DXC TECHNOLOGY

Parametric insurance: A disruptive solution enabled by a digital platform

A paper exploring platform benefits to underpin innovative approaches to insurance

Insurtechs, relatively new entrants, are taking a specific aspect of the insurance business value chain and applying newer technologies to transform and optimize related business processes.

Advanced technology is opening up new revenue opportunities for insurance companies. Blockchain, increased automation and the ability to process IoT data in real time are examples of how technology is helping usher in a new wave of parametric-enabled digital insurance offerings. This paper summarizes the core tenets and features of parametric-enabled insurance and puts forth a detailed reference architecture for such a platform.

Insurance industry challenges

Despite all the transformative technologies and solutions that insurtechs bring into the insurance industry, there has been no fundamental change in the basic way insurance operates. The core notion of matching capital to risk and the business processes associated with this are very similar to what they have been for decades.

Insurers face many of the same business challenges that they have been grappling with for some time. For one, the number of overall losses still not covered by the industry is quite high and some experts say represent more than 60 percent. Insurers can't make real inroads into the uninsured and underserved markets because business processes are still not efficient enough, and the costs to develop and operate an insurance product are still very high. Today's technologies can alleviate these issues and make insurance operations efficient enough for even larger insurers to make headway in entering such markets.

The COVID-19 pandemic exposed the trust gap between insured parties and their insurers. Many customers felt that brokers and insurers hadn't been clear that their business interruption policies did not cover non-asset losses. Now there is a consensus that more transparency is needed regarding what losses are covered by insurance.

On top of all this, many insured people and companies continue to be frustrated by the time that lapses before final payments are made after a covered loss is claimed. Therefore, many don't consider the insurance sector to be an example of an efficient digital industry. Adding to this, a hardening market is expected to increase the gap between needs and actual coverage.

This is opening the door to opportunities for insurtechs, relatively new entrants, that are taking a specific aspect of the insurance business value chain and applying newer technologies to transform and optimize related business processes. While they are nibbling away at the business of established players in the industry, their solutions mostly do not disrupt the marketplace.

However, there is a solution to address head-on the insurance industry's challenges.

Parametric insurance: A disruptive solution

The parametric model generally makes it easier for insurers to price risk and to offer simpler, more transparent products. Insured parties typically do not need to file a claim or show proof of loss, and the payout is automatic.

New approaches to coverage, including the introduction of parametric insurance, are enabling insurers to reduce operational costs, make coverage more transparent and provide faster payment for claims by approaching coverage needs in new ways. Applying the concepts behind parametric insurance in different forms using advanced digital technologies can be a true disruptive solution for the insurance industry.

Parametric insurance is based on an index that captures the risk of a trigger event and provides prespecified payouts based on the event's level of intensity. While mostly applied as catastrophic insurance for property damage sustained in events such as earthquakes and hurricanes, parametric insurance is now being applied to other cases.

As the payout for parametric insurance is not related to actual loss, it is a less expensive product for insurers to offer than are traditional indemnity policies. With parametric insurance, the difference between the actual incurred loss and the payout is called basis risk. Properly modeled and defined, parametric insurance products should minimize the basis risk, and can provide guaranteed coverage — leading to benefit certainty for customers in the event of a loss.

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In contrast, a traditional policy reimburses customers for the total value of their loss, but payouts are determined only after a claims adjuster is dispatched to assess and determine damages. So, there's typically a long wait time for payments. Minimizing the role that insurance company employees play in the process enables payouts to be issued automatically — and much faster — making for greater operational efficiency and enabling an insured party to quickly get up and running again.

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Extending the purpose of parametric insurance

While parametric insurance is seen as an add-on to traditional insurance products, there is no reason not to reinvent its underlying concepts to apply to more traditional coverage needs.

We are now seeing enhanced use of parametric insurance. Companies that want to offer micro-insurance products to low-income households, for example, are considering how the parametric insurance model might apply. Insurers are also looking to leverage advanced technology such as blockchain for automating payouts via smart contracts. That technology also has increased interest in designing products to cover events such as travel delays, crop damage and others.

Another impetus behind the increased use of parametric insurance arose during the pandemic. In this time period, small business insureds learned that their business interruption policies didn't cover losses incurred as a result of enforced shutdowns. They're now reaching out to their brokers for insurance products that allow quick payouts and keep the business going in a situation like this recent one.

