APIfication in the insurance industry

How APIs are helping insurers in their digital transformation journey

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Abstract

API is the new buzzword in the insurance sector. By building an API-as-a-product mindset and using an API-first strategy, insurers can build an API ecosystem that focuses primarily on the business value delivered by an API, changing the insurance ecosystem radically.

But what exactly is API? And how can it benefit the insurance industry? Read this white paper to know more on:

- API insights
- API solutions on insurance pain points
- API marketplace evolution model
- Our POV
- Digitalization roadmap.

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Introduction

The pandemic has been a wake-up call for the insurance industry globally. So long, it was resistant to adopting new business models - compared to other industries like banking, travel, and health. But reality check has forced incumbents to look for cost-effective ways to remain relevant in the changing market dynamics.

The industry is now heavily invested in digital transformation. A McKinsey report finds that technology trends are reshaping all insurance areas and gaining acceptance. Businesses are looking for cost-effective ways to include digital capabilities in the entire value chain. This digital revolution is backed by innovation and agility, which APIs majorly enable.

The APIfication allows insurance businesses to create scalable and secure APIs that can be published and shared - to access data and services internally and externally, with partners, vendors, solution providers, and clients. Insurers can expand their product offerings, increase efficiency, and partner with third parties (insurtech, various distribution channels), thereby expanding their customer base and democratizing the Insurance-as-a Service model.

However, it is important to consider APIs more than a technology integration mechanism. They must be considered “as a product” to see the impact at the macro level. APIs can help you become the leader, thriving in the ever-evolving partner ecosystem integrations.

Let’s explore.

What are APIs and why do we need them

APIs (Application Programming Interfaces) are contract-driven interfaces that make exchange of information between systems standardized, reliable, adaptable, controlled, and cost effective. They can abstract the complex needs of business logic, data handling, security, scale, traceability and versioning, enabling businesses to become highly agile and nimble in the evolving industry ecosystem.

APIs lead to improved collaboration, innovation, and data security, increasing revenues with data monetization and driving digital transformation. Popular scenarios where we use APIs are universal logins or the SSO, payments processing, insurance systems integration, and distribution channels.

In insurance, while APIs can act as an integrating layer for connecting various core systems, they can also act as wrappers for legacy system protocols for easy integrability. They provide insights into product usage through analytics, promote reusability across organizations or ecosystems, supply seamless ways to manage security, and drive revenue through various plans for monetization – by integrating with insurtechs, distribution channels, aggregators, partners, and marketplaces.

APIs drive success for the insurance industry by acting as a means of plumbing the insurance platforms with in-house systems. By building an API-as-a-product mindset and using an API-first strategy, insurers can build an API ecosystem that focuses primarily on the business value delivered by an API.

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Insights on what APIs can offer

Insurance digital ecosystem

The digital wave has led insurers to work in an ecosystem. An insurance digital ecosystem is a business model to provide a wide range of products and services, collaborating with different industries. It serves as a "one-stop-shop" for a customer's varied needs in one integrated experience. An example could be a real estate company partnering with multiple P&C insurers to provide the best deal on property insurance, allowing the customer to select the carrier offering the best value. Insurers are now reorganizing their business models (which were previously siloed) into more inclusive, open, and innovative ones.

