf methodologies and tools ease the development process.
Plateau of Productivity	The real-world benefits of the innovation are demonstrated and accepted. Tools and methodologies are increasingly stable as they enter their second and third generations. Growing numbers of organizations feel comfortable with the reduced level of risk; the rapid growth phase of adoption begins. Approximately 20% of the technology's target audience has adopted or is adopting the technology as it enters this phase.
Years to Mainstream Adoption	The time required for the innovation to reach the Plateau of Productivity.

Source: Gartner (July 2023)

Table 3: Benefit Ratings

Benefit Rating ↓	*Definition* ↓
Transformational	Enables new ways of doing business across industries that will result in major shifts in industry dynamics
High	Enables new ways of performing horizontal or vertical processes that will result in significantly increased revenue or cost savings for an enterprise
Moderate	Provides incremental improvements to established processes that will result in increased revenue or cost savings for an enterprise
Low	Slightly improves processes (for example, improved user experience) that will be difficult to translate into increased revenue or cost savings

Source: Gartner (July 2023)

Table 4: Maturity Levels

(Enlarged table in Appendix)

Maturity Levels	Status	Products/Vendors
Embryonic	In labs	None
Emerging	Commercialization by vendors Pilots and deployments by industry leaders	First generation High price Much customization
Adolescent	Maturing technology capabilities and process understanding Uptake beyond early adopters	Second generation Less customization
Early mainstream	Proven technology Vendors, technology and adoption rapidly evolving	Third generation More out-of-box methodologies
Mature mainstream	Robust technology Not much evolution in vendors or technology	Several dominant vendors
Legacy	Not appropriate for new developments Cost of migration constrains replacement	Maintenance revenue focus
Obsolete	Rarely used	Used/resale market only

Source: Gartner (July 2023)

Document Revision History

Hype Cycle for Digital Life and P&C Insurance, 2022 - 29 June 2022

Hype Cycle for Digital Life and P&C Insurance, 2021 - 1 July 2021

Hype Cycle for Digital Life and P&C Insurance, 2019 - 15 July 2019

Hype Cycle for Digital Insurance, 2018 - 20 July 2018

Hype Cycle for Digital Insurance, 2017 - 20 July 2017

Hype Cycle for Digital Insurance, 2016 - 22 June 2016

Hype Cycle for Digital Insurance, 2015 - 17 July 2015

Hype Cycle for Digital Insurance, 2014 - 24 July 2014

Recommended by the Author

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Understanding Gartner's Hype Cycles

Tool: Create Your Own Hype Cycle With Gartner's Hype Cycle Builder

Insurance Scenarios: Sense and Plan for Alternative Futures in an Era of Constant Change

Predicts 2023: What's Next for Insurance CIOs Operating in an Era of Turbulence?

2023 CIO and Technology Executive Agenda: An Insurance Perspective

Top 10 Technology Trends for P&C Insurance CIOs in 2023

Top 10 Technology Trends Driving Change for Life Insurance CIOs in 2023

The Future of Insurance: Vision for 2027

Panoptic Personalization: An Insurance Trend for 2022

Table 1: Priority Matrix for Digital Life and P&C Insurance, 2023

Benefit ↓	*Years to Mainstream Adoption*			
	Less Than 2 Years ↓	***2 - 5 Years*** ↓	***5 - 10 Years*** ↓	***More Than 10 Years*** ↓
Transformational			Autoadapting and Autocomposing Products Customer and Societal Ecosystems	Genomics and Epigenetics
High	Advanced Analytics Solutions	Automated Digital Advice Conversational User Interfaces Digitally Engineered Underwriting Holistic Fraud Management Solutions Hyperautomation Insurance Telematics 2.0 Intelligent Document Processing	Blockchain Composable Applications Embedded Insurance Generative AI Industry Cloud Platforms Open APIs in Insurance Panoptic Personalization Total Experience	Machine Customers Metaverse
Moderate		IoT Point Solutions Low-Code/No-Code Solutions SaaS P&C Core Platforms Visual Intelligence Solutions	Advanced Life Event Management Solutions Insurance as a Service SaaS Life Insurance Core Platforms	NFT in Insurance Personal Health Records

Benefit	Years to Mainstream Adoption			
↓	Less Than 2 Years ↓	2 - 5 Years ↓	5 - 10 Years ↓	More Than 10 Years ↓
Low				

Source: Gartner (July 2023)

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