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

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Initiatives: Financial Services Digital Business Strategy and Innovation

> The needs for efficiency, agility and resilience in the insurance enterprise are driving the adoption and prioritization of technology. Life and P&C insurance CIOs must adopt emerging technologies that not only support today's business, but also enable future business models, products and services.

Analysis

What You Need to Know

The COVID-19 pandemic and its economic fallout have accelerated the insurance industry's focus over the last 18 months toward the adoption of technologies that support resilience, efficiency, agility and productivity.

With customers, advisors and employees living and working in remote environments, a spotlight has been shone on the shortcomings of existing operations and technologies. This is driving increased adoption in technologies that support virtual engagements, and also the need for more personalized interactions. Robotic process automation (RPA) adoption has accelerated toward the Plateau of Productivity, while technologies such as hyperautomation tools and low-code/no-code solutions have reached the Peak of Inflated Expectations.

The difficulty of customer engagements and challenges in using artificial intelligence (AI) to personalize, gain insights and drive demand is seeing both artificial intelligence and conversational platforms starting to descend into the Trough of Disillusionment.

Finally, we are seeing the next generation of certain technologies, such as holistic fraud management solutions and telematics 2.0, starting their path across the Hype Cycle.

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 2021 Hype Cycle is aligned to the 32 most important emerging technologies and trends for insurance CIOs.

Digitalization efforts continue to center on optimizing existing traditional business models, but macro conditions have caused a realignment of priorities since the 2019 Hype Cycle. In particular, some of the key themes are as follows:

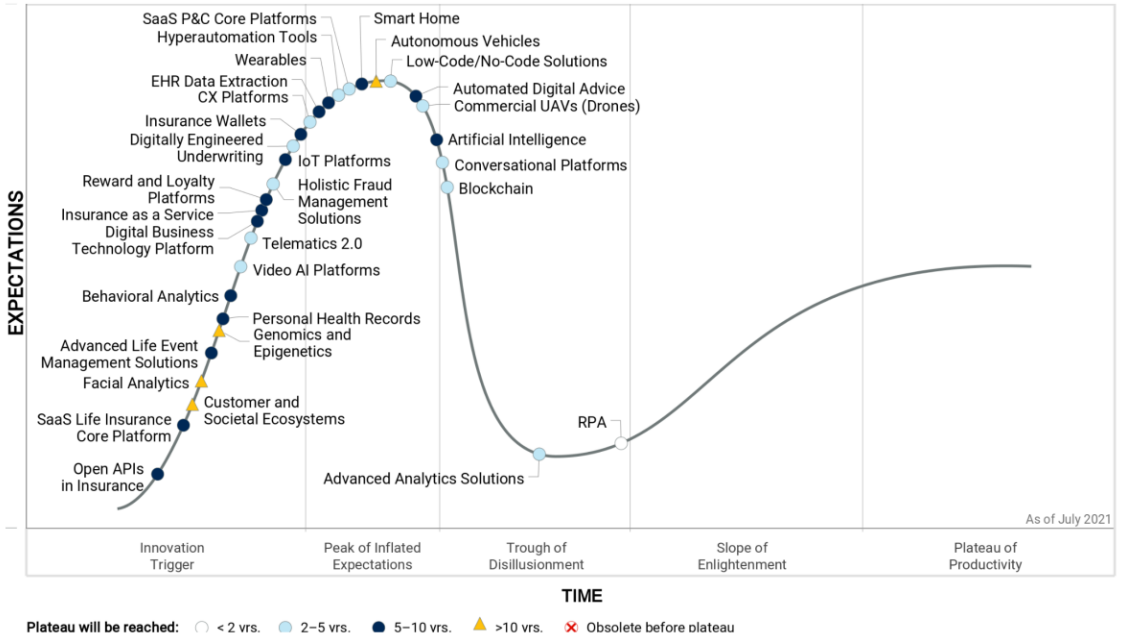
- The path to hyperautomation is underway, with insurance CIOs and their business peers embracing an array of tools. The key is pairing automation with analytics and machine learning to increase the potential for automation. RPA is reaching the Slope of Enlightenment, reflecting its adoption level and an acceptance of its limitations. The new hype has switched to low-code/no-code applications to overcome legacy inhibitors and create more robust offerings for manual workarounds. Overall, the vendor landscape is still immature. However, vendors are beginning to standardize a set of hyperautomation tools that will provide a toolbox of automation technologies. These tools will enable insurers to not only replicate human tasks, but also augment and automate parts of more skilled roles.
- Data and AI may be paramount, but lack of data governance and inability to scale, in particular, are causing the AI profile to start the descent toward the Trough of Disillusionment. However, new specialized analysis, especially centered around behavioral modeling, continues to emerge.
- Technologies and trends that will cause a radical shift to business models such as customer and societal ecosystems, IoT, blockchain, genomics, and epigenetics remain in their infancy. Meanwhile, some technologies are stagnating due to technology and business vision inhibitors that have seen insurers focus more heavily on optimization.

Ten new innovation profiles have been added to the Hype Cycle this year, including next-generation versions of technologies for core systems, telematics and fraud management. In addition, the following innovation profiles had name changes:

- Hyperautomation Tools (previously “Intelligent Process Automation”): The name has been changed to be in line with Gartner terminology.
- Automated Digital Advice (previously “Digital Advisors”): The name reflects the purpose of the technology to augment and automate advice-led activities.

- Blockchain (previously “Blockchain in Insurance”): The profile is no longer attached to Hype Cycles outside of the insurance Hype Cycle, and therefore the “in insurance” qualifier is no longer needed.

Figure 1: Hype Cycle for Digital Life and P&C Insurance, 2021



Gartner (July 2021)

Downloadable graphic: Hype Cycle for Digital Life and P&C Insurance, 2021

The Priority Matrix

In 2021, insurance IT budgets on the whole have needed to focus on “safe innovation,” where tangible ROI can be quantified. More speculative technologies that may have a more transformational impact on business models, products and services therefore remain in their infancies and have a longer horizon to the Plateau of Productivity due to their reduced focus in 2021. Insurance CIOs will need to balance the technologies that will support cost, risk and revenue aims for today with the investment in emerging technologies that will drive rewards in the long term.

Gartner has identified eight technologies that will have a transformational impact on the insurance value chain. Three notable developments concern the following:

- **Artificial intelligence:** Gartner believes AI is one of the most transformational sets of technologies on this Hype Cycle. AI-enabled technologies have equal applicability to support rethink, recalibration and reimagination of existing business models alongside the insights to aid the creation of new business models, products and services.
- **Blockchain:** The lack of fruition from the blockchain hype has led to this technology starting the descent toward the Trough of Disillusionment. For game-changing benefits to the insurance sector, many of the proposed applications require business cooperation across a number of disparate institutions with differing degrees of technology maturity. The transformational potential still remains.
- **Customer and Societal Ecosystems:** This is a new addition to the Hype Cycle that identifies the developing connections and data flows between machines, sensors and associated technologies that will give rise to business ecosystems. It is through this network of partnerships, data and technology that new business models and markets will develop. These business ecosystems will see insurance as a by-product or hidden in a wider service model focused on the desires and business needs of end customers.

In addition, a further 11 technologies will have a high impact on insurance. These technologies provide connectivity to the outside world, support real-time operations, and connect insurance into people's lives through customer engagement or via IoT devices.

Table 1: Priority Matrix for Digital Life and P&C Insurance, 2021

(Enlarged table in Appendix)

Benefit	*Years to Mainstream Adoption*			
↓	*Less Than 2 Years* ↓	*2 - 5 Years* ↓	*5 - 10 Years* ↓	*More Than 10 Years* ↓
Transformational		Blockchain Telematics 2.0	Artificial Intelligence Behavioral Analytics Digital Business Technology Platform	Autonomous Vehicles Customer and Societal Ecosystems Genomics and Epigenetics
High		Advanced Analytics Solutions Commercial UAVs (Drones) CX Platforms Digitally Engineered Underwriting Holistic Fraud Management Solutions Hyperautomation Tools	Automated Digital Advice Insurance as a Service Open APIs in Insurance Smart Home Wearables	
Moderate	RPA	Conversational Platforms Low-Code/No-Code Solutions SaaS P&C Core Platforms Video AI Platforms	Advanced Life Event Management Solutions EHR Data Extraction Insurance Wallets IoT Platforms Personal Health Records Reward and Loyalty Platforms SaaS Life Insurance Core Platform	Facial Analytics
Low				

Source: Gartner (July 2021)

Off the Hype Cycle

Each year, Gartner analysts evaluate the existing profiles, and some are removed from the Hype Cycle for varying reasons. The following have been removed from the last published Hype Cycle (2019):

- Telematics — This has been superseded by Telematics 2.0 to reflect the maturing of this technology into a more holistic solution with greater functionality and capabilities.

- P&C Insurance Fraud Analytics and Life Insurance Fraud Analytics — These two entries have been replaced with a single entry named Holistic Fraud Management Solutions, which reflects the solution market that supports fraud management with additional functionality beyond analytics.
- Distracted Driving Technologies — This profile has been merged into Telematics 2.0.
- Quantum Computing — This profile has been dropped due to its lack of specificality to the insurance industry.
- Digital Experience Platform — This profile has been replaced by the CX Platform. This better reflects the insurance technology imperative to support customer engagement, which is not present in a single vendor platform offering.
- Life Insurance Policy Administration/Management SaaS — This profile has been replaced by the next-generation emerging offering SaaS Life Insurance Core Platform.
- P&C Core Platforms — This profile has been replaced by the next-generation emerging offering SaaS P&C Core Platforms.
- Full Life Cycle API Management — This has been removed in favor of a more specific insurance entry, Open APIs in Insurance.

On the Rise

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. Open APIs typically take the form of lightweight REST APIs, suited to mobile and web consumption. API providers often enable consumers (developers) to use a self-service portal to register and gain access to public APIs. In some cases, open APIs may be monetized, for example through subscription or pay-per-use.

Why This Is Important

APIs are fast moving from a technical must-have for the IT department to a board-level agenda item, and insurance companies must follow suit. 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 leveraging of partner-open APIs can be powerful allies for digital transformation in insurance.
- Open APIs in insurance hold the potential to expand an insurer's reach to a broader audience through connectivity 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

- As the number of partners engaged in business ecosystems and the complexity of those interactions increases, the need for APIs will intensify.
- Open APIs give insurers an opportunity to create new revenue, open up a new business channel, add customer reach, enhance the customer experience, increase product "stickiness," and embrace new ecosystems.
- New business models will demand greater connectivity as innovative insurers move from digital platforms to platform businesses; see Case Study: Insurance API-Driven Digital Ecosystem Transformation (Wakam). Open APIs will enable them to move faster with new products, services and business models.
- Increasing availability of partner and third-party open APIs will help insurance CIOs to accelerate their digital platforms and deliver business value (see Top Cross-Industry Open API Trends for Insurance CIOs to Track in 2021).
- Open APIs can also play a vital role in digital optimization efforts. For example, a European life insurer has exposed a limited set of open APIs to enable group life member data to be updated directly from the employer's HR systems in order to drive cost optimization.
- Centralized control of APIs and the creation of APIs as products will enable CIOs to minimize duplication and take a strategic approach to the development and deployment of APIs.

Obstacles

- Most insurance CIOs don't fully understand the strategic and business value of open APIs and, therefore, still build integrations using traditional approaches, like custom-built point-to-point product extensions.
- The lack of standards and regulatory or industry bodies for approving and registering third parties and monitoring usage of open APIs across life and P&C insurance will add additional burden on insurance companies (see 5 Best Practices Insurance CIOs Can Adopt From Open Banking Initiatives to Shape Their API Strategy).
- Publishing APIs alone is not enough. An effective API-based ecosystem requires careful consideration of target markets and close collaboration with partners who will design effective products on the API platform.

- The few, limited open insurance API 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

- Justify the additional design and governance required to create open APIs for in-progress projects by leveraging evidence of future business value, and shift the IT focus from project-specific APIs to strategic-open APIs.
- 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.
- Link API usage to tangible business value by creating an internal monetary representation of transactions to support the case for further investment.
- Convince 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 for adoption.
- Prepare for future API deployments through API marketplaces or API aggregators by using full life cycle API management to create internal API marketplaces and test adoption.

Gartner Recommended Reading

Top Cross-Industry Open API Trends for Insurance CIOs to Track in 2021

5 Best Practices Insurance CIOs Can Adopt From Open Banking Initiatives to Shape Their API Strategy

Case Study: Insurance API-Driven Digital Ecosystem Transformation (Wakam)

Insurance CIOs Must Create a Strategic API Pathway to Succeed With Their Future Digital Ambitions

SaaS Life Insurance Core Platform

Analysis By: Richard Natale

Benefit Rating: Moderate

Market Penetration: Less than 1% of target audience

Maturity: Emerging

Definition:

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

Why This Is Important

SaaS life insurance core platforms provide life insurers a path to modernization. At the same time, they accelerate the delivery of preintegrated digital capabilities, such as advanced analytics to develop differentiating insights about a book of business, and open integration with ecosystem plug-ins, such as insurtechs. These platforms can also accelerate deployment of capabilities such as adaptable portals, BPM, chatbots and other customer-experience-enhancing technologies.

Business Impact

- They can improve delivery speed of capabilities needed to support digital business, such as omnichannel technology, RESTful APIs, externalized product configuration, real-time data analytics and event streaming integrated with vertical insurance functionality.

- They offer preintegrations to ecosystem partners, and insurtechs with APIs designed to reduce integration complexity.

Drivers

- They 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 an alternative to insurers seeking a net new 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 cloud but have a substantial remaining technical debt.
- 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.
- They offer preintegrated access to partner solutions and services through marketplaces, reducing integration complexity. They also enable insurance CIOs to readily integrate with an ecosystem of internal and external partners to create personalized, streamlined insurance solutions.

Obstacles

- SaaS is often confused with cloud. These are not simply containerized legacy OEM solutions running on cloud infrastructure. Adopting SaaS will require revisiting standardization of processes and commodity insurance policy administration functionality.
- These offerings are at a low level of maturity. Collaborations between enterprise technology vendors and insurance policy administration vendors are at the very early stages of offering aspects of SaaS life insurance core platforms, such as APIs.
- Movement from a legacy OEM PAS to a new SaaS life insurance core platform is a migration and not an upgrade, making it a risky transition for legacy business.
- They will require IT to revisit the operating model — for example, changing the model to deal with more-frequent upgrades. This will fundamentally alter existing change management procedures that are no longer under IT's direct control.

User Recommendations

Life insurance CIOs:

- Determine the transformative changes in policy administration and the impact on your total cost of ownership. Do this by comparing the cost of acquiring and integrating various, multiple, best-of-breed technologies with a life insurance policy administration system, versus acquiring a preassembled LIPaaS.
- Envision how much speed and agility improve in capturing new market opportunities with an "as a service" operating model versus deploying multiple, heterogeneous system components that are poorly integrated.
- 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

Capgemini; EY Nexus; IBM; Majesco; NTT DATA; Socotra

Gartner Recommended Reading

3 Best Practices Life Insurance CIOs Can Use to Evaluate Policy Administration Systems in the 2020s

Digital Insurance Success Requires Leveraging Data, Analytics and Artificial Intelligence

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 developing between machines, sensors and associated technologies that will support citizens and companies in their domestic and work environments. These ecosystems can promote innovation and collaboration among business and IT colleagues, and provide opportunities for new business models and revenue.