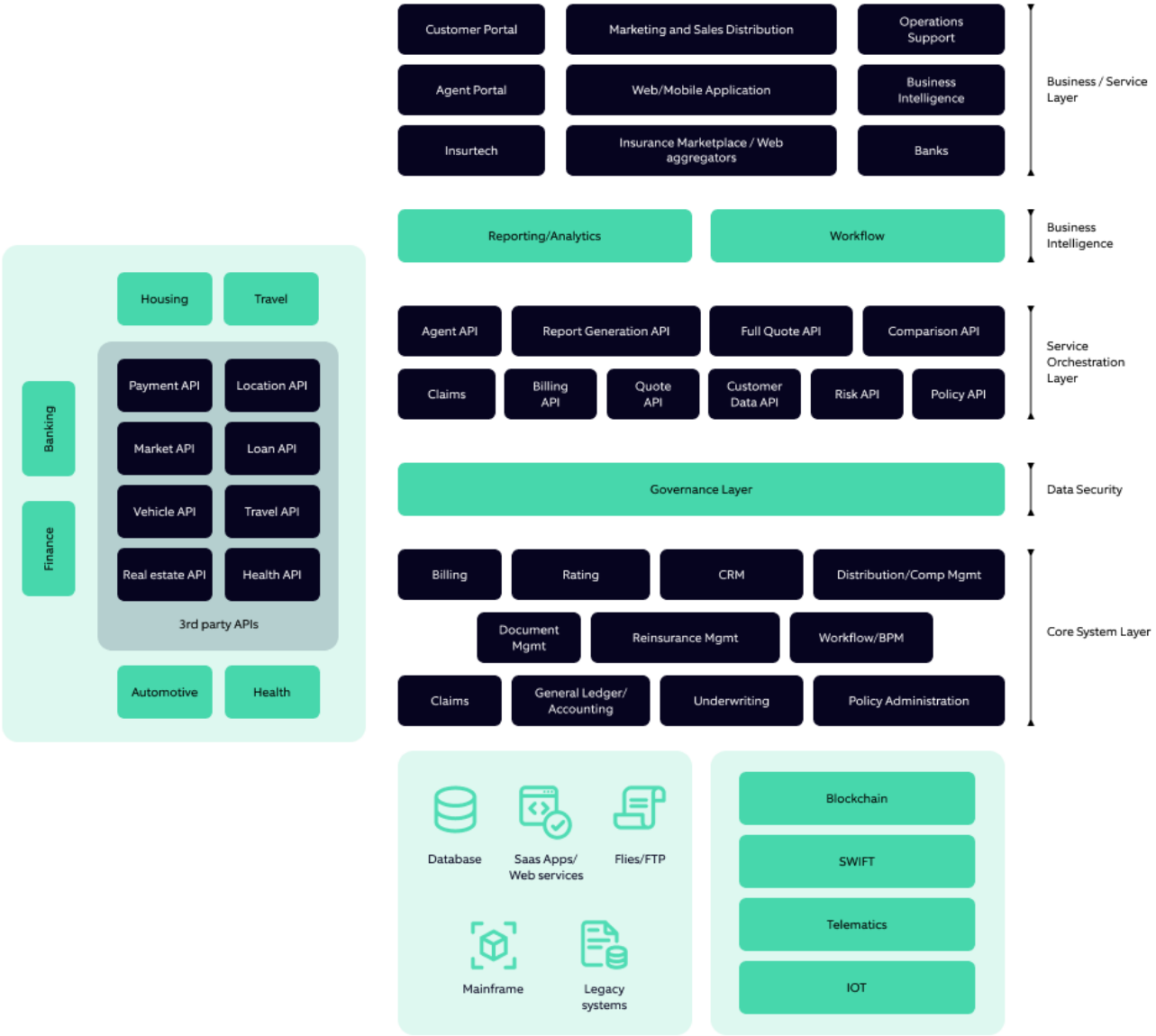

Figure 1: Standard blueprint of APIfied insurance ecosystem: *Depicting how an APIfied insurance ecosystem interacts within itself and with other key digital ecosystems*

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Digital enablers in the insurance industry

Data and digital are redefining the insurance ecosystem. Insurance/reinsurance carriers are incorporating digital solutions like AI/ML, low code development platforms, big data & analytics, blockchain, and cloud computing in their business strategies. The solutions help increase business growth, enhance customer experience, save operational costs, and provide competitive edges. APIs bring all these moving parts together to work as a cohesive unit.

Incumbents partnering with insurtech

Insurers and insurtechs are forming partnerships to leverage each other's capabilities. Insurers are tied down with legacy IT systems of enormous size and scale - they are far less agile than the tech-savvy insurtechs. So they collaborate with insurtechs for new product design and developments, delivering operational enhancements and enhancing customer services.

Insurtechs are disrupting the insurance market with their expertise in cutting-edge technologies. They provide efficient and speedy services. They gain deep insights into customers and their behavioral patterns and come up with hyper-personalized offerings. Examples:

- Innovative solutions such as on-demand coverage, offering consumers an option to switch on/off coverage using a mobile app.
- Claim initiation by merely clicking and sharing the invoice copy online for further processing.
- Offering premium discounts or reward points on improving lifestyle choices or adopting risk-minimizing behavior.

