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The Impact Of Insurtech On The Insurance Business Model In Indonesia

Donafeby Widyani

ABSTRACT

In Indonesia, the integration of InsurTech into the business process is beginning to manifest, with emerging companies harnessing technology across various aspects, including customer acquisition, underwriting, claims, billing, and customer service. Furthermore, established companies are incorporating technology into specific facets of their business processes to improve overall efficiency and accuracy. Thus, it is intriguing to delve deeper to the phenomenon to understand what factors are driving the growth of InsurTech there, how it spurs business model innovation, what gaps exist between the country's current insurance business models and the models required for development, and what capabilities existing insurance companies need to fill in these gaps. This is a qualitative study that interviewed 10 participants, which are C-level executives in ten major national and multinational insurance companies in Indonesia. The finding revealed that efficiency gains, achieved through streamlined processes and cost reduction, drive significant investments in InsurTech. Regulatory challenges and technological advancements shape the trajectory of InsurTech. The direct insurer-consumer relationship facilitated by InsurTech enhances speed, ease, and transparency in insurance processes. However, challenges such as underdeveloped business models and resistance to innovation exist. Successful InsurTech integration requires a holistic approach, combining creative thinking, supportive leadership, and industry collaboration. InsurTech not only enhances customer experiences but also holds promise for sustainable business growth through operational optimisation in the Indonesian insurance sector.

Keywords :
Insurance, InsurTech, Business Model

PT Reasuransi Indonesia Utama, Jakarta, Indonesia
Macquarie University, Sydney, Australia
Corresponding Author: donafeby@indonesiare.co.id

1. BACKGROUND

Currently, the financial industry is experiencing rapid technological advancements. The technologies that support or enable banking and financial services are popularly known as FinTech. Smart contracts and block chains bring value to a range of financial businesses. It allows them to streamline their operations, increase efficiency, and reduce costs (Mithas et al., 2012). On the other hand, chatbots and other technology-driven communication products can boost customer support and raise user satisfaction levels. According to Ross et al. (2018), these advancements also provide opportunities for financial companies to offer innovative services and products to their customers.

As part of the financial industry, the insurance industry also experiences transformation through the integration of various technologies into its business processes. In the insurance industry, these technologies are known by the term "InsurTech." IAIS (2017) explained that InsurTech can be understood as a range of new technologies and innovative business models with the potential to transform the insurance industry. For instance, the use of smartwatches to identify health risks for policyholders and offer personalised insurance plans. Additionally, the adoption of artificial intelligence algorithms can help insurance companies streamline their underwriting processes and accurately assess risk profiles. Another example is the installation of telematics in the car to track driving behaviour and offer usage-based insurance policies. This technology allows insurance companies to monitor factors such as speed, braking patterns, and mileage, enabling them to tailor premiums based on individual driving habits (Baecke & Bocca, 2017; Verbelen et al., 2018). Over the past few years, on a global scale, InsurTech has grown significantly, rising from $250 million in 2011 to $2.3 billion in 2017 (Chester et al., 2018).

The InsurTech is not only beneficial for companies but also for consumers. For companies, the adoption of InsurTech can lead to increased efficiency, reduced costs, and improved customer satisfaction. It allows for faster claims processing, automated policy management, and personalised customer experiences. This ultimately translates to a more competitive edge in the market and potential for growth. For consumers, Insurtech offers convenience through digital platforms, simplified application processes, and access to real-time data. It also promotes transparency by providing customers with more control over their insurance coverage and pricing options.

Despite the significant investment growth in InsurTech, reluctance to adopt the technology persists among some industry players. Major barriers include the highly regulated nature of the industry, the complexity of offered

products, and high capital requirements, compounded by companies allocating limited funds for innovation (Cappiello & Cappiello, 2018; Yan et al., 2018). Concerns about the market's readiness to accept innovation, driven by factors such as low-income levels, poor financial literacy, technology usage gaps, and a weak investor ecosystem and infrastructure, further contribute to this hesitation (Saal et al., 2017). This reluctance is evident in the business processes of traditional insurance companies, which seem to struggle to keep pace with technological advancements. Traditionally, insurance companies enter into contracts with customers, aggregating risks from various parties in exchange for premiums. This allows them to provide coverage to customers exposed to varying levels of risk, with lower-risk customers to some extent subsidising their higher-risk counterparts (Dumm et al., 2013). The traditional insurance industry is often overly focused on risk prevention, cost acquisition, and staying ahead in data analysis to compete with rivals (Catlin & Lorenz, 2017).

