

## **Application of blockchain (Insure Tech) in the insurance industry**

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### **Abstract**

Blockchain technology has attracted the attention of many financial activists. Many experts and analysts predict that this technology will revolutionize financial services, including insurance. It is important to note that the development of blockchain depends on the acceptance of regulations related to this technology, so it is necessary to determine the conditions under which the blockchain is encountered and used for commercial use, as well as the necessary supervision. This article examines some of the concepts associated with blockchain, its operational applications in the insurance industry, and related regulatory conditions. The principles of digital and transparent data sharing, and automating the impact of changes in insurance contracts can be effective and efficient for a wide range of insurance industry services.

### **Keywords**

Blockchain, Insurance Industry, Insurance Technologies (InsurTech)

## 1. Introduction

In the age of technology, data and information play a key role, and a large amount of data and information is produced daily in the world of technology. But it is the proper storage, recording and use of this information that leads human beings to progress and comfort; Emerging Blockchain technology, known as the greatest human invention after the Internet, plays a major role in this. Blockchain technology has shown with its capabilities that it intends to help move this path as fast as possible.

Blockchain technology can be well used to protect patents and combat data forgery. Due to the transparency and traceability of information in blockchain networks, it can be used to protect the material and intellectual rights of individuals in the production of the work. Although the field of digital currencies has received more attention due to its relevance to economic and financial issues and investment and earning issues, blockchain has more applications.

Blockchain is not the only job of transferring digital currencies such as Bitcoin, Atrium and ...; These are just one of the many uses of blockchain. As the word transaction is more often used to refer to financial matters, there may be a mentality that the purpose of registering a transaction in a blockchain is only financial transactions. But this is not the case, and applications of this technology are still evolving, and even this new technology can be used for more transparent and fraud-free voting. Many projects use blockchain to provide a platform for value transfer. All information about a digital asset is stored in the blockchain of that digital currency. Features such as decentralization, transparency, security, speed and... features that are very important today, so today many companies are looking to use blockchain in various parts of their business, including companies active in the field of insurance services.

## 2. Blockchain

Blockchain is a type of database and is a platform for storing information. Major digital currencies such as

Bitcoin and Atrium use blockchain technology. An area that has greatly influenced the world over the last decade. A database is a collection of information that is stored electronically in a computer system. But blockchain stores data and information in a new way. In fact, one of the main differences between blockchain and other databases is its data storage structure. A blockchain collects information as a group, called blocks, that contain a collection of information. These blocks have a limited capacity and can store a certain amount of information. When the capacity of a block is full and that block is filled, it is added to the previous filled block, thus creating a chain of blocks containing information called a blockchain.

A blockchain, or distributed general ledger, is a platform on which data is recorded without central coordination by a trusted third party, and this ledger is decentralized. All parties to the transaction have their own node in the general ledger to store their data. Information can only be added to the general ledger if an agreement has been reached between the parties in accordance with agreed protocols. It must be added once to the source and flow to each of the authorized nodes until the parties agree, after which time is unchanged, which means that all parties can enter the data without having to re-enter or adapt the data. By trusting data, by combining smart contracts that automatically enforce pre-agreed rules, blockchain potential can be expanded not only to improve data accuracy, reliability and transparency, but also to increase automation and efficiency.

Blockchain consists of the two words Block and Chain, which means block chain; Information in blockchain technology is placed inside a series of blocks that are connected in a chain, hence the name blockchain technology. Blockchain technology can be considered as a network that has a function similar to a database but has no specific centrality and is not controlled by an institution or body.

Information is stored in the blockchain within a series of blocks. This information can be anything and is not limited to transactions. Each block, in addition to the information stored in it, has a "hash" as a set of

characters that are constructed using special algorithms. Each block has its own hash according to the information inside it, and these hashes are somehow a symbol of the information inside that block. If even a very small part of the information is changed or deleted, the hash changes in general. Even related hash blocks are changed; Because each block, in addition to its own hash, stores the hash of the previous block in its block. If someone changes the contents of a block, this change is not far from the control of the network members and the whole network must approve this change; Otherwise these changes are not valid and will not be applied, so the information in the blockchain can be changed with the mentioned conditions.