However, insurtechs need more customer base and the distribution channels that traditional insurers have. Hence, many insurtechs partner with traditional insurers. APIs play a big part here, enabling insurers and insurtechs to plug and play their solutions.

Open insurance

The open insurance business model has three key elements - consume, share, and collaborate. They are leveraged to achieve many business benefits:

- Open insurance allows insurers to expand their business to new partners by sharing their products and services – hence, increasing the revenue streams and providing a better customer experience.
- Insurers can launch new custom-made offerings using real-time customer insights, providing on-demand and personalized services. They can better gauge risks and accordingly charge premiums.
- Open insurance enables insurers to combine their product and service portfolio with partners outside the insurance industry within the same digital ecosystem.

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However, only a robust API approach can harness these advantages. APIs act as a connector, and more importantly, as a steward of innovation. These building blocks integrate scattered components, systems, platforms, and technology solutions in an ecosystem and securely expose data and business capabilities – making them scalable and reusable. Organizations can increase their capacity to roll out new and faster connected experiences.

Statistically speaking, open banking model had regulatory pressure to open their data and services with other financial firms. So, the number of APIs available in open banking is higher than open insurance (modeled on open banking). APIs are the key to unlocking the potential of open insurance, allowing incumbents an opportunity to utilize their data by sharing it more securely and in a structured way.

Many new insurtechs are projecting themselves as insurance marketplaces. They have developed customized coverages in their platforms. They are marketed as policies through traditional insurers or as integrated ones with other traditional insurers' policies. The insurtechs usually host the coverages in their customized platforms. They publish the APIs consumed by the traditional insurers, thereby completing the integration.

API solutions for major pain points in insurance

1. Legacy modernization - Insurers are grappling with monolithic legacy applications that are complex, self-contained, and non-distributed. This is one area where incumbents are most hesitant to invest as the cost is too high for architecture revamp, upgrade, or maintenance.

These applications were easy to work on in the previous decades of planned & predictable outcomes and silo-processing. But now, we have an agile world of rapid changes, real-time integration, and go-to market with minimum viable products. Fixing a little piece of code can have a large impact on cost. Two-thirds of the life insurance companies are already modernizing the core PAS (policy administration system) systems. The journey to modernize the core system is incremental and happening in a phase-wise manner.

API-enabled architecture can be added as a layer of separate digital tool between legacy and upgraded systems to access data resources for opening new business avenues. For example, the insurer might want to modernize an underwriting platform in the first phase and the rules engine in the second phase. However, the upgraded underwriting platform must integrate with the legacy rules engine (till it is modernized) to continue business operations. In such a scenario, APIs would provide a perfect solution enabling the insurer to complete the integration. This will greatly enhance the customer experience without ripping and replacing the core solution and allowing a "plug and play" method of connecting to multiple third-party vendors.

The APIs make code reusable, combine functionalities from global sources, and package them into products - finally creating an API ecosystem where asset managers discover, share, govern, and subscribe to available data while providing more integration flexibility, easy governance, and revenue generation opportunities.

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2. Custom-built products – Customer these days is increasingly digital and have evolving needs. Loyalty to any brand comes second on the priority list if the product is not serving one's specific problem. In addition, one is well informed about the products & features in the market and will spend no time changing the insurer.

Insurers are capitalizing on large volumes of data flowing across the insurance value chain to design new products per the customer's profile, history, interests, and requirements. They use emerging technologies like Internet of Things (IoT), Artificial Intelligence, and Big Data to provide such tailor-made offerings.

In this context, APIs play an integral part. They are the key to any IoT implementation. They integrate digital solutions with web applications, systems, or applications in an enterprise architecture.

For example, usage-based insurance in the automotive industry has gained popularity lately. This works on a model of "pay as you drive" and "pay how you drive" - where the insurer gets the driver's data via telematics/connected devices placed in the vehicle. The insurer also offers points based on driving behavior, which can be redeemed for premium discounts. In addition, IoTs or connected cars can automatically alert insurance providers or nearby service centers automatically of any health or accidental risk.