However, traditional insurance companies cannot indefinitely maintain their reluctance to change. Ultimately, they must step out of their comfort zones to embrace innovation by integrating technologies into their business processes. Faced with the impact of advancing technology, insurance companies must adapt their strategies to meet customer demands and launch technologically-driven, innovative insurance schemes to sustain their competitive edge (Wanyan et al., 2019). Additionally, given the rapid growth of competition among insurance companies and the dynamic shifts in technology, traditional insurance companies need to modify their products and business approaches to gain a competitive advantage (Bao et al., 2018). Thus, it is expected that gradually, the traditional insurance companies will make some adjustment. Because failure to do so, will cause lack of consumer engagement, loss of market share to competitors, and vulnerability to technological shifts (Cappiello & Cappiello, 2018).

In Indonesia, the integration of InsurTech into the business process is beginning to manifest, with emerging companies harnessing technology across various aspects, including customer acquisition, underwriting, claims, billing, and customer service. Furthermore, established companies are incorporating technology into specific facets of their business processes to improve overall efficiency and accuracy. The relatively recent introduction of fintech into the Indonesian insurance market begs the question of what factors are driving the growth of InsurTech there, how it spurs business model innovation, what gaps exist between the country's current insurance business models and the models required for development, and what capabilities existing insurance companies need to fill in these gaps.

Research Purpose

This study aims to gain insights and understanding into how InsurTech may impact the insurance business model in Indonesia. This study is also conducted due to the novelty of the topic and the scarcity of scientific literature on InsurTech, as previous studies have not included many structured empirical assessments (Puschmann, 2017), particularly in Indonesia.

Research Questions

1. What are the driving factors contributing to the growth of InsurTech?
2. Does InsurTech have the potential to stimulate innovation in business models?
3. What gaps exist between the current insurance business models and the models needed for development, considering the initial emergence of InsurTech in the industry?
4. What capabilities do existing insurance companies need to close the identified gaps?

Research Hypotheses

1. InsurTech is a significant catalyst in the development of the insurance industry's structure.

2. The sample in this study is an accurate representation of the population.

2. Literature Review

Insurance

Insurance business revolves around the transfer of risk from policyholders to insurance companies, with insurers grouping similar risks into homogeneous categories and settling claims using collected premiums and, at times, company reserves (Lynn et al., 2019). The industry grapples with two significant challenges, namely 'adverse selection' and 'moral hazard.' 'Moral hazard' pertains to changes in policyholders' behavior post obtaining insurance protection, such as neglecting to secure a property because it is insured. On the other hand, 'adverse selection' arises from asymmetric information, leading to pooling and pricing of policyholders' funds within a risk group, even if they possess a riskier profile (Lynn et al., 2019).

Insurance companies, guided by their business models, typically manage comprehensive databases that enable the identification of target customers,

calculation of compensations, reduction of claim costs, detection of fraudulent behavior, and assessment of risk levels. However, the antiquated systems prevalent in the insurance sector result in decentralised data storage, hindering access to essential information and impeding substantial analyses within tight timeframes (Cappiello & Cappiello, 2018).

In light of supervisory findings, the insurance industry in Indonesia faces notable challenges, notably weaknesses in implementing good corporate governance principles and effective risk management. Furthermore, there are concerns about the capacity of Indonesian insurance companies to support key business processes and scale their operations, both in terms of qualified human resources (especially actuaries) and capital/equity. These challenges underscore the pressing need for advancements and reforms within the Indonesian insurance landscape to foster growth and resilience in the face of evolving industry dynamics.

Fintech

Arner et al. (2015) describe FinTech as technology used as a solution in the financial industry. FinTech has transformed traditional banking with new product innovations in the market such as cashless payments (e-wallets), cryptocurrencies (bitcoin, blockchain), peer-to-peer lending, financial product comparison websites, chatbots, artificial intelligence (AI), and machine learning (Vanderlinden et al., 2018).

InsurTech

InsurTech encompasses a range of new technologies and innovative business models with the potential to transform the insurance industry (IAIS, 2017). InsurTech is defined as a phenomenon comprising innovations from one or more traditional or non-traditional market players that exploit technology to provide specific solutions to the insurance industry (Stoeckli et al., 2018). Furthermore, InsurTech does not merely entail the use of new technology in the insurance industry or a moniker for a series of high-tech companies, but rather an in-depth integration of "insurance + technology" development (Wang, 2021).