### **3. Advantages of blockchain**

**Data Trust:** Blockchain offers new opportunities to work with customers to share data in better ways. Quality and reliable data is vital in a complex and ever-changing world of insurance and reinsurance. Companies initially focus on using distributed ledger technology to facilitate efficient (and secure) sharing of customer data across the value chain. The platform connects clients, brokers and insurers with a single, constantly updated version of the data they need (when they need it) with greater transparency and an unchanged controlled path.

**Automation:** There are many manual processes in the value chain, so increasing automation should be to the benefit of all parties. Using the smart contract function means that changes in the data can flow more efficiently and effectively through the value chain and automatically make changes to the insurance contract, thus saving costs and ensuring a greater focus on value-added activities.

**Security:** Maintaining proper data security is very important in a world where cyber security risks are increasing. With a license-based access and identity management process, people can only view the data they are allowed to view. Encryption increases security, and the distributed nature of the data means that there is no vulnerability.

Blockchain does this by storing transactions in a distributed general ledger (DLT). Network nodes receive, store, and update this general ledger encrypted. Distributed means that one copy of the entire blockchain is distributed among the nodes, and these nodes are constantly updating the blockchain version, and once all the nodes have this update, no one can cheat. Transactions are encrypted in blocks and are protected from all kinds of threats and changes. In other words, decentralized blockchain means that the management and control is not in the hands of one person or organization and all users are involved in its management. Each user in the blockchain can become one of the transaction confirmers and manage the network with the cooperation of other users. The biggest reason to use distributed general ledger types such as blockchain is to increase security and ensure that data is not destroyed.

### **4. Application of blockchain**

Blockchain technology and its development in the FinTech sector are dependent on laws and regulations which will affect how far and how fast the technology develops, and regulatory approaches will need to balance its innovative spirit against the possibility of unintentional systemic risks to the financial system (Yeoh, 2017). Scrutiny of the growth of Bitcoin and other cryptocurrencies has resulted in greater focus on the concept of distributed Blockchain databases. The potential benefits of blockchain are more than just economic, they extend into the political, humanitarian, social and scientific domains and the technological capacity of Blockchain is already being harnessed by specific groups to address real-world problems.

Much of the published research on blockchain applications has focused on its possibilities and potential benefits. However, this has not taken into account the actual use of blockchain, or examined in detail how blockchain can improve activities. Insurance by its nature requires a significant amount of administration for managing its clients ('policyholders'), underwriting, regulatory affairs and claims processing. While published works on

blockchain with an insurance theme have outlined some innovative concepts such as distributed ledger technology, smart contracts and automated processes, very few have outlined actual examples in action. As insurance is a highly regulated industry at a national and international level, regulators have a part to play in fostering and integrating with blockchain technologies so they can perform their function in the industry.

To critically apply blockchain to the insurance industry, it is crucial to establish the type of innovation blockchain brings to insurance, the functions that allow insurance companies to operate, and also to use real-time examples of blockchain in action. In addition, it is essential that we gather information from the insurance industry and from regulators regarding their attitude to the application of blockchain to this sector. While very little has been written exclusively on the insurance industry (Robson and Sekhon, 2011), In this article, we try to review blockchain technology and explain its application in the insurance industry by providing operational examples and explanations of regulatory mechanisms regarding blockchain.

## 5. Functions within insurance

To determine the effect of blockchain application in the insurance industry, it is necessary to determine the different functions and processes working in the insurance sector to examine the competitive advantage achieved through different components of the value chain, and then can be better and wider operations and Checked the functions in an insurance company. However the value chain approach may not be appropriate for the service industry such as insurance, so the use of value networks for the analysis of the service industry and the inclusion of the customer dimension in the analysis is suggested. Using this approach and the research conducted by Fjeldstad and Ketels (2006) on an insurance company, they divide the performance and functions of insurance companies into three groups and design an insurance value network.