Why This Is Important

Innovative, industry-leading financial service (FS) CIOs are increasingly being called on to map out a vision for how technology will influence their specific market sector. FS 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 those technologies impact their customers and how FSIs may support them with new products and services.

Business Impact

- Customer and societal ecosystems offer FSIs the opportunity to define new ways of engaging with their customers and establishing new product and service propositions.
- Organizations struggle with developing a new vision for the future and customer and societal ecosystems provide an approach to realize the opportunities.
- Ecosystems offer new revenue opportunities and a way of differentiating products and services to stave off existing and emerging competition and business model threats.

Drivers

- Customer and societal ecosystems act as a common descriptor for a range of ecosystems that are developing across industries. These ecosystems are developing with the emergence of embedded technologies and sensors, autonomous machines and other technologies that evolve within the realm of cities, buildings, transport systems, personal devices and business environments.
- The rise of these embedded technologies and data flows creates an opportunity for FSIs to establish new markets and product offerings with technologies and partnerships that initially appear to have limited or no direct links to existing products and services.

- FSIs can use 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.
- Gartner believes that understanding of how these ecosystems operate will enable FSIs to develop a much deeper insight into how their customers are living their personal and business lives.
- This access and an ability to interpret and analyze the data that is generated across such ecosystems will allow FSIs to rethink how they provide products and services to their customers.
- It will enable them to get much closer to their customers and embed their FS products close to where customers need 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 their 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 FSIs. They involve technologies that are traditionally unfamiliar to an FSI CIO and business alliances that may be perceived as not within CIOs' span of control, and hence irrelevant for CIO coverage.
- For many FSIs, their legacy technology infrastructures will limit their ability to access or participate in such ecosystems. Equally, deficiencies in analytics capabilities may restrict their ability to meaningfully analyze any of the data outputs.
- In some FSIs, the role of the CIO is seen as one of managing processes or costs rather than driving business value and differentiation. CIOs may struggle to articulate a rationale for the enterprise to drive product and service innovation through customer and societal ecosystems.

User Recommendations

- Use Gartner's Customer and Societal Ecosystem Framework to run a workshop with representatives from the business and IT to examine the role of the financial services enterprise in fulfilling future business 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.

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

Facial Analytics

Analysis By: Richard Natale

Benefit Rating: Moderate

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Facial analytics is the capture of facial images in a photo (e.g., a selfie) or video, augmented with the use of AI to determine health habits, body mass, gender and visible age; detect emotion; and monitor facial expressions. It can be used in life insurance underwriting, fraud detection and accident prevention.

Why This Is Important

In insurance, consumers can use facial recognition during the application process to provide a selfie that is analyzed using AI to assess health habits, smoking status and other risk-rating factors, reducing the need for medical underwriting. It can also be used to assess facial expressions for suspicious signals of fraud and to capture driver biometrics for safety purposes.

Business Impact

Facial analytics for life insurance underwriting could speed up policy issuance, improve customer experience and reduce underwriting costs, eliminating the need for medical underwriting and third-party data requests. It can also be used to detect claims fraud by analyzing the microreactions to questions to determine claimant response veracity. In commercial insurance, facial analytics can be used in autonomous or semiautonomous vehicles to assess driver alertness and prevent accidents.

Drivers

- The potential is significant if insurance actuaries accept this technology and it is approved by a regulator for use in life insurance underwriting.
- Increase in insurance fraud during the COVID-19 pandemic has been driving CIOs to look for technologies to spot fraud at the point of sale/service.
- Customers may have an interest in new methods of engagement with their insurer beyond phone or agent/advisor.
- Insurtechs are changing the rules of the game around customer engagement and experience, which will spur insurers to innovate in digital channels.

Obstacles

- This technology is in its infancy, with early adopters still testing and piloting the technology in small POCs. Few new announcements of adoption have been made.
- To replace traditional underwriting practices, the models must be trustworthy and provide the same — if not better — risk assessment as the current practice. Accuracy can't be validated until claims are initiated and because these models lack historical comparison.
- Facial analytics is sold as stand-alone capability as opposed to integrated risk management solutions.
- Outside of use in life insurance underwriting, facial recognition technology is under scrutiny with lawmakers. When used in combination with other information for unintended purposes and without consent, it will erode trust with the insurer.
- Insurers must demonstrate that the use of facial recognition technology in underwriting does not produce discriminatory underwriting risk rating and decisions related to race or disability.

User Recommendations

- Evaluate emerging vendors offering facial analytics, including the validation of risk algorithms based upon POC comparisons against historical data.
- Keep track of regulatory requirements and governmental prohibitions to ensure you are in compliance with the law.
- Evaluate the use of facial analysis in claims fraud processes by reviewing the insurance facial analytics technology landscape and the potential to identify fraud in real time.
- Establish an ethics policy and governance model for the use of facial images when making underwriting decisions.
- Test facial analytics in isolation, comparing profitability against historical pricing models to build comfort among business executives and investors.

Sample Vendors

Lapetus Solutions Inc. (LSI); Visage Technologies; WeSee

Gartner Recommended Reading

Innovation Insight for Artificial Intelligence in Life and P&C Insurance

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

Why Digital Life Insurance Success Demands Autonomous Underwriting

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 about prospective customers and their life event circumstances that could trigger a life or personal P&C insurance purchasing decision. Life event data augments traditional demographic data to improve sales conversions and cross-sell and upsell opportunities, and to 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

- Insurance companies must find ways to differentiate themselves in digital channels by reaching out to prospective buyers before they are ready to select an insurance carrier.
- Consumer life event milestones can affect consumers' insurance needs and propensity to purchase insurance products. Examples of life events that could trigger the propensity to buy insurance could be the purchase of a home, a marriage, starting a family or planning for retirement.

Business Impact

The use of advanced life event management solutions improves sales and marketing processes that will result in increased revenue. It extends beyond the acquisition of third-party data for segmentation purposes and includes:

- 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

- As insurance companies recover from the pandemic recession, competition for new business will be fierce, indicating that insurance CIOs need to work closely with marketing, sales and service business leads to protect against the potential for decreased market share.
- The 2020 Gartner Financial Services Technology Survey identifies the percentage of new business applications received as a top KPI for tracking insurance company digital technology investment success. At the same time, customer acquisition costs will still need to be aggressively managed, as will continuing high lapse rates.
- 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 the 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 leaders 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.
- Third-party sources of life event data have been available for several years. However, the availability of advanced life event management solutions is embryonic, with 1% to 5% of the target audience and being at least five to 10 years away from reaching the plateau.

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.
- Balancing the benefits of improving revenue with a comprehensive data ethics program and the privacy expectations of consumers is critical.
- The state of privacy and personal data protection and the willingness of consumers to share private data are major hurdles when using personal data. The 2019 Gartner Financial Services Consumer Trust Survey indicates that more than 80% of consumers do not rate insurance companies among their top three most trusted providers to manage their personal data safely and responsibly.

User Recommendations

Insurance companies should expand the use of advanced life event management as they embrace direct-to-consumer business models and to improve the outcome of outbound sales and marketing messaging. Insurance companies pursuing the ability to segment prospective customers using life event data:

- Build a segmentation and personalization roadmap tied to the insurance products, markets and channels that you use.
- Identify reliable sources of first-party and third-party life event data, such as from aggregators and social media, to drive life event management.
- Evaluate your alternatives to assembling an advanced life event management solution in-house, using traditional third-party data providers.
- 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; Experian; Gerald; Sureify

Gartner Recommended Reading

2021 CIO Agenda: An Insurance Perspective

CIOs Solidify Value, Feasibility and Ethics as the Initial Steps to Enable Successful Insurance Data Monetization

The Insurance Marketing Leader's Strategic Guide for 2021

Major Consumer Value Shifts Driving Property and Casualty Insurance Marketing Changes

Genomics and Epigenetics

Analysis By: Laurie Shotton, Michael Shanler

Benefit Rating: Transformational

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Genomics concerns the genetic makeup of organisms, analysis of genes, and their interrelationships toward growth and development. In insurance, genomics has the potential to provide data projections on the longevity of life, enabling actuaries to use the understanding of genetics, lifestyle and improvements in medicine into their modeling. Epigenetics is the use of medical measures to identify environmental and genetic influences on an individual's health, well-being and life expectancy.

Why This Is Important

Genomics and epigenetics represent truly transformational capabilities for the insurance industry. DNA makeup, combined with individuals' environmental and behavioral characteristics, could provide actuaries with more accurate measures of mortality. It will also provide a means for potential customers to access genetic testing for a more accurate understanding of their own life expectancy. This, in turn, provides a perception of risk that could affect their decision to purchase insurance.

Business Impact

- The greater accuracy on predisposition to diseases, and other life-limiting or debilitating conditions, could result in improved profitability and reduced risk related to uncertainty of general life expectancy.
- However, it could change customer perceptions of risk and leave insurers with only high-risk customers.
- Epigenetics could be used as part of a well-being offering to change peoples' lifestyles, which will help improve accuracy of insurance claims by reducing lifestyle-induced claims.

Drivers

- Genome testing centers have been established in different countries, including developing countries like India, and there are projects such as one in the U.K. to document the genetic makeup of 5 million genomes over the next five years. This means that genetic findings are set only to increase.
- Such investment is progressing breakthroughs in disease prevention and treatment, while providing a greater understanding of the human DNA.
- Advancements in genomics and genetic testing, including advances in polygenic risk scores, epigenetic testing, pharmacogenomics, genome editing and cancer treatments, are progressing rapidly.
- The insights that these advances provide will fuel decision making for insurers and customers alike, with developments beginning to reach a level of maturity to which life insurers need to react.
- 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.
- As the level of personal genomics data that's collected and shared increases (from data brokers and wearable devices), and if actual individual genetic details are shared, actuaries can tailor pricing to the specific genetic makeup of the individual.
- 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.
- This could also reduce the need for some medical examinations, with the genomics data built into predictive analytics.

Obstacles

- The major inhibitor to wide adoption will be consumers' willingness to share their personal genetic makeup with insurance companies and, more importantly, their concerns over the privacy of such data and how it is shared.
- Regulatory restrictions in many countries (such as HIPAA, GDPR and Genetic Information Nondiscrimination Act [GINA]) will halt insurance companies' progress in this area until the use of health data is legalized.
- In some countries, such as the U.K., insurance companies have signed up to a code not to force clients to share genetic data or to use predictive genetic data in new sales processes.
- Genetic testing can offer reassurance to a person who is concerned about a high family risk of developing a trait. But it is up for moral debate whether insurance companies should request or use this information in determining premiums, accepting an insurance policy or even guiding their future lives.
- Insurance companies should expect continued legal restrictions in the short term.

User Recommendations

- Track global developments with regulatory authorities around genetic privacy laws and regulations to identify the future willingness of authorities to allow for use of genetics in insurance.
- 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.
- Analyze the early insurance adopters of epigenetics by examining the application of epigenetics and the impact it has on the new business, underwriting and revenue of these insurance organizations.
- Examine how the development of genomics studies can be shared and incorporated into actuarial predictive modeling to improve its general accuracy.
- Proceed with caution in terms of individual genetic data, because ethical and legal restrictions will be a sizable barrier to the adoption of personalized genomics data being shared and used for insurance purposes.

Sample Vendors

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

Gartner Recommended Reading

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

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 comprehensive access to and control of their data from across the consumer, citizen, and patient health and wellness continuum. The PHR automates the ingestion of data from all permissioned sources; enables consumer data sharing with providers, caregivers, researchers and insurers; exposes data to consumer applications and devices developed by third parties; and manages identity, consent and security.

Why This Is Important

PHRs provide access to accurate data for underwriting that might otherwise require invasive and redundant medical tests. There is an increased proliferation of PHRs through a variety of channels, such as Google and Apple, as a way for consumers to share medical data.

PHRs negate the need to integrate with multiple employee health record (EHR) vendors. The PHR acts as a consumer-controlled consolidation point for EHR-originated data, regardless of the provider network and the EHR service used.

Business Impact

- 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.
- Data collected from PHRs would reduce the number of questions posed to policyholders during the underwriting process thereby, improving the customer experience.

Drivers

- COVID-19 is placing pressure on life insurance companies to identify “hands-free” access to policyholder health information that would otherwise have to be gathered through invasive means.
- 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.
- The success of international deployments of patient portals is powering the advancement of untethered patient portal and PHR technology.

Obstacles

- While PHRs contain important health data, radiological scans and other clinical data, insurers must also master data governance for the massive amounts of data in a PHR.
- Underwriting algorithms require a fraction of the data stored in PHR records, making intelligent record extraction, selection, and sorting essential to making PHRs an effective source of underwriting data.
- Consumers might have more than one PHR across provider-supplied, independent and employer-supplied tools.
- Consumers can discontinue access permission, eliminating the PHR as a source of data.
- Data security and privacy legislation may inhibit insurers in many geographic locations from gaining insights, particularly at the individual level, and customers may be unwilling to share their data.
- Not all segments of the population have access to or use technology to manage health history, presenting the possibility of socioeconomic inequality in insurance services.

User Recommendations

- Prepare for blurring industry boundaries by attending health-insurance-focused events to better understand the range of possible ecosystem partners that could be available to jump-start your use of PHRs.
- 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 Health Records; CitizenMe; Google Health; Human API; PHR Plus

Gartner Recommended Reading

Life Insurance CIOs Need a Winning Vision for Underwriting

Use COVID-19 Lessons to Drive Investment in Four Technology Categories

Behavioral Analytics

Analysis By: Kimberly Harris-Ferrante

Benefit Rating: Transformational

Market Penetration: 1% to 5% of target audience

Maturity: Embryonic

Definition:

Behavioral analytics are predictive models that use various forms of data, especially data generated by the IoT, customer interaction channels such as the web or call center, or third parties such as social media platforms. Its purpose is to derive new insights regarding customer preferences, attitudes, and product and service needs to improve personalization and contextualization of interactions in real time or near real time.

Why This Is Important

Behavioral analytics is one of the cornerstones for insurers as they look to drive personalization, contextualization of interactions, pricing and products and services (for example, those based on usage), reward platforms, and health and safety programs. This is the collection of data and predictive models to deepen customer intelligence through behavioral modeling, which is applied to marketing, actuarial, underwriting, sales, customer service, fraud, and product development.

Business Impact

- Allows insurers to obtain greater insight into individualized customer actions that are directly related to insurance risk.
- Provides insight to drive underwriting profitability, loss prevention, improved customer servicing and new product revenue.
- Enables digital business transformation and driving competitive differentiation, as well as help meet bottom-line performance metrics around revenue growth.