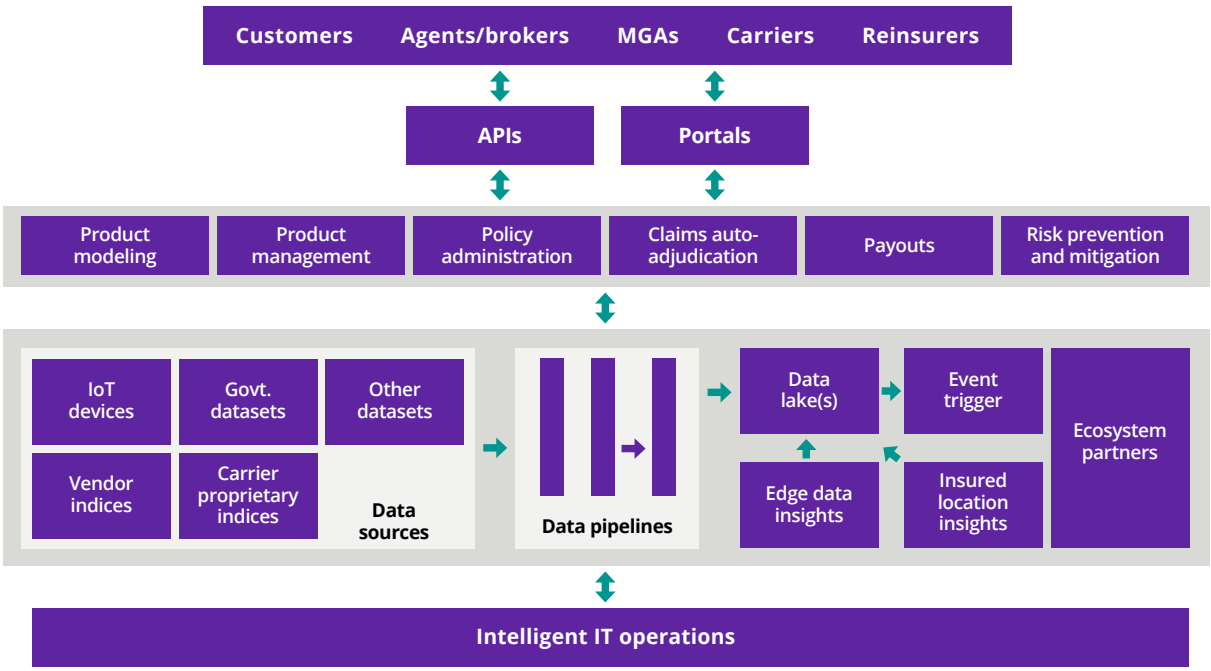
In addition to blockchain, other technology advances have made it easier to design and operate parametric insurance products. IoT devices that can stream real-time data help insurers plan for prevention and mitigation services to the insured, thereby reducing potential losses. In such cases, automatic payouts when a trigger event occurs can be more manageable.

With all kinds of data now available, many innovative companies are providing indices to track peril events that trigger automatic insurance payouts, as well as designing parametric insurance products. Insurtechs are starting to get into this space, but many of them are handling only single event-based parametric insurance products.

A general framework is evolving upon which insurers can design, build and operate their parametric insurance product. For example: The **DXC Assure Digital Platform**, a component of the DXC Assure ecosystem, is a customer-centric, multichannel system of engagement that allows insurers to recommend products and services to individuals based on customer knowledge and past interactions. DXC Assure components such as **DXC Assure for Property and Casualty** enable insurance companies to integrate AI, customer engagement, self-service and analytics technology to create solutions for key tasks, such as policy administration.

Establishing a reference architecture for parametric-enabled insurance

What would current digital insurance platforms need to implement parametric insurance efficiently? The following figure shows a reference architecture for such a platform.



Reference architecture for a parametric-enabled digital insurance platform

The core tenets and features of such a platform are as follows:

1. **Configurable.** The platform should be configurable enough to handle multiple parametric products addressing coverage for different perils and should be available for various regions.
2. **Preventive.** Insureds should adhere to risk mitigation and prevention services that the insurer provides to reduce loss ratio.
3. **Transparent.** Conditions for coverage must be transparent and simple enough for non-legal people to understand.
4. **Guaranteed.** Payouts must be guaranteed if coverage conditions are met.
5. **Automated.** The business case for an efficient parametric product is based on incorporating a high amount of automation.
6. **Representative.** The underlying index/indices that the parametric product is based on should be representative of underlying covered risk.

A parametric-enabled digital insurance platform should include technology capabilities to source and process data in all kinds of forms that support development of parametric products covering multiple perils and in all geographic regions.

7. **Flexible.** The platform should be flexible enough to add additional steps (even manual steps, potentially) before payments are made. Some markets have regulations that require verification of actual loss before a payout is made.
8. **Real-time.** Capture of risk occurrence and the resulting processing should be real-time or near-real-time, for a better ROI on the product.
9. **Gap reduction.** The parametric product should be modeled to minimize basis risk as much as possible.
10. **Diverse coverage.** The product should be modeled and implemented efficiently enough to cover a broad range of underserved and underinsured markets.
    Supplemental. Many initial and growing use cases for parametric insurance will be as add-ons to coverage by traditional insurance policies.
11. **Ecosystem.** Wide coverage for perils and regions will be possible only through collaboration with multiple partners — such as data aggregators and service providers of indices upon which parametric coverage is based, as well as new technology service providers and services that help insurers manage risk for mitigation and prevention.
12. **Keep it simple.** Lastly, a core tenet of parametric insurance is product simplicity. The simpler the product and coverage conditions, the easier it is to price risk and manage operations — for an improved combined ratio.

A parametric-enabled digital insurance platform should include technology capabilities to source and process data in all kinds of forms that support development of parametric products covering multiple perils and in all geographic regions. In addition to raw data, an important aspect of this platform is identifying indices upon which the parametric product is based. Currently, indices for many kinds of perils in many countries are available. And many insurtechs have entered the market based on one index alone.

The platform's underlying intelligent operations layer must be smart enough to be predictive, to ensure guaranteed coverage based on the capture and trigger of events in real time. The triggering mechanism should simultaneously handle multiple events across multiple perils and regions. In addition, implementation of core capabilities should be based on microservices with appropriate APIs exposed to front-end portals and end-user consuming platforms, which could be facilitated with a platform such as DXC Assure.

New opportunity for growth

Recently, some in the insurance industry have noted that brokers are seeing increased interest around parametric insurance products as solutions for business owners who did not have coverage for pandemic-related business interruptions. While this is a good impetus for increasing adoption of these products and is a new opportunity for growth for insurers, the industry needs to understand the core tenets of an effective digital insurance platform that can handle parametric insurance products to reap the benefits.

The most tangible business benefit for insurance companies is growth by offering and selling customers a wider selection of insurance offerings and to attract new customers from underserved and uninsured markets. In addition, both insurers and their customers alike can benefit from increased transparency, the availability of simpler products, and faster, more efficient processing of claims following a trigger event.

Learn more at
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