**Marketing:** selling to groups, Selling to individuals in groups, building a brand

**Services:** Premium management, customer service groups, individual customer service, Payments to insured (Claims)

**Infrastructure (Organization):** Product Development, Product Packaging, Risk Analysis / Pricing, Asset Management

To further investigate the issue, it is necessary to pay attention to the components of the three groups that make up the value network.

**Marketing:** Insurance services are sold through various channels known as distribution channels. In most cases, companies do not use only one method, but through several methods such as direct sales to customers or using intermediaries such as traditional insurance brokers and branded individuals ((Brophy, 2015). Marketing can be done in different ways. Insurance companies carry out marketing operations where they advertise their related products and services. However, if they use intermediaries, marketing efforts can be linked to ensure market share growth or mutual advertising opportunities.

**Services:** Consideration of the service grouping shows many of these functions are operated inhouse or outsourced to specialist firms or intermediaries. Premium administration is an essential part of an insurance operation that frequently has regulatory rules and procedures. Finance departments, usually in-house, handle the premiums of policyholders and also intermediaries selling products and collecting premiums on their behalf. Customer service can be provided in various ways, such as underwriting, providing quotations, mid-term alterations, preparing renewals and dealing with other customer queries. While insurers and some intermediaries are usually involved in this process, other insurers use processing firms to perform some, if not most, of the tasks. Making payments to insured parties who have made a claim, are an essential function of the insurance process. Depending on the size and type of claim, insurers use loss adjusters to evaluate the claim application and quantify the loss payable to the insured. Loss adjusting is often outsourced by insurance companies, with many using specialist or large firms to perform this task.

Infrastructure (Organization): these functions are essential for the viability and existence of the insurance company. Product development is often performed in-house. However, with the advent of different types of distribution models where brands and banks are packaging insurance products, product development has become more developed, involving cross-industry partners (Brophy, 2015). Risk analysis/pricing is more an in-house function of the insurers, and is usually done by actuaries who set the premiums or establish the premium calculation system. Actuaries use the law of large numbers to set premiums because a loss on one policy might be compensated for by more favourable results on others (Dhaene et al., 2012). This is a highly regulated area where there have been many cross-border regulatory initiatives harmonizing solvency definitions and insurance processes (i.e. the Solvency II Directive). In demonstrating the reserves held by an insurance company to protect its policyholders, Asset Management is an essential part of managing the reserves according to regulatory standards. Insurers who have not done this or ensured adequate solvency have received regulatory sanctions ranging from fines to being placed into administration (Brophy, 2014). These groupings are strongly influenced by regulation. regulation of insurance covers solvency, processes, customer protection, how complaints are handled by a regulated entity and by an ombudsman, how products are advertised and how insurers engage in cross-border activity. Although there are various types of regulation across the EU, many regulators have united under different initiatives like Solvency II and used EU Directives to harmonise levels of cover for different types of insurance and processes.

## **6. The function of blockchain for the insurance industry due to the evolution of blockchain technology**

Long before the development of blockchain technologies, digital cash (or eCash) was envisioned as a way to record transactions, ensuring that there was no additional cost in the process, using electronic

signatures and identity protection (Chaum, 1983). Thirty years later, after the problems of centralization, anonymity, double cost, and compatibility, the launch of Bitcoin showed that these issues use a consensus mechanism that demonstrates proof of work and general office information shared across devices. , Has been resolved (Pilkinton, 2016). To explore the decentralized mechanism by going beyond bitcoin and looking at the cryptocurrency behind-the-scenes system, we find that an information blockchain shares information using transactional encryption proofs and transaction consensus records across a network of offices (Crosby Et al., 2016). The use of cryptography in Bitcoin has made it less possible for third parties to modify transactions, and transactions are conducted through a system that allows offices to be synchronized reliably through an information consensus algorithm (Morgan, 2016). An important part of blockchain is the use of cryptographic signatures that create an unchanging record of transactions for any office (Lemieux, 2016). According to Iansiti and Lakhani (2017), the five basic principles underlying blockchain technology are as follows:

**Distributed Database** Each part member on a blockchain has access to the entire database and its complete history. No single party controls the data or the information. Every part member can verify the records of its transaction partners directly, without the use of an intermediary.