Drivers

- The need for improved customer experience is encouraging many business and IT leaders to look for new customer intelligence to augment their traditional application and interaction-level data, especially on individualized behavior or preferences.
- Growing focus on analytics and data science across the industry continues to drive insurers to seek new ways to apply data to overlooked processes and functions. This includes new data types such as unstructured data (voice, facial expressions or text), which are not used in many customer intelligence initiatives today.
- Insurers seeking to build personalized products will need new data to support this endeavor. Behavioral analytics provides the insight to support individualized pricing models for products such as usage-based insurance based on individualized risk.
- Focus on loss prevention, specifically fraud detection, is forcing claims and SIU experts to identify new ways to determine fraud risks using behavioral modeling.
- Market hype coming from insurtechs on their use of behavioral science is bringing new awareness of how these analytics are being applied by innovators in the industry.

Obstacles

- While use of analytics is growing, most insurance business leaders do not have a clear understanding of the opportunities that behavioral analytics offer them.
- Most companies lack ownership of CX (for example, a customer officer) and, therefore, lack understanding how behavioral analytics can be applied to various business functions.
- Much of the most powerful data to do behavioral modeling is outside insurance, so access might be difficult. This requires partnering or buying third-party data.
- The vendor market for behavioral analytics is fragmented, with few vendors with market share and visibility across the market.
- Much of acceptance may be driven by IoT use, which remains low in most insurance business lines. As insurers acquire more IoT data, they can exploit this data in new ways such as behavioral modeling.
- Most insurers lack advanced data scientists with expertise in behavioral science.
- Regulations lack clarity around data use.

User Recommendations

- Work with those involved in CX to map out the need for customer analytics, including behavioral analytics in building holistic views of customers.
- Engage with marketing, digital teams, product leaders, claims managers and fraud leaders to list which types of behavior would be good to supplement customer intelligence based on the digital strategies of the company.
- Assess CRM systems and customer databases to determine how to store behavioral data and how to make any new technical changes to support this vision.
- Talk to product managers who would own IoT initiatives to assess the status of IoT rollouts, data collected, and how behavioral analytics will help with the deployment of new business models, such as prevention services.
- Assess the current data architecture, as well as analytical platforms to analyze large-volume datasets such as those created through IoT.
- Determine best sources for data through buying third-party or building out ecosystems where data is available.

Gartner Recommended Reading

Survey Analysis: Data and Analytics Trends in Insurance 2020

Digital Insurance Success Requires Leveraging Data, Analytics and Artificial Intelligence

Video AI Platforms

Analysis By: James Ingham

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Video AI platforms enable visual information capture of auto, property or specialty assets as part of a self-service or remote-guided process. Platforms typically support video and image capture, object and damage recognition, GPS positioning, and secure upload and sharing capabilities, and may extend to transcription, information annotation and third-party data augmentation, typically hosted in a private or public cloud.

Why This Is Important

Increased use of digital channels for quote-and-bind and claims transactions requires insurers to modernize risk-inspection and loss-adjusting processes to ensure the accuracy of these inputs remains fit for purpose. Video AI platforms augment underwriting and claims users with precise data into the condition of insured assets at various policy life cycle points, supporting user decision making as they manage the insurer's exposure, ensure capital adequacy and optimize loss reserving.

Business Impact

- Video AI solutions can support digital process optimization by reducing friction in the underwriting or claims process — shrinking quote-to-bind and claims-to-cash cycle times, reducing costs, and improving the customer's experience and satisfaction.
- Improved risk information and GPS positioning also have the secondary effect of reducing application and underwriting fraud in respect to preexisting damage and falsified proof of loss.

Drivers

Insurers will always require data into the condition of insured assets in order to satisfy their underwriting and claims processing guidelines. The use of video AI platforms is being driven by:

- Travel restrictions imposed in the wake of COVID-19, which constrained the ability for insurers to dispatch risk surveyors and loss adjusters on-site, and necessitated the need for an alternative approach to in-person asset surveying
- Long-term changes to workforce location and the move to remote or hybrid working, which necessitate increased usage of tooling that allows collaboration between remote workers, to ensure productivity does not reduce 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 insurers deploying a range of engagement technologies into their processes, like (but not limited to) video AI platforms (see Elevated Customer Expectations for Digital P&C Insurance Claims Demand Emerging Technology Adoption)
- Increased digitization of highly transactional personal lines, which requires applying technology, both into the core customer journey and surrounding processes, to reduce friction from the entire customer journey — not just initial quote-and-bind or claims FNOL, but through complete policy issuance and claims settlement
- A hardening reinsurance market, which results in commercial property and specialty underwriters exercising stronger risk selection, and demanding property inspection upfront as a condition of a binding quote
- New solvency regulations, such as Solvency II, which require greater disclosure of qualitative information related to large losses as part of the loss-reserving process

Obstacles

- Some platforms require procurement of specialist 360-degree camera hardware, contributing to significant upfront capex and ongoing opex for hardware maintenance. Customer self-service use cases rely on the policyholder having access to a suitable smartphone.
- Storage, recall and sharing of visual information require additional consent from the policyholder and additional access rights and controls in order to ensure ongoing compliance with privacy and data protection regulations.
- Advanced use of computer vision for damage estimation is likely to be limited to narrow use cases in high-value auto lines, and the accuracy must also be extensively verified. The ability to detect damage to the vehicle chassis is considerably reduced compared to conventional repair estimation, potentially leading to underreserving claims.
- Live streaming use cases for remote-guided risk inspection or damage assessment may not be suitable for rural locations where cellular connectivity and Wi-Fi are not available.

User Recommendations

- Define the level of automation required in your video AI platforms by including this technology as part of your wider claims automation roadmap, to determine the enterprise requirement for augmentation over more complex straight-through processing.
- Define storage, retrieval and access control requirements by reviewing quote-and-bind and claims processing workflows with your business sponsors for personal, commercial and specialty lines that specify interactions with different supply chain actors involved in both simple and complex risks.
- 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 video AI platform project.
- Obtain user feedback on any vendor-supplied video AI platforms that may already be in use indirectly (through supporting brokers, external risk inspectors or TPAs for example) by connecting with underwriters and claims managers in a focus group.

Sample Vendors

360Globalnet; Bdeo; Flyreel; Snapsheet; Software Solved; Tractable

Gartner Recommended Reading

Cool Vendors in Insurance

Digital Insurance Success Requires Leveraging Data, Analytics and Artificial Intelligence

Innovation Insight for Artificial Intelligence in Life and P&C Insurance

Telematics 2.0

Analysis By: Kimberly Harris-Ferrante, James Ingham

Benefit Rating: Transformational

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Telematics 2.0 describes the second generation of vehicle telematics solutions that bring together a fragmented market to offer a holistic service which combines technology, data services, hosting, and integration to enable usage-based auto insurance products and additional loss prevention services. It supports a more robust set of use cases including real-time fraud scoring, prevention services and e-assistance.

Why This Is Important

Telematics 2.0 provides auto insurers with a means to support customer desire to save money on their auto insurance, enable dynamic customer engagement and new business model transformation such as new products and value-added services. It provides a new way to offer their products which is more engaging, provides value-added benefits to policyholders and new sources of data to support usage-based pricing, risk modeling and fraud.

Business Impact

- Telematics 2.0 will transform the auto insurance industry by solving many industry problems such as the need to create innovative products, interact more regularly with customers, acquire new data, differentiate in the market and create revenue opportunities.
- In commercial and personal P&C, it will help reduce claims exposure and obtain insight into risk for actuarial.

Drivers

- The growing desire of consumers, especially those who are driving less due to virtual work to reduce the cost of insurance.
- The need of insurers to obtain more information on driving risks to be applied to pricing, risk selection, claims and fraud. This can be used for driver coaching and behavior modification.
- The need to create new products for emerging customer needs and be more sticky and reward good driving instead of penalizing bad drivers.
- The need for more robust and holistic services than just telematics as insurers want services that support analytics, model creation (including promoting loyalty and retention), partner platforms, and new business concepts.
- Growing focus on safety and prevention services among both personal and commercial auto insurers where they seek to apply data to help model risks and share with customers to adjust behavior and prevent claims.
- Increased automation and straight-through processing in auto lines which require crash diagnostics data to flag claims fraud at the point of first notice of loss (FNOL). Telematics data also supports accident reconstruction as part of the downstream special investigative unit (SIU).
- The need for more of a telematics platform that comes preintegrated with portal and partners (e.g., reward perk partners to support loyalty programs) over just seeking telematics only technology (e.g., the mobile app or black box).
- The growing need among midsize and smaller insurers to want “telematics as a service” which is an end-to-end managed service to support the entire telematics program.

Obstacles

- Consumer concerns around data sharing and privacy especially for GPS and video, and regulatory concerns around data use.
- Cost of the telematics technology, especially black box.
- Fragmentation of the telematics vendor market today, driven by the array of solutions available in the market, which will require insurance CIOs to conduct extended POCs with a number of vendors to adequately compare telematics 2.0 capabilities.
- Lack of data science and analytical competencies in many insurers which prohibits them from maximizing their investment in telematics including being able to use the data for claims and/or fraud.
- Ethical concerns around how the data is used.
- Lack of mature business models among insurers on prevention services and business transformation to support the buying of telematics 2.0 technology.

User Recommendations

- Assess the various aspects of telematics 2.0 platforms to determine the right fit for your organization's needs.
- Review opportunities for the use of mobile telematics for faster time to market and reduced cost.
- Study how programs around security, safety, efficiency and maintenance could help drive greater business benefits, as well as emerging opportunities in reducing claims and fraud, especially in commercial insurance.
- Assess advancements in auto manufacturing, including the autonomous car, to determine the impact on UBI programs, as well as on auto insurance overall.
- Assess the security risks of the devices being deployed, including any risks from hacking or interference with the car computer system.
- Maximize the business impact by exploring partnership options with insurtechs in the development of devices and analytical models to run a distinct use case and making the technology more affordable for customers.

Gartner Recommended Reading

Competitive Landscape: Vehicle Telematics Solution Providers

Digital Business Technology Platform

Analysis By: Sham Gill

Benefit Rating: Transformational

Market Penetration: 1% to 5% of target audience

Maturity: Embryonic

Definition:

The combination of technologies that enables an organization to participate in digital business integrates existing platforms for IT, customer engagement, data and analytics, ecosystem partners, and the Internet of Things. It also creates new capabilities to detect business events, decide what to do and implement a business response. Platforms share assets such as data, algorithms and transactions (both monetary and nonmonetary) with business ecosystems to match, create and exchange services.

Why This Is Important

Changing customer expectations and rapid technology advancements will cause a transformation of insurance products and services over the next 10 years. DBTPs provide an adaptive digital technology framework to enable insurers to stay relevant. They underpin the development of a digital business platform in five areas — information systems, customer experience, data and analytics, the IoT and ecosystems.

Business Impact

- Insurance CIOs pursuing digital transformation must build out strategies for driving net new revenue through business model evolution, such as integration, intelligent operations and invisible/embedded insurance.
- DBTPs will lay the technology foundation for business success for the most digitally mature insurers by providing insurers with a mechanism to create rapid market capitalization growth, deliver new insurance business models and potentially dominate competition.

Drivers

- Insurers are discovering that current system inflexibility is impeding progress with digital business. This is prompting them to start the journey of understanding the potential of digital business technology platforms. They are cataloguing existing capabilities and assembling their roadmaps for their DBTP.
- Increased investment in information systems, data and analytics, and customer experience will lead to most insurers focusing the initial DBTP execution on the three subplatforms related to these areas in insurance in 2021 (see 2021 CIO Agenda: An Insurance Perspective).
- Emphasis on the data and analytics platform is being driven by the need to facilitate new insights for insurers from the proliferation of internal and external data to create products/services and the customer experience platform to cater for changing digital consumer demands. As the number of insurer partners increases and IoT devices proliferate, insurers will need to use data more effectively throughout the organization to achieve higher levels of data mastery. By placing the data and analytics platform at the heart of the business, insurers will be able to realize the potential of business ecosystems through the creation of DBTPs. The real-time availability of business services and data through open APIs across industries will create new digital ecosystem opportunities for insurance (see Top Cross-Industry Open API Trends for Insurance CIOs to Track in 2021). Sharing business and technology services is currently restricted to a limited set of partners, such as selected claims service providers.

Obstacles

- Creating a DBTP will require combining capabilities developed internally and acquired externally, rearchitecting large parts of existing IT and ensuring that effective governance and security controls are in place to deal with partners and things.
- It will also require an overall change in culture and thinking. For these reasons, we believe fully fledged digital business technology platforms in insurance will reach the Plateau of Productivity in five to 10 years.
- Adoption of IoT remains low, and data mastery is still in its early stages.

User Recommendations

- Build your digital business platform over time by assessing the capabilities of your current IT assets and balancing them against your firm's business needs and its ambitions for digital transformation.
- Assess the combination of build, acquire, collaborate or partnership capabilities that will be required to develop your digital business technology platform by drafting an architectural model of your DBTP. Break down individual components, and assess the organization's risk appetite and required level of control for each one.
- Lay the groundwork for the iterative evolution of your digital business technology roadmap by tooling the development organization for continuous integration with technologies common to all insurance business models, such as APIs and master data management.

Gartner Recommended Reading

Build a Digital Business Technology Platform to Support Insurance in 2030 and Beyond

P&C Insurance CIOs: How to Create and Apply a Digital Business Technology Roadmap

Prepare to Scale Digital Business by Assembling a Life Insurance Digital Business Technology Platform

Top Cross-Industry Open API Trends for Insurance CIOs to Track in 2021

Insurance as a Service

Analysis By: Sham Gill

Benefit Rating: High

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Gartner defines "insurance as a service" as a platform offering insurance products (typically exposed via APIs), technologies for digital customer engagement and servicing 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 platform capabilities, on a subscription basis, to launch new products and services to market far more rapidly than they could do themselves. These services have the potential to enable CIOs to meet CEO ambitions for growth, transformation and entry into new markets.

Business Impact

- Insurance respondents to the 2021 Gartner CIO Survey indicated that they expect the demand for new digital products and services to increase in 2021 (see 2021 CIO Agenda: An Insurance Perspective).
- To meet this increased demand, insurance CIOs will need to seek innovative solutions to deliver to market faster radically new customer experiences and products. Current insurance-as-a-service offerings may help CIOs meet the demand for rapid product launch and innovation for selected products.

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 will look to solutions that enable them to overcome challenges with legacy technology and internal skills for innovation. And this will lead them to investigating insurance-as-a-service options.
- Given the pressures to modernize legacy applications and infrastructure, accelerate delivery of digital solutions, and optimize cost, many insurance CIOs and their organizations are already turning to the as-a-service model as an alternative to traditional capital-intensive modernization and investment. Therefore, it is no surprise that CIOs are increasingly interested in what insurance as a service could offer to help them meet their business goals.
- Insurance-as-a-service offerings may provide insurance CIOs with accelerators to help them achieve business goals faster or, in turn, build equivalent full insurance-as-a-service capabilities by providing them with (1) the ability to create or co-create brand new products directly on the platform; (2) the ability to white-label pre-existing 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, such as mobile apps, portals and chatbots; (4) customer analytics, contextualization and personalization tools; (5) AI-based risk selection algorithms; (6) compliance and regulation 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.