Business Model

Business model is defined as a holistic approach to how a company conducts its business (Zott, et al., 2011). It represents how a company creates and captures value (Demil et al., 2015). The insurance company that fully-oriented and leverage to new technologies (e.g. data analytics, big data, artificial

intelligence, and Internet of Things) is called as InsurTech company. Its existence in Indonesia has legal framework through Peraturan Otoritas Jasa Keuangan (Financial Services Authority Regulation) Number 13/2018, which states “digital financial innovation can be offered by both licensed financial institution and other business entity which conduct services in the financial sector industry”.

This company has different business model compared to that of traditional insurance companies. Its business model is characterised by a customer-centric focus, personalised products, fully automated processes, and data-driven decision-making (Catlin et al, 2017). Gassmann et al. (2020) define four comprehensive questions to describe a business model: Who are the customers? What value is offered to them? How is the value proposition created? How are revenues received?

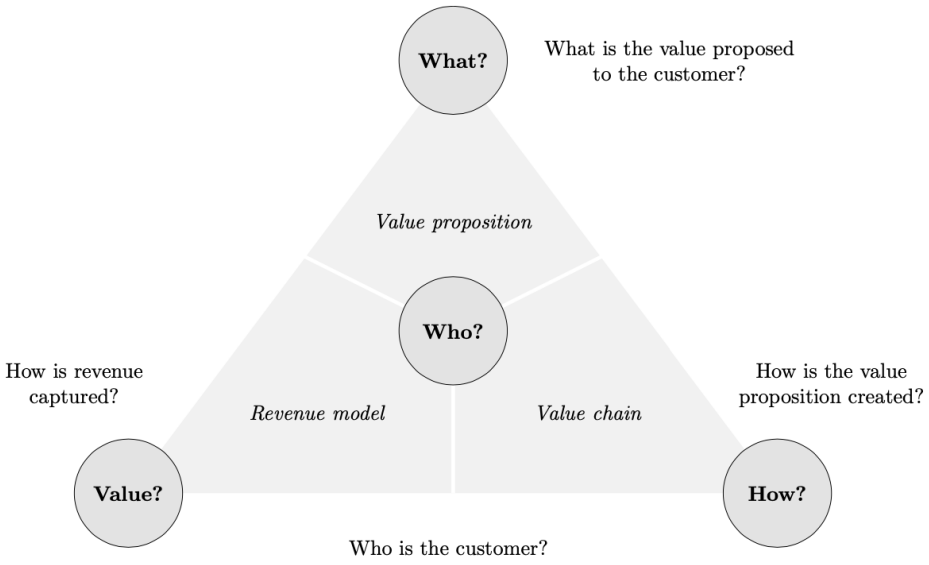

Figure 1. Components of business model (Gassman, 2020).

Explanations of each dimension of the business model are as follows (Gassman, 2020):

1. Who are the customers?
   This dimension addresses which customer segments are relevant to a company and those that will and will not be handled by the company's business model.

2. What value is offered to them?
   This second dimension defines the company's product or service offerings and explains how the company meets the needs of its target customers.

3. How is the value proposition created?
   To implement the company's value proposition, various processes and activities need to be carried out. These processes and activities go together with related resources and capabilities, as well as coordination along the company's value chain.

4. How are revenues received?
   This fourth dimension covers aspects such as cost structure and revenue-generating mechanisms, explaining what makes a business model financially viable. This dimension provides answers to the key questions every company needs to ask, namely how the company generates value for shareholders and stakeholders and why the business model works commercially (Gassmann et al., 2020).

3. Research Method

Research Sample

The research participants are senior figures in the insurance industry, serving as Commissioners, Directors, and Heads of Divisions in InsurTech, life insurance, and general insurance companies, as well as insurance brokers. Although there are around 130 insurance companies in Indonesia, 10 participants are selected. They are occupying C-level position in national and multinational insurance and reinsurance companies, as well as brokers, in Jakarta, Indonesia. Through their positions, they are directly involved in decision making process of the company (Saunders & Lewis, 2012). Jakarta was chosen because it is the capital city, hosting the headquarters of many operating insurance companies.