**Peer-to-peer transmission** :Communication occurs directly between peers instead of through a central database model. Each part member of the blockchain stores and forwards the information to all part members.

**Transparency with pseudonymity** :Every transaction and its associated value are visible to anyone with access to the system. Each part member or user on a blockchain has a unique address that identifies it. Users can choose to remain anonymous or provide proof of identity to others. Transactions occur within the blockchain.

**Irreversibility of records**: Algorithms employed in blockchain technology prevent the altering of data.

Once data is entered into the part members of the blockchain they cannot be altered as they are linked to every other record entered into the chain of records.

Computational logic :Blockchain transactions can be tied to computational logic and be programmable. Part members of the blockchain can set up algorithms and rules that automate and trigger transactions between part members.

It is clear that blockchain offers many unique and useful features that a centralized database cannot provide for a variety of reasons. In short, blockchain is a complex technology, but its main function is simple: provide a distributed yet accurate file, or in other words, everyone can update a copy of the general ledger dynamically. Has been maintained and all those versions remain the same, even without the original manager or the original version (Werbach, 2018).

The properties of blockchain as stated by Gatteschi et al. (2018) and applied to the effective performance of blockchain in the insurance industry are as follows:

- Decentralized validation: Network nodes perform the validation of transactions without the need for Intermediaries
- Data redundancy: Each network node has a local copy of the blockchain, which prevents data losses
- Data immutability: Data stored in the blockchain cannot be modified or deleted
- Trust :Cryptography enables trust between parties since a transaction that has been validated using the user's credentials cannot be repudiated
- Transparency :Everyone can read the blockchain and the transactions stored in it

## 8. Real examples of blockchain functionality for the insurance industry

Despite the evolving nature of blockchain, there are many theories about how the industry's insurance market and services are changing. However, some examples of running blockchain can show the true application of this technology and how it is done, and explain the type of innovation used in the market. This

example covers the areas of personal, commercial and international markets.

## 7. Marine insurance

Marine insurance was one of the first types of modern-day commercial insurance. It is a very complex segment of the industry as it has an international scope, numerous and varied stakeholders and precious assets that are always on the move (Stanway, 2018). Danish ship operator and dominant container transporter A.P. Moller - Maersk (Maersk) in association with consultancy firm EY, data security firm Guardtime and solution provider Microsoft, with advice provided by global insurance broker Willis Tower Watson, have tested a blockchain solution in association with insurers MS Amlin and XL Catlin for providing cargo marine insurance to the Maersk fleet. As outlined, blockchain works as a tamper-proof database that is shared and updated across a network in real time and can automatically process and settle transactions via smart contracts using computer algorithms with no need for third-party verification (Kelly, 2017). Marine insurance is one of the oldest forms of insurance and by its nature employs significant resources for administration, processing and communicating between various stakeholders (Hackett, 2017). Using this blockchain solution, Maersk will manage 1000 and support over 500,000 digital ledger transactions (Zuckerman, 2018).

MS Amlin is a leading global specialty commercial insurer and reinsurer with operations in the Lloyd's, UK, Continental European and Bermudian markets. Combining Mitsui Sumitomo's London and Bermuda operations with the historic Amlin businesses, MS Amlin provides insurance cover for a range of risks to commercial enterprises, and reinsurance protection to other insurers around the world.it wholly owned and fully supported by the financial strength and scale of MS&AD of Japan, the eighth largest non-life insurer in the world.