Obstacles

- There is no single, consistent market definition. Offerings are currently a confusing mix of business models, technologies, services and products.
- The definition also varies depending on whom the service is being targeted at. For example, this could be a partner in a B2B2C model, the customer in a D2C model, or an insurance or distributor in a B2B model. Gartner sees insurance core platform vendors, process digitization solutions, BPOs and TPAs, usage-based D2C insurance offerings, and open API initiatives all being marketed as insurance as a service.
- Business models are evolving rapidly, with little uniformity in business capabilities, technologies capabilities and insurance LOB product coverage. Most products to date are simple P&C insurance products.
- Many offerings are from insurtech solution vendors, but most insurtechs will fail. Therefore, the future viability of insurance-as-a-service platforms will be a significant consideration for their adoption by insurance CIOs.

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.
- Address concerns about the failure of these offerings, and put in place mitigation steps.
- 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; ELEMENT; Lemonade API; Qover

Gartner Recommended Reading

5 Best Practices Insurance CIOs Can Adopt From Open Banking Initiatives to Shape Their API Strategy

Top Trends in Insurtechs for 2025

Insurance CIOs Must Create a Strategic API Pathway to Succeed With Their Future Digital Ambitions

Case Study: Insurance API-Driven Digital Ecosystem Transformation (Wakam)

Cool Vendors in Insurance

Reward and Loyalty Platforms

Analysis By: Richard Natale

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Reward and loyalty platforms are used by insurers to allow consumers to accrue points for good behavior, and to redeem points for premium discounts or other incentives. Data is input by the policyholder directly, using a wearable or through telematics (such as data on driving behavior). Insurers use reward and loyalty platforms to increase customer retention and to attract new customers. These platforms also enable personalization through compilation of customer insights.

Why This Is Important

Most policyholders interact with their insurance companies infrequently, often only when purchasing or surrendering policies, making payments, or placing claims. Reward and loyalty platforms change the client experience by creating an interactive dialogue between the policyholder and the insurance company. This adds customer value, such as transactional reward offers by insurance company partners improving the customer experience, while also creating a way to acquire granular customer data.

Business Impact

- Gain competitive advantage, given the degree to which reward programs change the consumer experience. They allow companies to offer a new value proposition beyond insurance, where consumers have more-frequent and transactional needs (such as retail purchasing).
- Help companies appeal more to healthy populations for life insurance, and good drivers for property and casualty (P&C), improving profitability.
- Source valuable consumer data that can be used to hyperpersonalize customer experience.

Drivers

- Reward and loyalty platforms with high potential for first movers, since they will enable insurers to transform their business model and offer new, value-added and non-insurance-related services
- The ability for insurers to differentiate themselves for products that consumers often view as a commodity and are mandatory, such as auto insurance
- The ability to be used as the basis for improving Net Promoter Scores (NPSs)
- Improved customer retention, which is one of the most challenging problems for insurance companies
- Improved cost of referrals by incorporating policyholder friends and family into reward and loyalty gamification
- Improved customer segmentation, cross-sell/upsell and hyperpersonalization using first-person-supplied personal data
- Policyholders encouraged to remain as customers for rewards tied to active status as policyholders and not portable, such as premium discounts
- The ability to offer variable pricing as a reward by incorporating usage-based insurance
- Improved loss ratios by encouraging good behavior such as safe driving practices
- Potential to use policyholder input data in the future for continuous underwriting

- Creates an opportunity for insurance companies to build ecosystems with partners offering rewards

Obstacles

- Accelerated growth driven primarily by personal line P&C insurers and group insurers. However, adoption still remains low in P&C personal auto insurance and individual life insurance.
- Willingness of consumers who view themselves as poor risks to participate in supplying personal and behavioral data.
- Regulatory requirements, such as those in the Affordable Care Act in the United States, that put a cap on the value of group insurance rewards such that programs are not viewed as mandatory.
- Consumer “reward fatigue” and the need to keep rewards relevant to policyholders.
- The potential for customer or regulatory backlash if insurers are perceived as misusing private information.
- Incorporating reward and loyalty into a comprehensive and complex customer experience and service transformation is required to address policyholder churn.

User Recommendations

- Design your reward and loyalty program by working with your CFO, chief digital officer and CMO to select rewards that would motivate your most valuable and profitable policyholders. Customer churn isn't always a bad thing.
- Work with your company's CMO to define a reward and loyalty program by listening to customer needs for complementary value-added services that would encourage more frequent interaction. Set target key performance indicators for increases in interactions and improvements in NPSs as a means of setting reward and loyalty objectives.
- Drive improved lifetime customer loyalty by incorporating reward and loyalty programs into a broader paradigm for cultivating loyalty — one that connects the dots between service and execution.
- Confirm your business case, expected ROI and technology implementation costs by conducting a pilot project with a reward and loyalty platform solution provider for a targeted market segment of your existing business book.

Sample Vendors

AIA Vitality; dacadoo; Life.io; LOYAX

Gartner Recommended Reading

Why Life Insurance CIOs Must Reevaluate Their Ability to Support Wellness in the Wake of a Pandemic

Top Trends in Insurtechs for 2025

How to Build a Successful Loyalty Program

Market Guide for Loyalty Management

Holistic Fraud Management Solutions

Analysis By: Kimberly Harris-Ferrante

Benefit Rating: High

Market Penetration: 1% to 5% 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. It supports tasks for monitoring and investigating, including analytics, automation, workflow and case management. They leverage technologies, such as analytics, ML/AI and other automation to support end-to-end fraud management.

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 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 this will help drive bottom-line financial results needed to compete in the future.

Business Impact

- The use of a single platform to support the end-to-end identification, prevention and investigation/management of fraud across their policy life cycles.
- Business results, such as improved loss reduction (as with traditional fraud detection solutions) and improved ligation, investigation and underwriting/risks management.

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.
- 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 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 in 2020, such as telemedicine fraud and those resulting from virtual work as a result of the pandemic, which makes the use of new technologies such as ML and AI more critical than ever.
- Rising fraud costs and losses across the industry.
- Need for simplified fraud detection that is real-time and automated.

Obstacles

- Fears over false positives, especially at the point of sale or underwriting, which might impact customer satisfaction or revenue growth, or promote discrimination.
- Quality of data and lack of trust among business users.
- Building the business case for replacing old fraud solutions — in many cases where they are unsure what the benefit for switching to a new one would be.
- Bigger priorities, such as supporting postpandemic needs like virtual work or fulfilling foundational digital projects.
- Lack of awareness of the need for fraud solutions in points of sales and underwriting. Most people still consider fraud as a claims problem.
- The desire to “build it myself,” especially for companies with analytics and data science departments.
- Fragmentation and diversity in the vendor market. This is a combination of technologies, some focusing primarily on claims fraud and some lacking deep industry models. Many vendors in this market lack the solutions needed for the whole suite.

User Recommendations

- Build teams that represent the entire policy life cycle to evaluate, document and compare the fraud risks and opportunities across the entire workflow.
- Ensure that fraud analysis solutions use both structured and unstructured data for effective and accurate fraud scoring, as well as those that support machine learning for advanced model development. Big data capabilities will be needed to support this.
- 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.
- Seek solutions that can be deployed via SaaS for faster implementation and improved usability.
- Assess third-party data and consortia that would offer supplemental insight into claims, such as fraud rings, to help further the benefits of advanced fraud programs.

Gartner Recommended Reading

Top Practices in Fraud Prevention and Management for Digital Insurance for 2021

IoT Platforms

Analysis By: Rajesh Narayan, James Ingham

Benefit Rating: Moderate

Market Penetration: Less than 1% of target audience

Maturity: Emerging

Definition:

An Internet of Things (IoT) platform is an on-premises software suite or a platform as a service (PaaS) offering that monitors, manages and controls various types of endpoints or connected devices. It enables specialized analysis and application development facilitating business operations and user engagement involving data from IoT endpoints, and it can be integrated with enterprise applications to trigger existing services.

Why This Is Important

Insurance CIOs must securely manage different types of endpoints such as telematics devices, connected home technologies and wearables. IoT platforms enable management (including device discovery, configuration, software management) of a range of different IoT endpoints and serve as a bridge between endpoints and enterprise applications. Some IoT platforms are also offering edge solutions to move processing closer to the sensors, reducing network bandwidth and cloud data storage requirements.

Business Impact

IoT platforms enable insurers to develop new propositions by processing IoT data in real time:

- Platforms that use multiple third-party data streams (such as location, weather, public alerts) can also add context while interacting with the user.
- IoT devices support loss prevention and encourage behavioral change for reducing risk and can transform the customer experience by delivering personalized products and services.

Drivers

- Simple wellness, telematics and smart-home-based security models are well-established and easy to replicate, allowing insurers to start by copying or prototyping established IoT deployment models to accelerate new program launches.
- Several IoT platform providers have developed verticalized capabilities that can support insurance-specific use cases by going beyond the technical platform elements to prepackaged business capabilities, accelerating the time to value for insurers.
- The provision of managed services from vertical IoT platform providers, which act as a one-stop shop for industry's most common use cases for single insurance lines, will drive increased adoption by reducing the internal operational bandwidth required to maintain the IoT platform.
- Adoption is likely to accelerate as the range and capabilities of endpoints increase and insurer IoT initiatives, such as connected home programs or use of wearables, move beyond R&D and innovation labs into commercial offerings.
- Insurance IoT initiatives that extend beyond a single line of business require complex orchestration and management of millions of devices as well as deeper integration with business systems. Increased OOB integration with common COTS business systems (e.g., CRM and BPM) will also support increased adoption.
- LOBs such as marine insurance that require the recording of events in a trusted, immutable ledger can now harness combinatorial innovation as selected platform vendors are adding technologies like blockchain to expand functionality.
- The modular nature of most IoT platforms means only the required core modules can be purchased as licenses or as a service over private or public clouds, reducing wasted spending on shelfware. Some platform providers are also developing connectors that can provide direct integration with insurers' claims management systems, reducing implementation effort.

Obstacles

- Major inhibitors for the adoption of IoT platforms by insurers include stagnating business models, lack of corporate vision, lack of standards around data from devices and legal uncertainty around the collection and use of IoT data.
- Insurers further struggle due to low end-user interest in regular sharing of IoT data, which prevents them from pursuing an expensive deployment without proven results.
- The rapid growth of IoT platform vendors, including many startups with insurance-specific IoT and analytical platforms, coupled with diversification within this technology and device market will complicate buyer decisions.

User Recommendations

- Contain expectations with business peers by establishing that IoT will be a multiyear journey with a strong “learning by doing” component. Technical, cultural and business aspects will develop in parallel to the digital-business vision and IoT roadmap evolution.
- Start with small proof-of-concept (POC) IoT deployments to enable the learning curve from technology, business and cultural parameters. IoT projects may be difficult in organizations whose culture punishes failures — even for small POC projects.
- Examine candidate IoT platforms by focusing on functional completeness, scalability, productivity and fit to specific requirements based on current capabilities. In the fast-changing IoT market, roadmaps, strategy and deployments may evolve quickly and significantly.
- Identify how other insurers have realized ROI from the core and extended set of platform services by engaging insurance customer references from IoT platform vendors as part of the buying cycle.

Sample Vendors

Amazon Web Services; AT&T; EVRYTHNG; Hewlett Packard Enterprise; IBM; Oracle; Robert Bosch; SAP

Gartner Recommended Reading

Elevated Customer Expectations for Digital P&C Insurance Claims Demand Emerging Technology Adoption

Why Life Insurance CIOs Must Reevaluate Their Ability to Support Wellness in the Wake of a Pandemic

Digitally Engineered Underwriting

Analysis By: Rajesh Narayan, Richard Natale

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Digitally engineered underwriting is the application of a range of analytical techniques (such as predictive modeling, genomics and epigenetics) and technologies (such as artificial intelligence [AI]) to streamline the underwriting process. Seamless 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 speed up and 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 for underwriting in lieu of body fluids helped streamline the process, reduce costs and improve customer experience during the pandemic. The biggest P&C opportunity is in commercial, and specialty insurance as personal lines is already heavily automated.

Business Impact

Digitally engineered underwriting will help insurers:

- Support complex risk rating, improve customer service and drive efficiency
- Enable underwriting augmentation, straight-through processing and overall cost reduction
- Reduce prospect drop-off rates due to quicker cycle times
- Bring new sources of data to enable underwriting decisions based on a personalized risk profile that tailors product pricing and services

- Diversify exposure, to avoid accumulation and align it with market appetite

Drivers

- Data drives digitally engineered underwriting. Sourcing data from unstructured sources through AI, use of new data sources from insurtech players and ecosystems is allowing insurers greater clarity in underwriting decisions.
- High policyholder churn, the need to lower policyholder acquisition costs and fast-changing consumer expectations for a frictionless experience are driving the need for digitally engineered underwriting or "e-underwriting." Social distancing during the pandemic accelerated touchless underwriting for life insurers.
- While the use of digitally engineered underwriting remains low, adoption of AI among P&C and life insurers is growing rapidly, and there is increased interest by insurance CIOs in experimenting with how 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 RPA to augment and automate several tasks in complex underwriting processes. Carriers 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 in the next two to five years.

Obstacles

- Digitally engineered underwriting processes are subject to regulation. New regulations, including those that limit how third-party data is used and those controlling the use of alternative data sources, will impact adoption.
- The complex nature of deciphering underwriting evidence in life insurance, such as attending physician statements and siloed electronic health records, still makes automated decision making for complex insurance products difficult, especially for people with underlying conditions who have complex medical histories.
- Heightened awareness of potential inherent bias in AI algorithms is driving significant focus on ensuring digitally engineered underwriting does not produce discriminatory decisions.
- Inherent risk in adopting new sources of data that are limited in volume to offer statistical significance or not yet fully correlated with risk characteristics, such as historical mortality and morbidity experience, will discourage wide adoption by actuaries.

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.
- Break down cultural barriers and lack of acceptance of automation in the underwriting process. Build prototypes and proofs of concept by partnering with insurtechs and other technology firms.
- Support regulatory requirements by creating a method for transparent score traceability, allowing regulators to assess the appropriateness of digitally engineered underwriting data input.
- Build monitoring and feedback loops for effective exposure management of books of business to track alignment with market appetite and make suitable corrections as necessary.

Sample Vendors

BioSignia; EXL; Galaxy.AI; Genpact; Kalepa; Reinsurance Group of America

Gartner Recommended Reading

Why Digital Life Insurance Success Demands Autonomous Underwriting

Tool: Artificial Intelligence Use Cases for Insurance

Cool Vendors in Insurance

Insurance Wallets

Analysis By: Rajesh Narayan

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Insurance wallets are mobile applications or portals that allow insurance customers to manage policies from different insurance providers. They also encompass digital life vault solutions, which store all of a person's insurance policies, digital assets (including account information), wills and social media details in one place. Insurance wallets and digital life vault solutions may be offered by players such as insurance carriers, brokers, other financial institutions and fintech firms.

Why This Is Important

Mobile applications that enable insurance customers to manage their policy portfolios are not entirely new and have already been introduced by several insurers. Insurance wallets are different — they provide consumers with a repository for all their insurance contracts, while initiating an assessment of insurance needs and identifying additional or replacement products. Digital life vaults offer a secure location to store and share key personal documents and asset information with loved ones.