Table 1: Description of Research Participants

Participants	Companies	*Positions*	*Descriptions*
P1	C1	President Commissioner	Multinational General Insurance
P2	C2	Technical Director	Multinational Life Insurance
P3	C3	Technical Director	National General and Life Reinsurance
P4	C4	Head of the Life Insurance Division	National Life Insurance

P5	C5	Head of the General Insurance Division	National General Insurance
P6	C6	Finance and	Multinational Life Insurance
P7	C7	Head of the Life Insurance Division	Multinational Life Insurance
P8	C5	President Director	Multinational General Insurance
P9	C8	Director of Risk Management	National Life Insurance
P10	C9	President Commissioner	National General Insurance Broker

The composition of these ten participants is considered to represent the insurance industry in mapping the influence of InsurTech on the insurance business model.

Research Design

This study is qualitative research carried out using descriptive analysis. It describes the impact of Insurtech on the insurance business model in Indonesia. This study serves as an exploratory study to deepen the researcher's comprehension. It was conducted in two months and involved face-to-face interviews. A semi-structured interview methodology was utilised to elicit detailed responses from professionals, ensuring an adequate level of information (Harrell and Bradley, 2009). Non-probability purposive sampling method was used in this study. Initially, the researcher utilised existing contacts. Subsequently, the snowball technique was leveraged to look for additional participants. Selection criteria for participants were based on their roles within their company, the business unit environment, and their involvement in decisions impacting the business model (Pillay, 2018). The number of research participants was limited to no more than 20 (Crouch & McKenzie, 2006). Additionally, the researcher gathered documents such as journals and articles to look for data that would be processed. The data collection process was focused on research journals, books, newspapers, and articles.

Research Instrument

The interviews were conducted in a semi-structured manner, with a set of open-ended questions related to business models, InsurTech, technology, and innovation. Each participant was interviewed individually. The researcher maintained the anonymity and confidentiality of the research participants.

Research Instrument

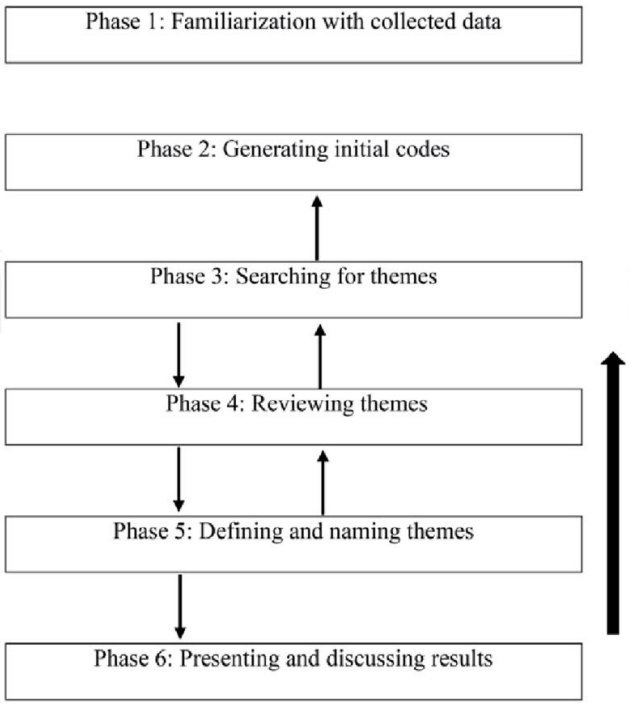

Figure 2. Six phases of qualitative research using thematic analysis (Nowell et al., 2017).

Data analysis was performed using six qualitative research phases outlined by Nowell et al., (2017). In the initial phase, the researcher transcribed the audio recordings into verbatim transcripts. The interview data was subsequently analysed using thematic data analysis. The interview transcript underwent thematic analysis by referencing the method of Elliot & Timaluk (2005). Next, the researcher used Microsoft Excel for coding and grouping the interview responses. The researcher reviewed the data and identified common categories and themes. These patterns were then manually processed using Microsoft Excel to answer the research questions. Additionally, the research included a frequency count of participants mentioning specific keywords related to the identified themes. Greater frequency means that the identified themes were more prevalent among the participants. The frequency count helped to provide a quantitative measure of the importance and significance of each theme in the data analysis process. This allowed for a more comprehensive understanding of the participants' perspectives and experiences related to the research questions.