The company began the transformation of insurance through innovation in 2016 with the belief that blockchain technology can transform the insurance market. It is part of the company's plan to

take advantage of tactical and technological advantages for digital transformation and innovation in its business model. Amos Amelin is looking for ways to improve its customer experience to make it easier to do business with that company and use its services. That's why the company has set up a virtual internal innovation unit that reviews the latest technology trends, business models and global insurance to help meet customer needs in smart and innovative ways. One such approach is blockchain (or distributed head office technology), which has the potential to revolutionize the insurance industry. Blockchain has two main benefits for corporate customers, first it helps all sides of the value chain to the data being traded Better trust, second, to accelerate intelligence and information risk management, which are becoming increasingly detailed.

MS Amlin have been collaborating with Maersk, EY and a wider consortium of stakeholders from across the value chain to launch the world's first blockchain platform for marine insurance. In a market that has historically relied on poorly integrated, weak manual processes, the company has explored the potential of blockchain to simplify (or even change) the marine insurance business model. By improving the overall quality and timeliness of data, reducing repetition and increasing automation, blockchain can reduce errors, improve transparency, enable real-time decision making, and save costs. Providing insurance services is currently very complex and bureaucratic, and risk management and return on investment face challenges. From the company's point of view, blockchain technology has the potential to facilitate the long-delayed development of the insurance industry.

## **9. Travel insurance**

French insurer AXA created a brand-new insurance product covering flight delays. Called Fizzy, flyers can purchase the product to cover flight delays lasting over 2 hours (AXA, 2017). Currently in the test phase and applying to flights between Paris Charles de Gaulle and US airports, the Ethereum Blockchain is used both to record a smart contract copy of the

insurance policy and also to link into global air traffic databases to match flight data to the policy. The smart contract decides whether or not a policyholder should be compensated and triggers payment of a claim (Terekhova, 2017). Within this type of product, Chubb has partnered with reinsurer Swiss Re to offer an automated flight delay cover product (Dyson, 2017).

## **10. Policy underwriting**

AIG (American International Group) in association with Standard Chartered Bank has developed a blockchain solution for the distribution of insurance policies internationally. Using a Standard Chartered master policy, AIG can cover risks using local policies in the USA, Kenya and Singapore, using blockchain digital ledger technology (Barlyn, 2017). There are many advantages to the use of this technology. First, employing a multinational policy can take a great deal of time because of local regulatory requirements, so this system provides a lot of certainty more quickly, and second, ultimately this solution makes it cheaper in situations where there are a lot of frictional costs in chasing after things, as this system makes the process faster and more cost-effective (Ralph, 2017). It was also noted that an insurance broker was not involved in the development of this technology, which is not usually the case. A notable feature of Blockchain application in insurance was that it has the ability to include third parties in the value chain/network, such as brokers, auditors and other stakeholders, giving them a customised view of policy and payment data and documentation (Insurance Journal, 2017).

## **11. Peer-to-peer insurance**

Peer-to-peer insurance as a concept is similar to other recent peer-to-peer innovations that can be found in lending. With peer-to-peer insurance, this is a risk sharing network where a group of individuals pool their premiums together to insure against a risk (Investopedia, 2018a, 2018b). Peer-to-peer insurance has evolved to demonstrate significant advantages over conventional insurance operations, including mitigating the conflict that arises between a traditional

insurer and a policyholder when an insurer keeps the premiums that it doesn't pay out in claims. (Huckstep, 2018). How this operates comes from the following process components. First, peers have mutual control on most aspects of their coverage, such as risk evaluation and processing of payments. Second, mutual control is implemented via a voting mechanism that can be delegated to proxies. Third, in easing the burden of payments between peers, blockchain technology is used as a means of providing coverage, establishing a pool from which claims are paid from and payment of successful claims (Teambrella, 2018). Another name for this type of insurance is social insurance (Investopedia, 2018a, 2018b). A feature of some peer-to-peer insurance applications identified is one significant element where a peer or members of the network of peers decided if claims are successful or not (Teambrella, 2018). The incorporation of FinTech concepts like the crowdsourcing platform and social networking led to the peer-to-peer insurance movement (Investopedia, 2018a, 2018b). The process and concept are reminiscent of how mutual insurers operated where members pooled resources in the event of future claims. From a regulatory standpoint, not all peer-to-peer insurance applications are regulated. Some proposed peer-to-peer insurance technologies avoid using the word insurance ensuring they do not fall under the regulatory scope. However, some peer-to-peer applications are regulated under Australian (Friendsurance, 2018) and in Japanese (Ikeada, 2018) regulatory processes.