Business Impact

- Insurance wallets and digital life vaults could become interesting alternatives for consumers who want to access insurance data via mobile devices and try out new technologies.
- The major risk for incumbent insurers is that these wallets are combined with analytical capabilities. These analytical capabilities will make consumers more independent and self-sufficient, allowing them to optimize their insurance needs and switch products and providers more easily.

Drivers

- The insured achieves a transparent, clear and trusted method of working with the insurer. This can offer a virtual personal advisor type of customer experience when it is done right.
- Certain insurtechs allow independent agencies to offer digital wallets and digital life vaults to customers, thus helping keep existing distribution channels while offering more convenience and transparency to the consumer.
- Many vendors who were covered in the 2019 Hype Cycle have been acquired or merged with brokers and carriers. Aon purchased CoverWallet to build a small business offering in partnership with Chubb and continue to grow the platform, Brolly has been acquired by the U.K. insurer Direct Line Group. GetSafe has continued to grow with a fresh round of funding led by Swiss Re, and entered the U.K. market in 2020. These developments continue to show the value of ease of purchase of both commercial and personal insurance from a mobile app that digital native users appreciate.
- Insurance wallet and digital life vault applications that combine mobile capabilities with other technologies, such as artificial intelligence, can identify consumer coverage gaps and recommend additional products or services.
- Insurance companies are finding it much easier to build out such functionality for higher customer engagement. Options include self-built applications, partnerships with insurtechs and partnerships with wider wallet solutions from technology giants such as Apple. This makes it more likely for wide availability and therefore a table-stakes convenience to the customer.

Obstacles

- Insurance wallets and digital life vaults are still relatively new, and their adoption will rely on consumer engagement. Many people might be reluctant to store this information online. But bank-level security, as well as strong privacy controls, can help mitigate these concerns.
- Both insurance companies and vendors developing these solutions will need to demonstrate added value for consumers to differentiate and create advocacy that successfully takes demand away from simpler solutions such as insurance comparison website solutions.
- Insurance wallets and digital life vaults offer a personalized experience, but expect more self-service and customer involvement to use the offering. This could impede adoption.
- The adoption of this technology will be determined by the commercial viability of insurtechs, the resistance from traditional agents/brokers and the willingness of customers to consume and pay for these digital broker services, compared with other, simpler self-serve options.

User Recommendations

- Examine the market for insurtechs that are leveraging insurance wallets and digital life vault products, and investigate their offerings by focusing on their business models and technology capabilities and partnerships with neighboring industry organizations.
- Discuss the viability of insurtechs in your local marketplaces with your business peers to align with current and future business models, evaluate partnership options and discuss the threat they pose to disintermediate your organization.
- Engage with business partners in product and marketing to envision and document products and services that will appeal to digital consumers who want to manage their assets digitally.
- Identify potential partners from technology firms and neighboring industries that would enable a comprehensive insurance wallet/digital life vault offering by engaging with cloud providers, banks, undertakers and law firms that could incorporate complementary products and services.

Sample Vendors

AfterVault; Aon (CoverWallet); CLARK; Everplans; GetSafe; InsureScan; OneInsure; SideDrawer

Gartner Recommended Reading

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

Cool Vendors in Insurance

How to Evaluate the Viability and Level of Disruption of Financial Services Startups

At the Peak

CX Platforms

Analysis By: James Ingham, Ali Merji

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

A customer experience platform is the combination of technologies that enables insurers to execute on the customer experience portion of their digital business strategy. It integrates data, decision making, content, delivery and engagement services to support a consistent customer experience across all interactions across multiple channels for prospective and existing policyholders, key knowledge workers and channel partners.

Why This Is Important

According to Gartner's FS technology survey, improving customer experience is a top three technology-led insurance initiative in 2021. A customer experience platform enables omnichannel success by harmonizing the D2C, B2B2C, and agent/broker channels, thus enabling personalized and contextualized interactions. Augmenting or automating policyholder, agent, broker and partner channel workflows, handoffs and decision making creates efficiency and increases speed of service, reducing sales costs.

Business Impact

- A customer experience platform enables a range of business strategies that pivot the insurer away from predominantly competing solely on price, to building differentiated customer value, adding new revenue streams, and continuously enhancing products and services in new sustainable business models.
- Progressing to an integrated omnichannel approach enables an insurer to improve the ability to attract and retain customers, thus lowering customer churn and customer acquisition cost (CAC).

Drivers

- As digital business accelerates, the number of interaction channels are increasing, and customers' digital journeys are becoming more complex. Customer engagement capabilities required to support policyholders with modernized service offerings, e.g., to help them manage their lifestyle or respond to life events with updated coverages and matched products, may be entirely or partly absent from the current stack.

- The customer experience, and expectations of their interactions with their insurer, are increasingly being shaped at the top level by their interactions with digital giants and dragons. These organizations leverage extended behavioral data and cutting-edge analytics capabilities to interact with people and organizations in a frictionless manner (see ZhongAn's Digital Dragon Collaboration: A Blueprint for the Future of Digital Insurance).

- In a survey conducted at the 2019 Gartner U.S. and European Symposium conferences, 61% of respondents indicated that their top concern regarding insurtechs was changing consumer expectations. As more consumers engage with challenger insurers or digital MGAs, their expectations about insurance will drastically change, raising the bar for incumbent insurers (see Top Trends in Insurtechs for 2025).

- Insurance CIOs will be forced to build out a platform, as executing on the customer experience of these new business models requires a diverse set of technologies not available in a single software solution or managed service. They will require foundational data and analytics capabilities, content creation and orchestration technologies, content and engagement management services, and additional insurance-specific technologies forming part of the customer platform of the DBTP. These include digital life vaults, insurance wallets and reward and loyalty platforms (see Why Insurance CIOs Need a Digital Business Platform Roadmap).

Obstacles

- Modernizing customer experience has been challenging for most insurers due to redundant legacy systems, lack of midoffice capabilities to power channels (such as CRM or workflow solutions) or lack of business support to fully integrate channels (see Insurers Must Implement Dynamic Customer Engagement to Solve the Customer Experience Dilemma).

- Insurance CIOs will be forced to navigate a dynamic and volatile set of rapidly blurring market subsegments. Vendors are expanding from traditional siloes such as digital experience platforms (DXP), intelligent business process management suites (iBPMS) and customer communication management (CCM) with additional functionality and extended components to offer overlapping capabilities.
- A number of vendors now claim to offer a complete "customer experience platform," complicating the purchase decision and requiring extra effort to effectively validate the various capabilities and technologies needed to execute on the digital business strategy.

User Recommendations

- Identify the long-term ambition in each LOB by engaging with top-level business sponsors for individual life and group life, and personal, commercial and specialty lines. Prioritize their primary customer experience objectives — increasing customer engagement, offering value-add services, increasing cross-sell/upsell or preventing losses.
- Define *to-be* systems architecture for the customer experience platform by forming a tiger team comprising conventional IT and business sponsors, plus new C-suite influencers. These might include chief data officer, chief experience officer and chief innovation officer. Allocate the LOB enterprise architects or head of app development to bridge and deconflict IT and business requirements.
- Create a roadmap to deliver the required business capabilities by using existing components and adding new components in a platform architecture. Start with a minimum viable product for the first product or line of business, and then scale and extend it over time.

Gartner Recommended Reading

The Essence of a Customer Experience Strategy

Infographic: Customer Experience Management Framework

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

EHR Data Extraction

Analysis By: Rajesh Narayan, Mike Jones, Richard Natale

Benefit Rating: Moderate

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Electronic health records (EHRs) are the digital collection of an individual's medical records. Extraction of EHR datasets offers life insurers access to health data that would otherwise be provided in paper form. EHR data provides life insurers with opportunities to improve underwriting and pricing decisions with seamless access to de-identified data.

Why This Is Important

EHRs contain a patient's medical history, medications, treatment plans, radiology images, lab results and other personal medical data. Subsets of EHR data provide life insurers with opportunities to improve underwriting and pricing decisions with seamless access to accurate data. But EHR's can contain tens of thousands of pages of medical history. Extraction of relevant and codified health data from an EHR is the critical ingredient to success.

Business Impact

- Improved predictability of life expectancy, through the aggregation and analysis of individual-level data
- Digital access to data will speed up underwriting processes, reduce error rate from manual rekeying and potentially automate decisions based on personalized medical data.
- The ability to tailor products toward people's lifestyles and health conditions.
- Pension/annuity providers will be able to offer enhanced products based on greater certainty of life expectancy.

Drivers

- Insurance companies increased adoption of accelerated underwriting for term life products due to the COVID-19 pandemic.
- Leading U.S. insurers are extracting data from EHRs to expedite the underwriting process by linking into individuals' EHRs, rather than by requesting attending physician statements or unnecessary medical exams.
- Some insurance software vendors are building intelligent EHR extraction solutions to automate the selection of relevant data in EHRs for use in risk rating and underwriting.
- NLP to read text can help automate and augment decisions in more complex underwriting tasks, once patterns are well-established. This leads to faster, simpler and streamlined decision making.
- EHRs in the U.S. now also come with tethered personal health record (PHR) portals, which could make access to data easier than directly integrating with EHR back-end systems themselves.
- Insurer use of holistic, de-identified data for analysis and projections of insurance portfolio risks, particularly life expectancy and critical illness.
- Pattern identification could enable insurance companies to construct tailored products and services targeted at certain risk groups.

Obstacles

- Individuals may have multiple EHRs, across healthcare providers, making one EHR the single source of health data more aspirational than reality.
- EHR standards for coding diagnoses, procedures and resource utilization are not always applied in vendor software or by clinicians when capturing data in the record, thus making it difficult to assign semantic meaning to some aspects of the record.
- Underwriting algorithms require a fraction of the type of data stored in EHR records, making intelligent record extraction, selection, and sorting essential.
- Data security and privacy legislation, such as the General Data Protection Regulation (GDPR) in Europe, may inhibit insurers in many geographic locations, and customers may be unwilling to share their data.
- The plateau is unlikely to be reached for five to 10 years in regions with widely shared electronic health systems, and further out in regions with limited EHRs, or stricter privacy laws.

User Recommendations

- Evaluate the response of consumers and regulators to early insurance adopters of data extraction from EHRs.
- Establish/join a consortium of key players to influence the collection of digital health records and set standards for markets lacking EHR. This will offer such insurers a first mover advantage.
- Obtain granular consent for access to the health records from insured parties, and ensure consent approvals to healthcare providers when requesting access to records, to reduce delay and mitigate against information blocking practices.
- Explore options for EHR aggregation/API platform providers to determine the best fit for cost, depth of integration and availability/performance.
- Map the customer process journey to incorporate consent touchpoints for EHR record access,in line with local regulations.
- Initiate partnership discussions with health providers by assessing their willingness and legal compliance concerns to share de-identified health records for the identification of trends and patterns.

Sample Vendors

athenahealth; Cerner; Epic; EXL Xtrakto.AI; Human API; InterSystems; MEDITECH; MIB; Verisk

Gartner Recommended Reading

Market Guide for Enterprise Electronic Health Record Solutions

Wearables

Analysis By: Rajesh Narayan

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Wearables are smart electronic devices designed to be worn on the body as accessories or implants. These gather data about wearers or their surroundings, and transmit the information to a smartphone, a connected home gateway or the cloud for further processing. Examples of wearable electronics are smartwatches, smartglasses, smart garments, wristbands, sensors on the skin and headsets.

Why This Is Important

Insurers use wearables to capture body indicators, such as blood pressure and heart rate in a life insurance wellness program, or smartglasses during an on-site visit for underwriting and claims adjustment. Wearables also find use in loss control measures, such as reducing injury to workers in warehouses through posture sensors. Despite the wearable market projected to reach $109 billion worldwide in 2024, life and P&C insurance have seen limited adoption.

Business Impact

Insurers who leverage wearables in business processes can:

- Realize instant benefits of increased engagement with customers, while receiving feedback and positioning products appropriately to improve wellness outcomes.
- Improve safety by guidance, nudges and financial rewards that can permanently change habits for the better in worker safety, underwriting and claims inspections.

- Create new market opportunities for life and P&C carriers to individually price and personalize products and services.

Drivers

- Wearables allow insurers to move from a product-centric offering to a more service-centric approach, whereby wider services are offered and engagement can be more personalized.
- Wearables are being used in workplace safety. Devices that can measure movement, such as the posture of lifts, falling and jumping, can provide personalized coaching for the user on proper posture and lifting techniques. Other use cases include employee training and customer servicing.
- Wearables can also assist with return-to-work programs where real-time health monitoring can be managed or posture corrected for workers with injuries. It also allows such a workforce to use alternate means of completing routine tasks, such as setting up meetings and taking notes through voice commands.
- Some insurers are maturing wearable use cases in their innovation centers, sometimes even partnering with device makers/insurtech to make devices more cost-effective, more efficient and less bulky, while involving early enterprise adopters that can leverage immediate business value.
- Wearables such as AR and VR can help in training employees on complex situations, such as claims inspection work in hazardous environments or in catastrophic situations in a safe manner. These can be a valuable tool for preparing the workforce for challenges that occur infrequently.
- We expect increasing use of wearables such as smartglasses in individual and commercial car insurance in the near future. A potential use case can use AR to familiarize the driver with current surroundings, traffic and weather conditions, and detect distracted driving to act in real time.

Obstacles

- Inability to quantify real benefits holds back adoption of wearables across insurance. While wearables enjoy relatively higher adoption in life insurance compared with P&C, further data analysis and technology enhancements are needed to enable insurers to build viable business propositions.
- There is a large diversity of wearable devices, suppliers and data standards that make it complex to integrate wearables into the insurance value chain.
- Data privacy and ownership issues prevent the use of wearables data without the consent and willingness of the end customers. Such constraints can make it difficult to build actuarially sound datasets that allow personalization of pricing, products and services.
- Data sharing in commercial insurance, where employers can mandate workers' usage of wearables, is dependent on proper maintenance and consistent use of such equipment. Upkeep and data integrity could be dependent on additional services from the device manufacturer.

User Recommendations

- Schedule visioning workshops utilizing Gartner's customer and societal ecosystem framework to help the business envision future product and service opportunities.
- Develop use cases providing value to different user groups — customers, employees and employers — inspired by the motivation, needs and context for each user group.
- Monitor technology developments in wearable technologies and startups using wearable technology by examining adjacent industries to recognize potential new use cases or evolve existing ones.
- Align with the business regularly to evaluate future business models with a view to incorporating wearables to improve operations and customer experience.

Sample Vendors

AlertGPS; Apple; Eleksen; Ellcie Healthy; Fitbit; Google; Kinetic; Motorola; Oculus; Vuzix

Gartner Recommended Reading

Market Definition and Methodology: Wearable Electronic Devices

Market Trends: Four Key Semiconductor Technologies Will Drive Wearables Innovations in 2021

Forecast Analysis: Wearable Electronic Devices, Worldwide

Hyperautomation Tools

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 to rapidly identify, vet and automate as many business and IT processes as possible. Examples of these include AI, ML, event-driven software architecture, RPA, BPM/iBPMS, iPaaS, low-code or no-code tools, packaged software, and other types of decision, process and task automation tools.