3. Customer engagement - Customer expectations have drastically changed regarding time, needs, and transparency. They want to be more aware, connected and process any transaction with a few clicks. Insurers are expanding their reach by integrating with third parties for wearable devices and mobility offerings to better engage with customers.

Insurers can ride on the social media trend to build customer relationships, analyze their activities, identify key life events, and connect with them with product offerings. How the banking industry has disrupted the market by providing payment platforms on social media channels like WhatsApp, we can expect similar implementation by the insurance industry.

APIs can integrate social media into the core insurance platforms. Customers can have self-service solutions in mobile-optimized platforms for different tasks like selecting an insurance brand, purchasing it, finding answers for post-purchase queries, and claiming settlements. Insurers can spread product awareness with gamification and content like blogs, videos, etc. They can also pull social media reviews and generate leads.

APIs also allow insurers to provide additional features that can improve customer experience. For example, property insurers can leverage IoT devices to detect faults/ defects in the insured's premises and provide them with early warnings. In this case, APIs help connect the insurer's core system with the third-party IoT provider. This helps the insurer avoid claim loss as well as create good customer experience.

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4. Omnichannel distribution – Insurers look to sell their products through various channels like banks, social media, and independent agency portals (e.g., Policybazaar.com in India and Compare.com in the USA). In fact, insurers today are actively looking for alternatives to the existing brokers and agencies that have traditionally catered to them. However, the major challenge is the compatibility of the different systems and data interpretation between them.

The omnichannel distribution model effectively serves both insurers and customers. On the one hand, customers can select a channel to make a policy purchase or obtain some information at any time. On the other hand, the insurer gets a 360-degree view of the customer and interacts contextually. This model is the backbone of an effective insurance ecosystem. Keeping customer preference at the center for selecting any mode of distribution - be it an agent, broker, third party, company website, or any other digital medium can lead to higher customer satisfaction, increase customer retention and growth by "network effect".

APIs can enable various digital touchpoints like email marketing tools, conversational AI chatbots, and mobile applications. One simple use case can be insurers leveraging banks' distribution platforms, enabling the banks to sell the insurers' policies. In this scenario, the insurers can integrate their internal applications with third parties using APIs.

5. Microservices in insurance – Many insurers continue to use a monolithic architecture which helps them keep the architecture simple. However, this poses some serious risks, some of which are below:

- The entire business is dependent solely on one system. In case of a system outage, the insurer risks the entire business coming to a halt.
- It becomes difficult to launch new products/modify existing products in case business rules deviate from the traditional business approach.
- It isn't easy to integrate new applications within a monolithic architecture.
- In the case of legacy monolithic architecture, a phase-wise modernization program becomes a pain point.

To address the above issues, insurers employ microservices for each business function. This way, they can reduce the dependency on legacy monolithic platforms.

APIs provide the perfect solution to integrate microservices into the existing system architecture of legacy monoliths. In fact, before developing the microservices, the insurers need to be conscious of the microservices' capability to integrate with the existing ecosystem seamlessly. Hence the insurers might develop an API-first approach to create future-proof, reusable, and consistent APIs and have the microservices integrated through these APIs.

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Other distinguishing features of APIs (that make them perfect solutions for insurers)

APIs are broadly classified based on accessibility, architectural styles, and modularity - further broken down into subtypes or combined into products based on usability. They are easily documented and discovered, reused, analyzed and monetized.