## **12. Future theoretical applications**

### **12.1. Industry initiatives**

Insurers are monitoring the technological evolution of blockchain from a cryptocurrency. International insurers and reinsurers have established the blockchain Insurance Industry Initiative (B3i) to explore the potential of using distributed ledger technologies within the insurance industry for the benefit of all stakeholders in the value chain (B3i, 2018). More insurers and reinsurers have recently joined B3i, making it the most significant industry organisation proponent of blockchain (Marke, 2018). The Chinese

reinsurance industry has also formed its own organisation to explore and develop blockchain insurance applications (Sheehan, 2018) and has issued a white paper on future development. Some members of this organisation also belong to B3i.

### **12.2. Smart contracts**

To understand smart contracts within blockchain technology, it is essential to view them as software rather than an actual contract or an insurance proposal form as the smart contract automates many of the activities as seen in the value network presented above and in the actual insurance examples using blockchain technology. Smart contracts are defined as self-executing contracts where the terms of the agreement between the buyer and seller are directly written into lines of code, and where the code and the agreements contained therein exist across a distributed, decentralised blockchain network (Investopedia, 2018a, 2018b). While the idea of smart contracts was introduced independently of blockchains, and well before bitcoin was developed, the blockchain-based cryptocurrency takes advantage of smart contracts to execute transactions, and smart contracts take advantage of Bitcoin's distributed ledger to operate with autonomy (Werbach, 2018). Simply put, this has removed the need for a central authority to oversee the transactional process, due to the software automation of the smart contract. From the above, it can be seen that smart contracts are computer programs that can be correctly executed by a network of mutually distrusting nodes, without the need for an external trusted authority (Atzei et al., 2017). The Ethereum Foundation based in Switzerland is the proponent of Ethereum, which an open source, public, Blockchain-based distributed computing platform and operating system featuring smart contract (scripting) functionality (Coindesk, 2018). As stated by the Ethereum Foundation, Ethereum is a decentralised platform that runs smart contracts: applications that run precisely as programmed without any possibility of downtime, censorship, fraud or third-party interference (EthereumFoundation, 2018).

While policy underwriting and claims processing come from traditional paper based processes, it is evident that blockchain has the potential to innovate and radically change the insurance industry as we know it (Tasca, 2019). It is clear that the information flows from blockchain has application in covering risks that have been difficult in the past due to resource constraints, allowing to make risks programmable (i.e. agricultural risks) (Swan, 2019).

The use of blockchain in the insurance industry (reinsurance) is new and largely untested, and (like many new technologies) it is difficult to predict the future of its use. The principles of digital and transparent data sharing, and automating the impact of changes in insurance contracts can be useful not only for shipping and marine insurance and travel insurance but also for a wide range of other sectors and classes of insurance (reinsurance). There are several ways in which this platform can be developed, such as adding more capabilities to investigate claims or improve claims payment methods, or extend it to cover more classes of occupations.

### **12.3. Regulatory barriers in the field of blockchain application**

FinTech hopes to revolutionize finance by adopting blockchain: Distributed head office technology is forcing global financial regulators to consider the need to change the rules governing markets and financial services (Jones and Price , 2016). Many legislators have examined the growth of bitcoin and blockchain technology and its potential and potential applications in financial services (Magnuson, 2018). As stated by Yeoh (2017), for example, while EU legislators are aware of the progress of blockchain, they should note that this technology has significantly gone beyond existing legislation.