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 BPM and RPA with artificial intelligence 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 will provide insurers with a collection of integrated solutions to support complex decision processing, improve CX and add agility to the organization.
- They provide the opportunity to accelerate processes, improve customer satisfaction, reduce error rates (driving down process costs) and achieve a short-term ROI.
- Their application will also help insurers make better use of their data to drive actions and automate or augment processes, taking over more decision-based tasks.

Drivers

- Despite hyperautomation remaining in its infancy, the automation vendor market is evolving quickly toward hyperautomation. Insurers are also maturing in their adoption with a recent survey showing that 65% of financial services institutions having increased their spending on automation tools

- The acceleration of hyperautomation solution capabilities has arisen from consolidation among existing players and acquisition and entry by larger IT companies. This has led to an extension in the portfolios of software offerings to incorporate wider technologies, coupled with machine learning and other AI technologies.

- System integrators are also presenting offerings to insurers by forming partnerships with various vendors with the offer of an integrated set of tools and implementation capabilities.

- Although these developments in building a collection of tools mark progression, there is still significant work needed by vendors to make these a coherent offering.

- 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, OCR and workflow, alongside intelligent automation technologies, insurers can augment and orchestrate more complex and decision-based tasks across the insurance value chain using the array of technologies.

- With RPA, for instance, now approaching the Plateau of Productivity, insurance companies are becoming more accustomed to rudimentary solutions and are ready for the next stage of hyperautomation tools that will enable greater inroads into skill-based roles.

Obstacles

- Hyperautomation tools are currently immature with vendors who started from different baseline solutions (RPA, BPM, low-code/no-code) all descending on the same destination with a hodgepodge of tools with differing levels of maturity and integration.
- Many of these solutions are horizontal in nature, being sold to a wide variety of industries and lack insurance process content and rules requiring insurers to invest in configuring and training the tools.
- Hyperautomation requires a culture shift to look at process change and business outcomes from the perspective of what can be done by technology and how humans fit into the process rather than how technology supports humans.
- The immaturity of vendor offerings will be offset by the hype that will see initial fast progress across the Hype Cycle which may slow down as the complexities of deployment and ability to scale automation impacts adoption.

User Recommendations

- Establish a mixologist approach to automation tools to avoid being overly obsessed with one technology. Avoid incorrect use by identifying vendor solutions for RPA, BPM, chatbots and OCR that can be combined to achieve the desired business outcome.
- Evaluate the vendors capabilities across the range of technology components to ascertain whether their consolidated offerings are robust and fully integrated by running pilots and POCs to evaluate the solutions
- Develop automation disciplines, governance and structure within your organization by starting small with simpler automation tools such as RPA or BPM to build the foundations for wider automation.
- Devote time and effort to internal change management to overcome culture barriers by demonstrating successful prototypes and including the business in the process selection and implementation of robotic tools.
- Establish a comprehensive set of metrics aligned to the business outcomes to measure the success of your automation initiatives.

Sample Vendors

Appian; IBM; Microsoft; Pegasystems; SAP; UiPath

Gartner Recommended Reading

4 Steps to Automation Success in Financial Services

How CIOs Can Choose the Right Metrics to Quantify the Benefits of Financial Services Automation Investments

Tool: Banking and Insurance Use Cases to Drive Hyperautomation

10 Most Common Mistakes in Financial Services Automation Initiatives

SaaS P&C Core Platforms

Analysis By: Sham Gill

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

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

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 partners 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 core platforms provide insurers with the ability to more quickly deploy end-to-end core processing, along with rapid deployment of customer engagement, partner ecosystem and data management capabilities.
- They have the potential to radically change the speed 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.

Drivers

- SaaS can be attractive where the organization's financial objectives warrant a shift from capex to opex.
- 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.
- Vendors leveraging cloud-native services will be able to provide their clients with access to new and differentiating functions more quickly. For example, some vendor portal solutions have been enhanced to use cloud-native components for greater personalization, while others are using the cloud to power advanced business intelligence and analytics capabilities.
- More frequent upgrades offered by SaaS P&C core platform vendors will enable insurance CIOs to minimize the accrual of functional and technical debt.

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 and its future ambitions.
- The vast majority cannot be considered as true SaaS solutions and do not offer multitenant deployment or true usage-based charging, complicating the determination of their value.
- SaaS insurance core systems should also be considered a high risk, since they require close management, monitoring and control, contain personal information, and are typically used by a significant amount of the enterprise.
- Adopting SaaS will require the business to revisit processes and adhere to greater standardization.
- 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 the direct control of IT.

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.
- Assess a vendor's SaaS credentials and competency by evaluating the technical maturity of the software and the vendor's operational capabilities, including skills, tools and SLAs for its SaaS, to ensure the stable operation of business-critical core systems.
- Avoid falling into the trap of buying capabilities that the business will never use, even though the preintegrated functions can be attractive.,
- Track vendor roadmaps carefully to understand the level of effort required to make the transition after each release, and whether upgrades are still possible. Then use this to influence decision making on the optimal time for moving to SaaS.

Sample Vendors

BriteCore; Duck Creek; Guidewire; Majesco; Salesforce

Gartner Recommended Reading

A CIO's Guide to Navigating the SaaS Trend for Insurance Core Systems for 2021

Magic Quadrant for P&C Core Platforms, North America

Magic Quadrant for Non-Life-Insurance Platforms, Europe

Smart Home

Analysis By: Sham Gill

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

A smart home (aka connected home) is networked to enable the interconnection of multiple devices, services and apps, ranging from communications to entertainment, and healthcare to security. These services and apps are delivered over multiple interlinked devices, providing a connected experience for the household and enabling inhabitants to control and monitor it remotely.

Why This Is Important

Smart home sensors provide a wealth of data that can support underwriting and claims processes. Use cases for insurance typically include technologies and sensors covering home security and home equipment monitoring — such as water, heating, ventilation and air conditioning, and appliances. They can also serve in a preventive capacity by pinpointing malfunctions that require maintenance, as well as providing alerts for damage, such as those caused by criminal activity or severe weather.

Business Impact

- Smart home products provide insurers with more information on risks (in real time) that can help support underwriting profitability, fraud detection and the ability to speed up claims handling, which will improve customer satisfaction.
- Smart home adoption will support P&C insurers in making the shift from products to services.
- They may also help eliminate claims entirely by enabling proactive prevention, and lead to new products, such as parametric insurance, business models and services.

Drivers

- P&C home insurers seeking to improve underwriting, launch new products and services to move beyond transactional customer engagement to continuous engagement based on inputs and triggers from connected home devices will be most interested in smart homes.
- As security and risk prevention benefits of smart homes mature and ecosystem connectivity improves, insurers will find new use cases for connected home devices.
- Insurance companies are likely to start smart home engagement with customers through security/ safety devices and virtual-personal-assistant-enabled smart speakers (like Amazon Echo and Google Home), as these devices have made average consumers much more aware of the connected home concept.
- Smart security and safety device adoption is being pushed by insurance companies in the U.S. and EU. In fact, smart security has historically been the connected home category with the highest adoption rate, but this category has now been eclipsed by smart speakers and smart thermostats.
- A recent Gartner survey revealed that 82% of leaders will allow their employees to work from home at least some of the time. As a result, vendors may seek to prioritize the development of solutions that facilitate safer home working through IoT-enabled devices in the home. The data from these devices could spur changes to insurance coverage, such as liability insurance.
- Smart homes will mean more than simply better control over lighting and heating systems. They will deliver integrated financial management, risk management and wider services and capabilities for customers. The data flowing from the connected home, in conjunction with other data, will provide better health outcomes for citizens and their extended families. For example, increasing life expectancy and a focus on wellness will accelerate vulnerable and assisted living use cases to enable individuals to stay at home for longer. This will drive interest for life insurers.

Obstacles

- The sheer number and variety of smart home products, and the lack of clear standards, will make it impractical for insurers to provide these technologies themselves.
- As insurers launch smart home programs, they will need to partner with a number of different home monitoring companies and device manufacturers to obtain the data.
- They will also need to get agreements with the policyholder to access the data.
- Unclear regulations and little interest from other home insurers have largely stalled new implementations of smart home programs by insurers. Some insurers offer discounts on popular consumer smart home devices. However, the programs do not involve insurers accessing data from these devices, limiting direct business value. These use cases are not mature and are really a novelty offered by some insurers.
- Overall consumer adoption for insurance remains limited, and concerns about device security and sharing data with insurers are stalling growth.

User Recommendations

- Obsess about customer centricity and trust. The insurance smart home experience will be wholly based on the trust you establish. Make security a priority of the smart home initiative from the beginning.
- Focus on the data strategy as data is the crucial backbone for creating the future smart home experience. An intelligent home is one that utilizes the data gathered from a selection of devices and sensors around the house, but also from wearables and even connected cars.
- Create a vision of how a smart home fits with the insurer's roadmap of products and services, so device and technology selection can support requirements specific to use cases.
- Develop a partner ecosystem strategy, and track adoption rates of IoT home devices to establish which devices and vendors will offer the greatest penetration for your target customers.
- Work with the legal and regulatory departments to review regulatory issues that would prohibit a smart-home-based insurance product, service or business model pilot.

Sample Vendors

ADT; Amazon; Apple; AT&T; Google; IBM; LeakBot; Reply; Ring; Roost

Gartner Recommended Reading

Market Insight: How Sensors Drive New Interactions in the Future Connected Home

Show, Nudge and Augment Customers to Engage in New Societal Ecosystems

Autonomous Vehicles

Analysis By: Kimberly Harris-Ferrante, Mike Ramsey

Benefit Rating: Transformational

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

An autonomous vehicle is one that can drive itself from a starting point to a predetermined destination on its own using various in-vehicle technologies and sensors. These include lasers, radars and cameras, as well as advanced driver assistance systems, software, map data, GPS and wireless data communication. This could be private autos, commercial vehicles or ride-sharing vehicles.

Why This Is Important

Autonomous vehicles pose a large threat to the traditional auto insurance industry as they spark new competition and business models. While auto insurers and manufacturers are partners today, this may signify a shift where they are competitors as manufacturers self-insure their vehicles. Autonomous vehicles create a great source of data that insurers can potentially use for value-added services and pose the promise to reduce wrecks and promote road safety.

Business Impact

- The demand for new actuarial models based on driver risk. Risks are shifted from the driver to the performance of the vehicle.
- Enablement of new products to supplement liability offered by manufacturers.
- Opportunities to create third-party systems of certification and validation for autonomous vehicles as they assume risk for insurance and, therefore, will need a means to verify minimum safety levels.

Drivers

- According to the Market Research Future Report, the autonomous vehicle market for components is projected to surpass $65.3 billion by 2027 (see Autonomous Vehicle Market Is Projected to Surpass USD 65.3 Billion by 2027 | North America to Command Largest Share in Global Autonomous Vehicles Industry, GlobeNewswire). The Institute of Electrical and Electronics Engineers predicts that 75% of cars on the roads in the world will be autonomous by 2040, while semiautonomous are already here, but in low numbers. Consumer interest in buying these types of vehicles continues to grow.
- Autonomous vehicles may diverge in use cases, driving significant volume differences and implications for insurance. Partial autonomy, or limited autonomy for the purposes of consumers automating highway driving, may proliferate substantially over the next several years and require insurance that is in line with current policies that take into account ADAS features.
- Fully autonomous vehicles, known as SAE Level 4 or 5, are likely to be commercial vehicles only for a number of years and relatively small in volume. These vehicles are unlikely to have a major impact on insurance for several years to come.
- Automakers and tech companies have committed to debuting fully autonomous production vehicles this year and next. In addition, several technology companies, including Intel, have said that personally owned consumer vehicles will be fully autonomous by 2025.
- There is a need for commercial fleet drivers to embrace driverless vehicles for commercial services.
- The ability for autonomous cars to help reduce the number of crashes due to driver error or distracted driving is sought after.
- The growing desire among insurers and OEMs to offer new types of mobility services for connected vehicle drivers makes autonomous vehicles attractive.

Obstacles

- Adoption of autonomous vehicles is low in mature countries and slim in emerging ones where connectivity is challenged. Replacement of traditional vehicles will take time, so there is no urgency for some to address this trend.
- Auto insurers are more focused on shorter-term technologies, such as telematics, which gives them connectivity data and insight into driving trends and access to nonconnected vehicles.
- There is the threat of new competition from auto manufacturers who may sell their insurance at POSs. In most cases, they have been, and continue to be, a partner in the short term versus a high-risk competitor who will take away significant revenue from the industry.
- The need for new risk models shifts from driver risk to vehicle risk.
- Legal issues after crashes must determine the correct liability.
- Concerns will arise over the accuracy and quality of the driverless technology.
- Consumer privacy concerns may limit what data is collected, how it is used and who it is shared with.

User Recommendations

Insurance CIOs should:

- Conduct business model assessments of the short- and long-term impacts of the autonomous vehicle on their personal and fleet insurance products. Actuaries should begin to test new models that rely less on driver risk and more on the technology risks of the car and driver behavior (for example, manual to autonomous engine switching, time-of-day use, distance and location).
- Monitor the car manufacturers and the needed IT investments for support of autonomous vehicle trials (such as data requirements, connectivity, and policy and claims handling).
- Monitor and track regulatory changes and development of smart cities that would impact the use or adoption of autonomous vehicles.

- Map out key players in auto manufacturing for personal and commercial vehicles where partnerships could be established for white-labeling policies or offering adjacent policies that would be sold in combination with the liability coverage already planned.

Sample Vendors

Argo AI; Aurora; Baidu; Bosch; Cruise; Daimler; Waymo; Yandex; Zoox

Gartner Recommended Reading

Market Trends: Monetizing Connected and Autonomous Vehicle Data

Forecast Analysis: Autonomous Vehicle Net Additions, Internet of Things, Worldwide

Utilize Partnerships to Secure a Winning Position in the Autonomous Driving Ecosystem

Market Insight: Use Situationally Aware Platforms to Enable Safe Autonomous Vehicle Handovers

Tech Providers 2025: Product Leaders Must Strategize to Win in the Evolving Robotaxi Ecosystem

Low-Code/No-Code Solutions

Analysis By: Laurie Shotton

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Adolescent

Definition:

Low-code/no-code insurance 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 applications provide and support user interfaces, business processes and data services.

Why This Is Important

Low-code/no-code applications are gaining a lot of hype in insurance. The promise of fast development of point solutions across different lines, or business and value chain processes, with minimal IT involvement is appealing to insurance companies. In addition, legacy modernization projects are high risk and have a long-tail effect for ROI. Low-code/no-code applications offer a more rapid way to develop applications with modern user experiences while retaining their legacy systems.

Business Impact

- Low-code/no-code applications 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 Excel and other less sophisticated approaches.

Drivers

- Solutions that promote efficiency and enable rapid change with minimal code cutting have been gaining traction for a while, in particular the rise in adoption of RPA. Low-code/no-code applications have, therefore, represented an extension of this promise.
- The COVID-19 pandemic has shone a light on the inefficiencies of current systems and practices, and also created a need to develop solutions quickly to support customer engagement.
- With rapid deployment promises and ease of configuration statements, insurers are turning to low-code/no-code solutions to respond to the challenges.
- Low-code/no-code solutions address the business need for greater resilience, while also supporting the drive for faster technology deployment and process change.
- IT budgets are tight, with the 2020 Gartner Emerging Technology Roadmap revealing that 62% were being more conservative than planned with their IT investments. We can, therefore, interpret that firms are looking for solutions with a shorter ROI.