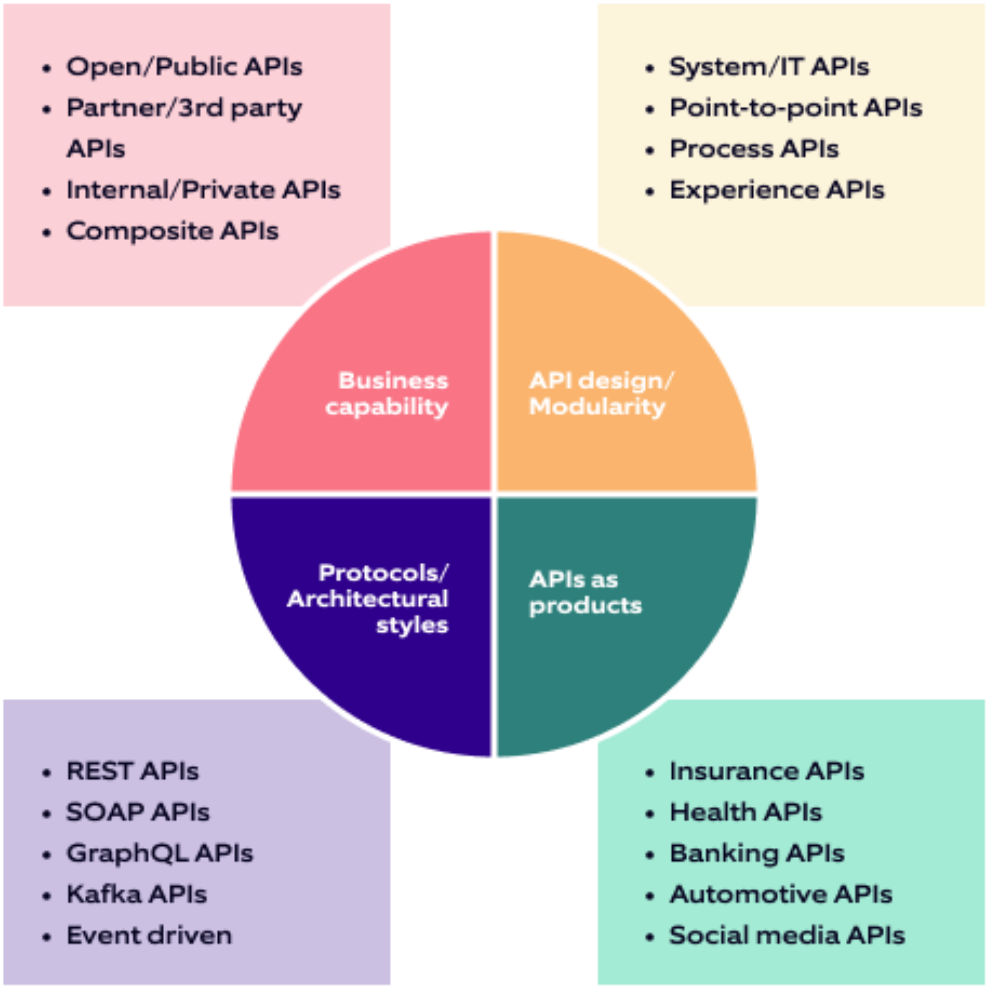

Figure 2: API categories: *APIs are categorized into various types based on their business capability, design, architectural style, or product packaging*

- **API marketplaces** – An API marketplace allows one to publish and discover APIs. It is a platform hosting APIs that one can share across teams, organizations, and ecosystems, making them reusable and monetizable. Consumers can discover, reuse, and implement APIs as products and generate revenue for the API providers (insurers). One can easily categorize an API, analyze it for performance, package it as a product, and monetize it using a customized or out-of-the-box monetization plan.

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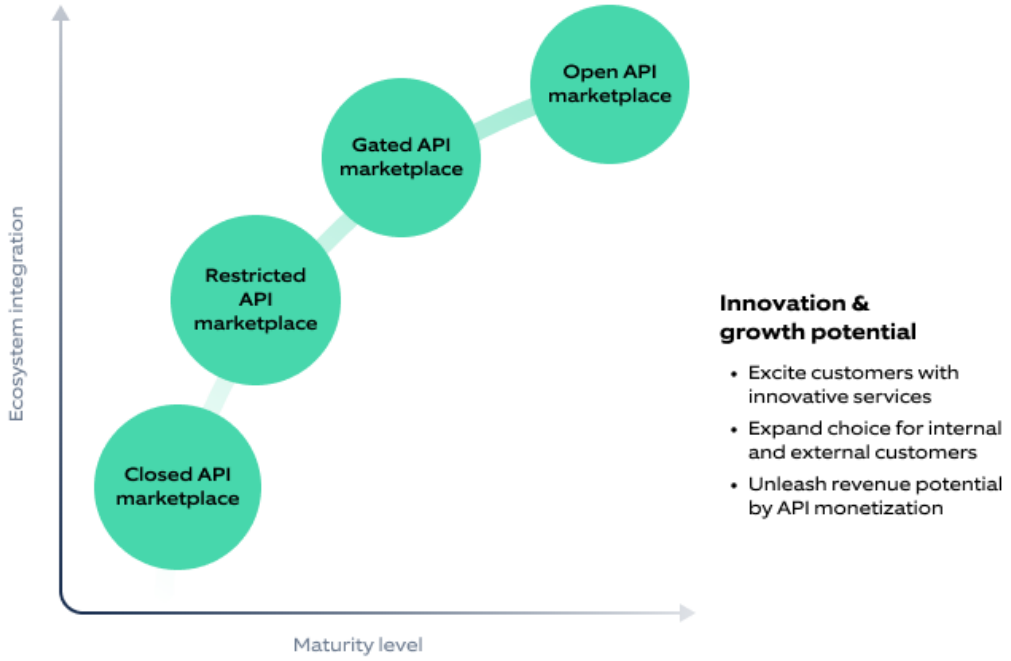