Given that the potential uses of blockchain in insurance are increasing and blockchain has a high potential for use, especially in the early stages, in business lines, reinsurance trade and intra-group transactions, so it seems that the use of blockchain in industry Insurance is welcomed by international

regulators (EIOPA, 2017). The International Association of Insurance Supervisors oversees the growth of blockchain and smart contracts in the insurance sector. They look at many of the elements and features of blockchain insurance plans and ask questions about data ownership, debt settlement, transparency, application of smart contracts, and more (IAIS, 2017). In the case of peer-to-peer insurance, EIOPA (2017) has attempted to define related concepts, given the existence of many versions of peer-to-peer insurance programs and the type of claims and premiums.

### **12.4. Further discussion and research**

InsurTech, or insurance technology, which is equivalent to the term InsurTech, means the innovative use of technology to provide insurance services and is one of the sub-fields of FinTech; In general, InsurTech refers to the innovative application of technology to provide, distribute and manage insurance services. With the help of big data and technologies such as artificial intelligence, Internet of Things (IoT) and blockchain, the industry seeks to collect and analyze customer information to provide them with better insurance services and personalized services for each customer or target market.

The purpose of this article is to investigate the impact of blockchain technology on the insurance industry by examining real examples of its applications. It is important to assess the legal acceptance of this technology and determine how blockchain can influence insurers, policyholders and other stakeholders to chart their future path using the concept of value chain. Upgrading and improving the value chain in the insurance industry, such as management and information flow, is a success or competitive advantage in this industry.

Improvements in the flow of information generated by insurance blockchain programs lead to greater efficiency. From the impact of bitcoin and other digital currencies, it is clear that blockchain has many possibilities in financial services, fintech and especially in insurance. Involvement of insurance groups and initiatives of technology legislators leads to

a form of information management that changes the structure of the industry. To ensure that blockchain has a high probability of being used and implemented in the insurance industry, real examples to ensure its validity and reliability have been examined in this study.

Insurance is a highly regulated industry and in many cases has the direct or indirect involvement of governments (Aftali, 2018). Yeoh (2017) has stated that regulatory rules and approaches can affect the speed and extent of blockchain application in industry. Legislators are often critical and conservative about the use of blockchain in the insurance industry. Legislators need to consider the benefits of blockchain in the insurance industry and implement systems and processes to test programs and innovations in the field to ensure that regulation can be consistent with the innovative nature of the technology. Most EU regulators use test sandbox environments or innovation centers to evaluate technology.

Blockchain technology can have many benefits for the insurance industry, including a positive impact on the level of security when processing data, simplifying the claims handling process, and having a more significant impact on detecting insurance fraud. The method of introducing insurance services to the market can be improved.

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### چکیده

فناوری بلاکچین مورد توجه بسیاری از فعالین حوزه های مالی قرار گرفته است. بسیاری از کارشناسان و تحلیل گران پیش بینی می کنند که این فناوری خدمات مالی از جمله بیمه را دچار تحول خواهد کرد. نکته قابل توجه این است که توسعه بلاکچین به پذیرش مقررات مربوط به این فناوری بستگی دارد ، بنابراین تعیین شرایط مواجهه و استفاده از بلاکچین به منظور استفاده تجاری و همچنین نظارت لازم بر آن ضروری است. در این مقاله به بررسی برخی مفاهیم مرتبط با بلاکچین، کاربردهای عملیاتی آن در صنعت بیمه و شرایط نظارتی مربوط پرداخته می شود. اصول به اشتراک گذاری داده ها به صورت دیجیتالی و شفاف، و خودکارسازی تأثیر تغییرات در قرارداد بیمه می تواند برای طیف گسترده ای از خدمات صنعت بیمه کارآمد و موثر باشد

### کلمات کلیدی

بلاکچین، صنعت بیمه، فناوری های بیمه ای (اینشور تک)