- 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 own offerings.

Obstacles

- 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, which require insurers to define and enter the rule base.
- Where insurance-focused solutions exist, they are only available for certain parts of the value chain.
- Typically, the solutions are no more configurable than traditional core and supporting systems that already contain the insurance knowledge and rule base.
- They are positioned as business tools, but this risks a lack of IT governance, quality gates and testing may lead to project failure that will curb adoption.
- The selling to non-IT buyers also creates significant risk of duplicate software being purchased.
- Deployments risk masking the inefficiencies of legacy technology, while diluting the business case for legacy modernization.

User Recommendations

- Engage business leader peers to develop more IT governance and methodology for low-code/no-code solution deployments by agreeing to develop fusion teams to combine resources with business knowledge and IT disciplines.
- 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 of low-code solutions needs to be centralized to avoid duplicate software being acquired.
- Establish clear guardrails for when low-code/no-code applications can be considered by developing a framework that encompasses criteria for all hyperautomation technologies, to ensure that the right tool is being used for the business or technology need.

Sample Vendors

Appian; Mendix; OutSystems; Salesforce; Unqork

Gartner Recommended Reading

Tool: Banking and Insurance Use Cases to Drive Hyperautomation

4 Steps to Automation Success in Financial Services

Quick Answer: What Is the Difference Between No-Code and Low-Code Development Tools?

Automated Digital Advice

Analysis By: Darrin Courtney

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. They 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 the agent or financial advisor.

Why This Is Important

Automated digital advice offerings have grown out of the roboadvisor space, originally aimed at the wealth management industry and investment selection. A progression of these offerings toward more-comprehensive digital advice has seen vendors shift their attention to life, pension, annuity, and investment and savings offerings of insurance companies, putting cost pressure on traditional distribution channels.

Business Impact

These are impacted by automated digital advice solutions:

- Clients seeking a self-service or collaborative digital channel with insurers
- Advisors or agents who will benefit from automated solutions that free up time for higher-value activities
- Product managers benefiting from additional distribution platforms
- Firm executives marketing and supporting personalized advice at scale
- LOB leaders expanding automated digital advice capabilities to serve all client segments and advice needs

Drivers

- 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 on firms that have not.
- Clients continue to become more digital and prefer providers that can support a hybrid digital experience.
- 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.
- The vast majority of insurers (over 80%) intend to increase spending over the next two years on the technologies that support automated digital advice delivery. These technologies include artificial intelligence and analytics, digital process automation, and conversational platforms.

Obstacles

- Most automated digital advice platforms are fairly basic, offering simple planning, product selection or portfolio construction tools. These offerings may serve a retail audience, but do not support advanced financial planning needs, more-complex annuity and life policy types, or investment portfolios made up of alternative and complicated investments.
- Client acquisition costs are high for digital advice platforms, which has resulted in many fintech firms shuttering their solutions. Even established insurers have found it difficult to break even and scale automated digital advice offerings, resulting in well-known industry players sunsetting solutions.
- Most automated digital advice platforms were launched as client-facing DIY solutions. Clients desire collaborative experiences, making a hybrid offering a necessity. However, this exposes potential gaps when advisors and agents cannot provide the product offerings or advice that clients require because of digital platform limitations.

User Recommendations

- Explore possible platform approaches by reviewing how banks and investment firms have deployed the technology and how it is applicable to life insurance business models.
- Test automated digital advice technology by deploying it in innovation labs or employee pilots to determine its best use for improving advisory services in investment and retirement product lines.
- Determine buy, build or partner approaches to automated digital advice by monitoring newly formed insurtechs that are marketing automated advice and roboadvisors. Assess their market viability.
- 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 to document the integration requirements.
- Future-proof automated digital advice approaches by building a hybrid approach out of the gate and building solutions to support multiple client segments and advice needs.

Sample Vendors

Anorak; CLARK; Coverfy; Edelman Financial Engines; Moneyfarm; NextCapital; Ottermise; SoFi; Wealth Wizards; Wealthify

Gartner Recommended Reading

Enhanced Hybrid Roboadvisor: Meet Wealth Client Segment Needs While Creating a Cyborg Advisor

The Digital Platform: Position Hybrid Robo 2.0 as a Key Success Factor

Commercial UAVs (Drones)

Analysis By: Sham Gill

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

Commercial unmanned aerial vehicles (UAVs) that can be remotely controlled by human pilots or outfitted for autonomous navigation and used within the insurance industry to perform aerial surveying. Drones typically incorporate GPS technology and navigation agents that guide them, as well as various sensors for imaging and other analysis. Memory caches and cellular communication links allow drones to collect and transmit datasets for analysis.

Why This Is Important

Drones offer insurers the ability to survey structures and large plots of land more quickly, often more safely and with fewer resources than traditional techniques that rely on human measurement. The speed with which drones can be deployed also helps combat fraud by enabling quicker damage and loss verification. These initiatives have confirmed the high potential of drones to speed up and improve the quality of underwriting and claims management processes.

Business Impact

- Drones improve the overall effectiveness of agents and underwriters as they inspect a property prior to issuing a policy.
- They have proven to help insurers quickly assess damage from large, catastrophic events, enabling them to proactively engage policyholders who have been impacted and coordinate supply chain partners, improving the customer experience.
- Drones may support risk prevention through more economical and effective periodic inspections. They also offer the ability to assess damage to insured risks that would otherwise be inaccessible.

Drivers

- Insurer demand for more accurate and timely data for underwriting and claims management will spur them to investigate the use of drones. The most widespread use cases for drones to date have been in support of property claims (such as assessing damages to homes and roofs) and commercial agricultural claims (such as assessing crop damage). For underwriting, drones have proven to be effective for more quickly and safely evaluating large commercial properties and structures. In most instances, the insurer will take the images captured by the drones and analyze them using machine learning (ML) or artificial intelligence (AI) solutions.
- Gartner has tracked a number of vendors that are now combining hardware, drone operations systems, analytics — including using AI for improved intelligence and decision support — and drone services. This gives insurers the option of consuming the output from the analysis without heavy investment in equipment, software and internal resources.
- The introduction of regulation has accelerated the adoption of drones in some countries, such as the U.S. On a country-by-country basis, Gartner is seeing convergence on size and weight limitations, training and certification, and restrictions on flight operations.
- Increased accuracy and decreasing costs for drones and image analytics will lead to a rapid increase in adoption in certain geographies and in those insurers with the resources required to operate drones and develop or acquire the capabilities to analyze the images.

Obstacles

- Integrating drones into ongoing business transformation and IoT initiatives may complicate initial adoption and delay full realization of the potential business value.
- Where speed of data analysis is critical, cellular — or even satellite — connectivity may be needed. However, cellular connectivity may not be available on some remote agricultural sites or in disaster zones, and satellite connectivity will be expensive in the short term.
- Privacy and the safety-critical nature of operations over people mean governments restrict the ability to fly in built-up areas in many countries. In addition, fears over drone incidents with malicious actors will slow down adoption.
- Getting access to skilled “pilots” or vendors that are accredited to fly the drone in accordance with regulatory requirements to the right place at the right time will be a challenge for insurance companies that need access to near-real-time visual data.

User Recommendations

P&C insurance CIOs should:

- Work with the leaders of their innovation labs to develop use cases for drones, especially in conjunction with location intelligence and aerial imagery, across the insurance value chain.
- Look for opportunities to pair drones with ML or AI to provide automated image analysis to further enhance drone use cases.
- Catalog the new types and volume of data generated by drones and incorporate this into requirements for their IoT platforms, advanced analytics and more-intelligent day-to-day workflows in downstream enterprise systems.
- Work with their legal and regulatory peers to establish a system for ensuring compliance with drone regulations. Apply for as wide-ranging permissions as possible ahead of time to avoid issues with gaining approval for drone usage at the time when they are most critical.
- Consider working with insurtechs that can provide drone images and the image analytics, using technologies such as AI and ML as a means of jump-starting adoption.

Sample Vendors

Aerialtronics; Altavian; Betterview; DJI; Kespry; Kittyhawk; PrecisionHawk

Gartner Recommended Reading

Market Trends: Evaluate Drone Opportunities in P&C Insurance

Hype Cycle for Drones and Mobile Robots, 2020

Artificial Intelligence

Analysis By: Kimberly Harris-Ferrante

Benefit Rating: Transformational

Market Penetration: 20% to 50% of target audience

Maturity: Emerging

Definition:

Artificial intelligence applies advanced analysis and logic-based techniques, including machine learning, to interpret events, support and automate decisions, and take actions.

Why This Is Important

According to Gartner CIO surveys (2019 to 2021), AI has been ranked as the top game-changing technology by insurance CIOs for the last three years. It can support a diverse set of use cases across the insurance enterprise. Insurers can use a range of AI technologies, including deep learning, computer vision, ML and NLP, to assist them in both optimizing processes and business transformation with structured and unstructured data (including text, voice, images and video).

Business Impact

In the short term, AI can help with solving immediate problems around automation of manual tasks, supporting digital channel interactions and faster identification of claims fraud. Longer term, AI can help drive underwriting profitability (especially for complex decision making), reduce processing time and costs, drive customer upsell/cross-sell and grow revenue from new products (e.g., usage-based or individualized pricing models).

Drivers

- As insurers develop analytical capabilities and data science capabilities, they want to leverage new technologies such as AI, either stand-alone or in business applications (e.g., claims solutions).
- Automation, especially to drive operational efficiencies for lower cost of transaction processing and for faster processing, is top of mind among insurance CIOs.
- Enhanced focus on CX, due to increasing digital traffic for self-service, is driving greater focus on chatbots and conversational AI for customer interaction including first notice of loss (FNOL) and customer servicing.
- The need for learning-based business applications, to help develop new data algorithms, will speed the pace of AI adoption in areas such as IoT and fraud.
- The use of new data (e.g., third party, IoT, or behavioral data), large data volumes and unstructured data (including video and images) will push data science and analytics departments to incorporate AI into their strategies.
- New business strategies aimed at personalization of interaction (for example, financial advisors or agents needing next best action for cross-sell and upsell) will drive the adoption of AI-based solutions for needs assessment and sales/marketing.
- Focus on autonomous underwriting and claims will be a major driver for the use of AI in combination with other technologies to support a real-time, no-touch process.
- Insurers trying to create new business models such as new products/services will need AI to help enable transformation including individualized pricing, prevention services, on-demand products and autonomous processing.

Obstacles

- Difficulties in building ROI metrics to help build business cases.
- The hype around AI technologies solving all business problems — even those that can be solved by light-weight analytics and predictive modeling technologies.
- Resource constraints in business, data and IT.
- The shift in focus from strategic technologies to those that support digital business foundations like cloud and cybersecurity.
- Lack of trust in the data, a common problem among business and operations users.
- Immaturity of AI solutions in understanding insurance business processes and terminologies, especially for business applications.
- Users' fear that AI will replace them, especially among knowledge workers in underwriting, actuarial or claims.
- Additional concerns over the use of AI, especially around ethics, biases and consumer trust.

Sample Vendors

CAPE; Chisel AI; Gradient AI; H2O.ai

Gartner Recommended Reading

Innovation Insight for Artificial Intelligence in Life and P&C Insurance

Digital Insurance Success Requires Leveraging Data, Analytics and Artificial Intelligence

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

Sliding into the Trough

Conversational Platforms

Analysis By: James Ingham

Benefit Rating: Moderate

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

Conversational platforms can be used by developers to build conversational user interfaces, chatbots and virtual assistants for a variety of use cases. They offer integration into chat interfaces such as messaging platforms, social media, SMS and website chat. A conversational platform has a developer API, so that third parties can extend the platform with their own customizations and additions. Use cases include virtual personal assistants and chatbots.

Why This Is Important

As P&C and life insurers adopt AI to improve the customer experience, many are looking to deploy various conversational solutions. These include virtual personal assistants, virtual customer assistants and chatbots as a means to automate and improve interactions using devices like Google Home and Amazon Alexa, often referred to as “smart speakers.” Conversational solutions can also be used through preestablished channels such as the call center, mobile app or internet portal.

Business Impact

- The effective use of a conversational platform enables both increased revenue through expanded support of online sales of complex products (especially relevant for life insurers) and lower costs by driving sales and customer interactions to a less expensive self-service channel.
- Customers benefit from the increased flexibility of channels for interaction that is always available and mimics the (ideally) warmer customer experience that direct human interaction provides.

Drivers

- Increasingly, insurers are building a variety of business cases for the use of these technologies, including with agents, internal staff and customers. This will open up new use cases that will drive continued adoption.
- As demand for these new customer touchpoints rise, insurers will need to implement conversational platforms to launch these capabilities and improve interactive opportunities with customers, especially using voice. This is one of the elements of advanced digital strategies for insurers targeted at improving customer interactions.
- The drive toward task automation, process automation and eventually hyperautomation will necessitate the use of conversational platforms. This will reduce the traffic to the call center, automate paper processes using voice, drive online quote-and-bind and policy issuance, leverage natural language processing for servicing and enable value-added services.
- Younger consumers who prefer digital channel interactions will increasingly interact with their insurer via conversational experiences. The COVID-19 pandemic has also forced many customers who prefer traditional voice or agent channels to use alternative engagement channels to interact with their insurer for the first time.
- Adoption will grow steadily during the next few years as focus on AI tools and technologies grows and pilots are put into production.
- The continued decreasing cost and improved accessibility of AI technology will support increased adoption of conversational platforms by insurers, who may have previously shied away from expensive AI technology.
- The increased availability of professional services by vendors will support ongoing training and certification for a variety of insurer capabilities, such as call centers, voice assistants, IT service desks and enterprise portals.

Obstacles

- Insurers will need to source talent in a variety of emerging roles, focused on creating and supporting conversational experiences. These include dialogue designers, AI trainers, digital coaches and AI interaction designers.
- Vendor solutions are unlikely to completely solve insurance-specific use cases out of the box, and will require additional development and extensive configuration prior to deployment. These solutions will also require increasing levels of skills to progress beyond simple Q&A chatbots to more complex and contextual questions.

- Vendor solutions may also vary dramatically in terms of product life cycle management, security, implementation and integration capabilities across other business applications, and must be extensively verified in an RFP process.
- Many conversational platform vendors have recently been founded, and those with limited market traction will fail; insurers will need to conduct additional diligence on long-term vendor viability.

User Recommendations

- Work with customer service leaders to select specific products or scenarios to begin deploying conversational platforms.
- Pair conversational platforms with a strong knowledge management engine for self-service to create meaningful and productive interactions.
- Evaluate integration needs to fuel conversational platforms with information by working with the vendors to understand how to develop the applications.
- Review digital strategies to identify how conversational technologies can help drive customer experience improvements in the call center, mobile interaction and website.
- Test the use of chatbots and virtual assistants in innovation labs, assessing various use cases for sales, customer service and claims, and determining the accuracy of these tools for language and insurance terminology.
- Build business cases for various user groups including agents, internal staff (for example, the IT help desk) and customers.