Figure 3: API Marketplace evolution model: *A simplified representation of different types of available API marketplaces based on business strategy and accessibility*

Enterprises obtain 3 major benefits to leverage their innovation and growth potential upon embarking on the API marketplace journey:

- 1. Creating innovative services by co-creation and open innovation
- 2. Adding services to the portfolio for discoverability and re-usability
- 3. Monetizing API consumption to generate revenue.

API marketplace evolution model

Phase 1: Closed API MP

Starting with the API management journey, it's imperative to make APIs available for internal developers. This helps generate in-depth analytics, better time to resolution, identification and grouping of APIs increases re-usability and decreases overall time to market.

Choosing the right developer portal, along with IAM (Identity and Access Management) and API Integration are two critical elements required to ensure internal readiness.

To include 3rd party developers and partners, transition is required to -

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Phase 2: Restricted API MP

This is about moving from individual APIs to mature API products. API products are smart packaged APIs that are identified using an API-product mindset and consumer insights from API analytics.

Advanced API security is one critical element that is implemented via broad measures like authentication, authorization, data encryption, rate-limiting, and throttling, to reduce the risks of security breaches.

To develop into a broader API marketplace, enterprises must transition to-

Phase 3: Gated API MP

This marketplace is a broad community of 3rd-party developers, driving further innovations and providing more choices to benefit customers.

To ensure mass market readiness, process automation is critical to developer onboarding and interaction. Self-service developer portals are instrumental.

Another critical element is advanced analytics, which plays a big role in API packaging and API monetization. Enterprises must understand consumer needs and behaviors to create innovative API products. This requires transitioning to -

Phase 4: Open API MP

This is the most advanced level of API MP. It allows multi-API gateway integration - offering API products to any developer and providing ready-to-use data at one location for white-labeling capabilities. This allows enterprises access to a wide set of data, leading to the creation of new services. It's critical to drive a two-sided market world - 3rd party developers on one hand and API producers on the other – to evolve into a multi-brand broker business.

Summing up, every marketplace provides a platform for developers, teams, business stakeholders, and consumers to discover, analyze and use APIs (based on the access). The visual layout of the APIs increases API visibility and team/partner involvement, the API performance analysis enhances performance, and the API usage analytics boosts revenue generation.

API Security -

Data security is an utmost priority for any insurer. In 2022, a significant portion of the insurer's IT budget is spent in upgrading the data security framework within the insurer's ecosystem. Moreover, local governments in different geographies are coming up with data protection laws, and it is mandatory for insures (along with other institutions like banks, etc.) to comply with the same. For example, the EU has come up with the GDPR, and any insurer operating in the EU must comply. Similarly, in the USA, each state is coming up/has established its PII data protection law, and the insurers must establish the data protection framework within a stipulated timeframe (as established by the state insurance departments).

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Given the current scenario of open & connected insurance and the legacy modernization programs within each insurer's ecosystem, APIs play a significant role in enabling systems to talk to each other. However, such a scenario comes with challenges. APIs have recently become a target for hackers to steal PII data. Hence, addition data security measures must be taken.