Sample Vendors

Amazon; Amelia; Artificial Solutions; Creative Virtual; Google; Spixii; Verint

Gartner Recommended Reading

Making Sense of the Chatbot and Conversational AI Platform Market

Guidance Framework for Evaluating Conversational AI Platforms

Innovation Insight for Artificial Intelligence in Life and P&C Insurance

Tool: Artificial Intelligence Use Cases for Insurance

Blockchain

Analysis By: Ali Merji, David Furlonger

Benefit Rating: Transformational

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

Blockchain refers to a portfolio of activities potentially transformed by enterprise applications of blockchain technologies. Blockchain-enabled insurance is built on 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 links to previous data blocks. Anyone with access rights can trace a state change in data or an event, belonging to any participant.

Why This Is Important

Blockchain technology can bring significant efficiency gains, cost savings, transparency, faster payouts and fraud mitigation, while allowing for data to be shared in real time between various parties in a trusted and traceable manner. There are emerging insurance products within blockchain ecosystems, such as cyber insurance, extensions and endorsements for financial loss (hot wallets and exchanges) and surety bonds, creating new opportunities for insurance firms.

Business Impact

Use cases in P&C have focused on optimizing, such as cataloging high-value assets, facilitating transactions between insurers and reinsurers, and supporting parametric insurance products mainly using smart contracts for documentation and transaction. The transformative impact 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.

Drivers

- Insurance IT 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, brokers and insurers). The goal is to improve collaboration and operational efficiency by reduced reconciliation.
- Gartner's Financial Services Tech survey, conducted between October and December 2020 (n = 226), suggests around 33% insurance business leaders will be planning/investing in a blockchain initiative within the next 12 months and another 25% in a two-year period.
- Some insurers are using smart contracts in support of simple parametric insurance products, such as flight insurance. 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 IoT for faster claims management.

Obstacles

- Deployments are not complete solutions that use all aspects of blockchain core components; the vast majority lack decentralization and tokenization.
- The challenges of extending pilots and proofs of concept 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.

User Recommendations

- Create a strategic evaluation framework for blockchain that includes assessments of technology, information security, regulations, use-case applicability and insurance technology (insurtech) startup provider viability.
- Track the evolution of blockchain, in conjunction with other industries, to ensure alignment of innovation initiatives.
- Educate your business peers that define blockchain technology, 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.

Sample Vendors

Accenture; B3i Services; Cognizant; Deloitte; Etherisc; Everledger; IBM; Infosys; The Institutes RiskStream Collaborative

Gartner Recommended Reading

Blockchain for P&C Insurance CIOs Cannot Exist in a Vacuum

What Is Ethereum 2.0 and How Does It Relate to Digital Business Acceleration and a New Programmable Economy?

OCC Approval for Cryptocurrency Custodial Services Gives U.S. Banks New Opportunities With Digital Assets

Advanced Analytics Solutions

Analysis By: Kimberly Harris-Ferrante

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Adolescent

Definition:

Advanced analytics is 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 provide insurers with insight into their operations, customers, products and market that can support market success and competitive differentiation. This has become a critical success factor among both P&C and life insurers alike in driving mission-critical business objectives around customer satisfaction, underwriting profitability, claims efficiencies and fraud detection, for example.

Business Impact

- Tactically, their use will provide insight into operational efficiencies and productivity, customer intelligence, and corporate performance.
- Strategically, through the use of advanced technologies, such as AI, they will empower customer self-service, new product offerings (usage-based insurance), automation (such as autonomous processing) and new insights, such as those using images, text or video in areas such as claims, underwriting, customer servicing or fraud prevention.

Drivers

- Data and analytics maturity growth will spark heightened investment and interest in advanced analytics across the industry. This includes the shift to new data types, especially unstructured, such as text, voice, image and video, as well as the growing focus on ML/AI.
- There is a need to have more precise and real-time decision making and use intelligence in new ways to support both decision support and decision automation.
- There are growing demands 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, such as usage-based; and autonomous processing, such as for claims.
- Shifting consumer trends, especially during the pandemic, is making companies want to explore new trends in customer intelligence, such as behavioral analytics, life events and/or lifestyle modeling, and churn modeling.
- New strategies around things like data monetization are making companies look at underlying strategies around data and analytics.

Obstacles

- Immature governance and lack of data governance, which includes lack of leaders, ownership and strategies to support this.
- Legacy systems that challenge the ability to pull data or access it in real time.
- Lack of data science or analytical resources to support data and analytics initiatives.
- Siloed and fragmented vendor market that consists often 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). This leads to solution complexities and gaps in the IT department.
- Lack of the right data to support analytical aspirations. Insurers have transaction and application data, but often lack the supplemental data that they would want to build holistic customer profiles, and understand risks or exposures. While buying third-party data is on the rise, often this data is not available in the market and in certain regions.

User Recommendations

- Build a data and analytics strategy that maps against the corporate digital ambition and addresses problems such as the governance, resources and KPIs needed to evaluate the program's effectiveness.
- Assess the current-day use of advanced analytics to determine whether any already used solutions 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 analytics that are built for insurance to reduce project risks and implementation time. Select solutions that come with an insurance data model and prebuilt algorithms that are modified during rollouts, versus those where the model and algorithms have to be custom-developed.
- Evaluate emerging advanced analytics coming from the insurtechs to see which ones offer new models and can help with emerging business needs.

Sample Vendors

Cloverleaf Analytics; Guidewire; IBM; Insurity; LexisNexis; SAS; Tableau; Verisk Analytics

Gartner Recommended Reading

Survey Analysis: Data and Analytics Trends in Insurance 2020

Digital Insurance Success Requires Leveraging Data, Analytics and Artificial Intelligence

RPA

Analysis By: Laurie Shotton

Benefit Rating: Moderate

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Robotic process automation (RPA) mimics the “manual” paths humans take through applications. An RPA tool maps the process for a software “robot” to follow across screens and various data repositories. RPA tools rely on structured data and can be used to populate data in systems, document audit trails, conduct calculations, perform actions and trigger downstream activities.

Why This Is Important

RPA adoption among life and P&C insurers is continuing at pace in most geographic locations. The technology has appealed to insurers with large-scale legacy environments that lack integration between systems or where highly manual processes exist. In particular, legacy modernization projects have long payback periods and business case approvals are problematic. With its relatively quick ROI, RPA provides an appealing short-term alternative.

Business Impact

Insurers have applied RPA to perform data entry tasks across the enterprise, from operations and I&O tasks to HR and finance. RPA tools can operate 24/7, and across multiple legacy systems, enabling increased speed of transactions, reduction in errors, improved SLAs and customer experience and significant FTE savings. RPA enables a revisit of manual, rule-based processes to rethink the process with a bot in mind rather than a human.

Drivers

- Efficiency, productivity and agility are key drivers for insurance CIOs as their focus on digital and cost optimization continues to increase, especially as a result of COVID-19 and the subsequent economic fallout.
- COVID-19 has exposed the frailties of existing systems and processes in supporting remote work and virtual interactions.
- The economic downturn has forced institutions to forgo some spending and refocus their budgets on technology solutions that provide quick ROI. In fact, a significant proportion of insurance CIOs indicate that they will increase their automation investments in 2021.
- With insurance companies facing an abundance of legacy systems that are inflexible and require repetitive data entry tasks and rekeying across different applications, RPA is seen as the tool to alleviate these challenges.

- With short implementation cycles, the promise of an instant impact is appealing, even if it's simply masking the inefficiencies of legacy systems.
- Insurance CIOs are now realizing the value and limitations of RPA, accelerating its movement across the Hype Cycle toward the Plateau of Productivity.
- RPA will continue to add value to insurance organizations but will increasingly be compartmentalized into a subcomponent of hyperautomation tools. In this way, other hyperautomation tools will create the structured data while RPA will be a method of ingesting information for core and supporting systems.

Obstacles

- The time and resource investments required for RPA are often underestimated. RPA tools are cross-industry tools without prebuilt logic, so significant effort on configuration is needed.
- RPA needs structured data, and value is limited to algorithmic tasks where rules and variants can be easily defined.
- RPA is positioned in the market as a business tool, when the reality of deployment requires business knowledge coupled with IT disciplines for implementation success.
- Business purchase of RPA is causing a rise in shadow IT and technology duplication.
- Insurers struggle to identify the use cases and opportunities to scale RPA beyond the initially identified use cases.
- Employees often feel threatened by the adoption of automation, making it hard to gain assistance and buy-in.
- Insurers can become obsessed with RPA and fail to position it in the right way. RPA's true value will only be realized as part of a toolkit of automation technologies.

User Recommendations

- Centralize purchasing decisions of automation technologies to avoid RPA and other automation tools being duplicated across the enterprise.
- Evaluate the benefits versus drawbacks of automation over system replacement or integration strategy. Balance the short-term gains versus long-term robustness of the approach.
- Educate your IT and business teams on the variety of different tools and create a vision to automate processes by running a series of workshops inviting a mix of vendors to demo their solutions with insurance-specific use cases.
- Establish and fund a DevOps center of excellence that is resourced with a small group of individuals who collectively possess a variety of skills across business and IT.
- Avoid focusing internal communications on cost saving and FTE reduction by focusing KPIs on value-adding measures that deployments provide, such as customer satisfaction impacts, error reduction and SLA improvements.

Sample Vendors

Automation Anywhere; Blue Prism; UiPath; WorkFusion

Gartner Recommended Reading

10 Most Common Mistakes in Financial Services Automation Initiatives

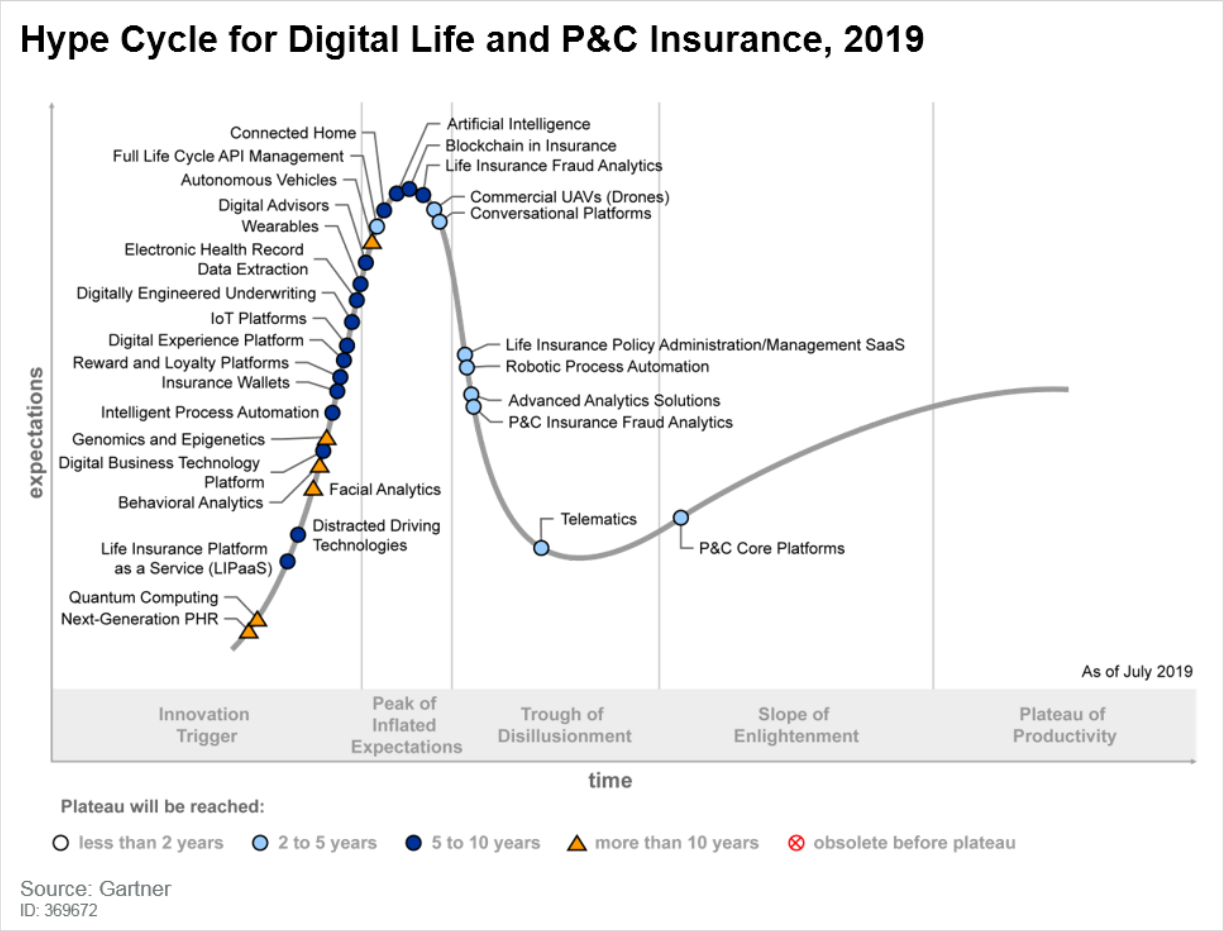
Addressing Employee Resistance to Automation in Financial Services

4 Steps to Automation Success in Financial Services

Tool: Banking and Insurance Use Cases to Drive Hyperautomation

Appendixes

Figure 2. Hype Cycle for Digital Life and P&C Insurance, 2019



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 2021)

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 2021)

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 2021)

Document Revision History

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

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

Assessing the Impact of Technology Initiatives on Insurance Employees to Lower Costs and Reduce Risk

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

Top Insurance Performers Spend More on IT and Are More Profitable

Top Priorities for Insurance CIOs 2020: Prepare for Future Disruption

Four Key Capabilities for Insurers, 2022 and Beyond

Table 1: Priority Matrix for Digital Life and P&C Insurance, 2021

Benefit ↓	*Years to Mainstream Adoption*			
	Less Than 2 Years ↓	***2 - 5 Years*** ↓	***5 - 10 Years*** ↓	***More Than 10 Years*** ↓
Transformational		Blockchain Telematics 2.0	Artificial Intelligence Behavioral Analytics Digital Business Technology Platform	Autonomous Vehicles Customer and Societal Ecosystems Genomics and Epigenetics
High		Advanced Analytics Solutions Commercial UAVs (Drones) CX Platforms Digitally Engineered Underwriting Holistic Fraud Management Solutions Hyperautomation Tools	Automated Digital Advice Insurance as a Service Open APIs in Insurance Smart Home Wearables	

Benefit ↓	*Years to Mainstream Adoption*			
	Less Than 2 Years ↓	***2 - 5 Years*** ↓	***5 - 10 Years*** ↓	***More Than 10 Years*** ↓
Moderate	RPA	Conversational Platforms Low-Code/No-Code Solutions SaaS P&C Core Platforms Video AI Platforms	Advanced Life Event Management Solutions EHR Data Extraction Insurance Wallets IoT Platforms Personal Health Records Reward and Loyalty Platforms SaaS Life Insurance Core Platform	Facial Analytics
Low				

Source: Gartner (July 2021)

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