APIs have the strategy to secure data between transfers and determine what data is exposed or given access. Some common ways are:

- Token-based authentication and authorization.
- Encrypting the API requests and responses: Using protocol security TLS and mTLS
- Setting API quotas, limiting the number of requests accepted by an API (rate limiting), and controlling the incoming traffic (throttling).
- Using API gateways: API gateways across models (on-prem or cloud-based) serve as a governance layer for APIs. This adds a security layer by structuring authentication, authorization, and audit for the backend systems access. It also provides cataloging, load balancing routing, transforming and lightweight brokering, call rate-limiting, metrics collection, troubleshooting, and caching mechanisms - all leading to improved API governance.

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Our thoughts and recommendations

In today's fast-changing digital world, APIs are one of the major building blocks. We suggest an API implementation journey in the insurance digital ecosystem on the 3I principle:

- **Integration:** Enable integration and open connection of APIs with insurance ecosystem partners for comprehensive value-added services and innovative propositions.
- **Immersion:** Ensure business immersion through a series of APIs, consuming and exchanging a large amount of data flowing across the insurance landscape. This will expand the business capabilities, cocreating monetary benefits.
- **Interaction:** Enable interaction with customers according to changing expectations with API channels. This boosts customer retention rates.

It is imperative for any insurer to have a concrete vision about the ultimate business goal. Target vision will help in setting up the boundaries and ensure the funding commitments. This will help in defining the value proposition to streamline processes, enhance customer experience, and provide opportunities for growth across the insurance value chain. Insurers can brainstorm around the below points:

- Defining the current core business model. Deciding whether the goal is to provide service orchestration, i.e., providing many services under one roof to the customer, or service participation of taking services from other insurer ecosystems.
- Challenging the traditional view of API as a tool (which was used just for integration) to determining the API-first strategy, i.e., looking at API as a long-term value-generating strategy.
- Assessing the current technology architecture and business processes to design secure and scalable APIs that offer the best performance and integration with third-party infrastructure.
- Choosing a priority use case to deliver the minimum viable product and understand the ROI and customer acceptance. The insurer should inspect the progress of this plan frequently and adapt the process post each review (to gauge value and avoid huge risks).
- In an open insurance model, the insurer can use an API marketplace to provide services through one platform by connecting to a large customer base and seizing new business opportunities.
- API Analytics solves real-world business problems that have a monetary impact on the organization. It can help insurer determine the key digital assets (that are of business value) and create a strategic view of digital interactions.
- It is critical to have an API governance framework, defining the operating model to achieve technology and business goal in an agile manner. This helps in avoiding business risks. · API monetization is reaping benefits from API investments and generating revenue through API consumption. It covers processes such as scaling business efficiency, enhancing business potential, reaching new markets, improving customer experience, and many more.

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Insurers can choose different out-of-the-box monetization models or create their custom pricing models based on their target audience, the nature of the API, and business needs. API monetization models set up a revenue generation cycle while expanding the customer reach. The insurers can also create logical bundles of APIs like Quote API, Claim API, etc., and implement the monetization models on top of them.

Some popular monetization methods are:

- **Free:** Where APIs are provided for free to reach a wider set of customers. No direct money exchange is involved here, but business benefits include identifying usage patterns, entering new channels, and driving the brand.
- **Direct:** Where revenue generation occurs through utilizing resources exposed via the APIs. A popular example is the "freemium" model—where basic features are provided for free and advanced features are priced. Other such direct monetization models include periodic billing as in "pay as you go", billing as per supported functionalities as in "tiered" or charging a "transactional fee". Direct monetization also includes models like referral, revenue sharing, and affiliate - where the API is promoted with incentives. These models encourage the adoption of the APIs and help insurers extend their brands and drive sales.
- **Indirect:** Also known as the "intangible" monetization model, the API is usually exposed to achieve a business goal and drive revenues through indirect means. Insurers can benefit from indirect API monetization while integrating with 3rd parties to expand their business capabilities, or by using APIs to accelerate their digital journey. Some popular models include "content acquisition" (allowing content submission from 3rd parties to attract customers), "content syndication" (APIs allow third parties to distribute the content). These models can combine with other monetization models, and a contract is created between the parties.
- Apart from the models mentioned above, various other out-of-the-box models are also available.

Insurers must develop unique business value and provide an outstanding experience through their APIs. This will help them reap multiple benefits other than revenue and lead to business growth eventually.The insurers can think about creating and marketing future proof, reusable and consistent APIs. The API marketplaces can help them combine APIs (internal or 3rd party) to form API products – that can be available to use at a subscription cost.

API monetization is not just limited to monetary benefits, but also about expanding API reach, increasing customer base, gathering insights, improving API experience, providing a distinguished experience, and much more.

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Digitalization roadmap

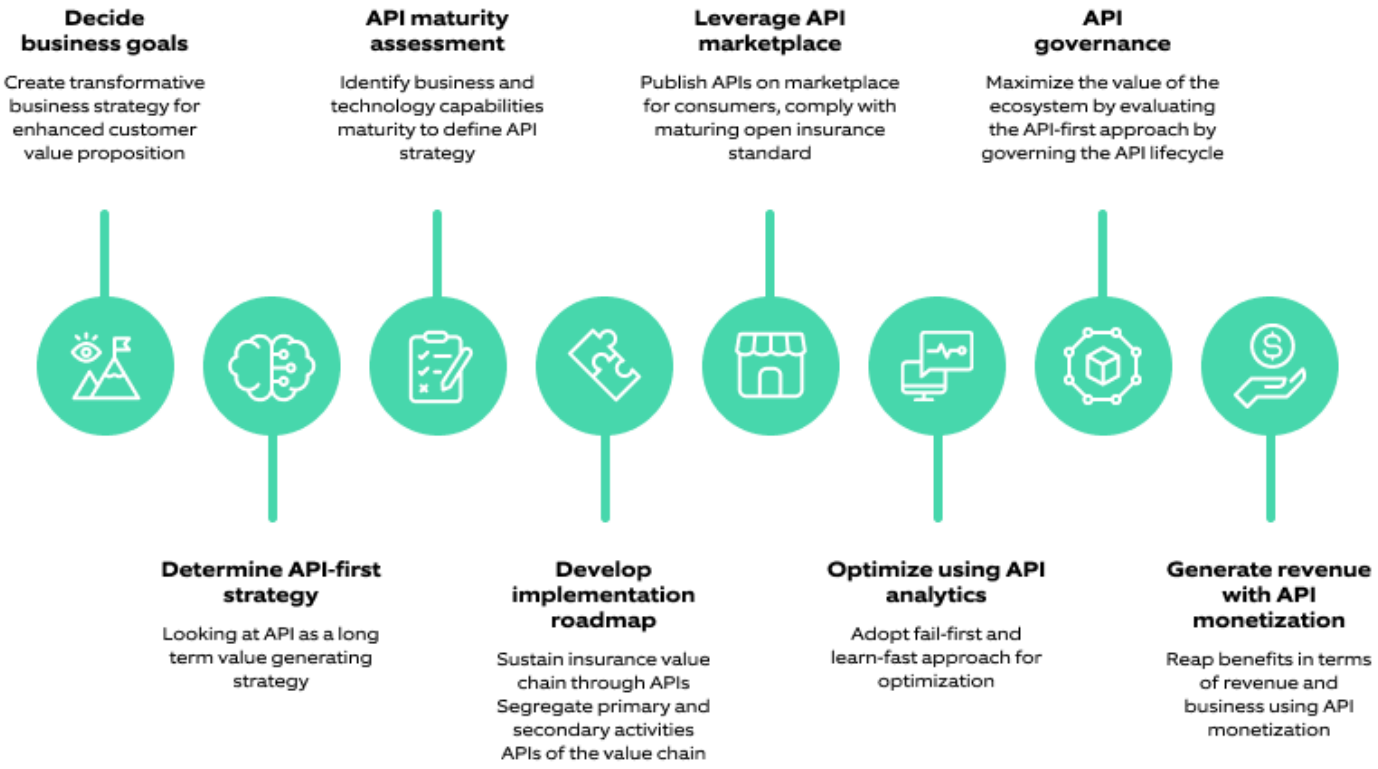

Figure 4: Digitalization roadmap: *An API journey can start with an API mindset and adopting the API-first strategy. This is achieved by adopting the 3I Principle- Integration, Immersion, Interaction. Every step in the API journey roadmap leads to revenue and value generation.*

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