Research Procedure

The researcher employed interview questions developed by Pillay (2018) concerning the impact of InsurTech on the insurance business model. These interview questions were derived from research questions based on literature and theory (Pillay, 2018). After finalising the interview questions, the researcher assessed their reliability and validity to ensure they could effectively answer the research questions. These research questions had previously undergone reliability and validity testing by Pillay (2018) and demonstrated good reliability and validity. The researcher then sought the assistance of an expert to review the validity of content for appropriateness during translation. Subsequently, the researcher conducted face validity with three participants to affirm whether the research questions, jargon, and terminology were comprehensible to Indonesian-speaking participants. The interview questions were not revised as they were already in alignment with the research concept. During the interview process, the researcher initially scheduled formal meetings and then asked the research participants to sign interview consent forms and informed consent forms. Subsequently, the researcher sought the participants' willingness to be audio recorded using a voice recorder. The interviews lasted for 30-60 minutes. The interview process took place from April 1 to April 15, 2023.

4. Research Results

What are the driving factors contributing to the growth of InsurTech?

Table 1: Driving Factors

Rank	Driving Factors behind the Growth of InsurTech	Frequency
1	Changes in consumer behaviour	32
2	Improvement of efficiency	21
3	Regulations	10
4	Technological development	5

In recent years, experts have observed significant shifts in the Indonesian insurance industry. InsurTech, defined as the use of technology to enhance efficiency, accessibility, and the overall consumer experience within the insurance industry, is starting to become the standard practice. There are several factors mentioned by participants that drive the growth of InsurTech in Indonesia.

The most frequently cited factor is the changes in consumer behaviour, particularly in terms of new target market for the insurance industry. The target has now shifted towards millennials and generation Z, who exhibit higher levels of financial literacy, including a keen understanding of the significance of long-term financial protection.

Millennials and generation Z are renowned for their strong connection with information technology. Both generations are deeply integrated with the internet and mobile devices in their daily lives, leading to the digitalisation of everything. Consequently, insurance companies view InsurTech as a means to establish relevance with the lifestyles of these generations. According to participant P5, "The primary objective for the insurance industry through their InsurTech should be to align our industry with their lifestyle." By fostering this relevance, insurance companies can introduce their products, increase awareness regarding the importance of insurance, and encourage them to purchase policies.

Participant P4 said, "If young people nowadays already recognise the importance of insurance, they most certainly will not opt for the traditional insurance channel." One of the traditional insurance channels necessitates interaction between insurance agents and potential consumers, which involves the agents explaining and recommending insurance products as well as assisting potential consumers in selecting products that suit their needs. There is also telemarketing, which directly offers products over the phone. According to participant P8, this channel has witnessed a significant decline and has been replaced by digital channels. "...telemarketing is now a thing of the past; phone calls have been replaced with digital methods."

According to Njegomir and Demko-Rihter (2023), the hesitance of millennials and generation Z to utilise traditional insurance channels arises from the belief that these channels represent an inefficient means of obtaining information. In addition, they perceive these channels as restricting potential consumers from seeking comprehensive information about insurance products, owing to the presence of agents/telemarketers acting as gatekeepers. They think that insurance agents may exhibit bias and impede them from obtaining comprehensive and objective information necessary for making a decision. This perspective emerges because both of these generations are accustomed to technology and easy access to information. This sentiment aligns with the statement of participant 4, "Yes, consumers want it fast, and then they want to receive comprehensive information."

Draft: While changes in consumer behaviour are viewed as an external factor driving the growth of InsurTech, improvement of efficiency stands out as an internal factor. Insurance companies seem to be realising that their operations have been far from efficient. For instance, traditional insurance channels like insurance agents compel companies to pay substantial commissions for every policy purchased by consumers (Neale, Drake, and Konstantopoulos, 2020). InsurTech can reduce the need for agents by allowing insurance companies to connect directly with consumers. Consumers can also register directly to take out an insurance policy using applications and smart contract technology.

Participant P1 explained the process of taking out a policy using InsurTech, "If someone wants to get insurance, they just need to photocopy their ID card. They send it over and ask for coverage of 100 million for personal accidents. Now, the insurance company will look at the photocopy of the ID card, maybe a photo of the person as well. They will review it, then send the policy, send the invoice for... What is it called... The policy payment. So, once it is paid, they will then provide the proof of payment to the insured party. That is it. As such, the policy issuance process, from registration onwards, can already be done through such applications, which is happening now in some insurance companies."

Furthermore, in traditional insurance, claim costs tend to be high due to factors like the cost of offline outpatient consultations with general practitioners or specialists for conditions that only require medications, as well as doctors overprescribing medications to insured consumers (Neale, Drake, and Konstantopoulos, 2020).

By utilising InsurTech, consumers can be directed towards online outpatient consultations and receive medications before being referred for offline consultations if specialised treatment is necessary. These online consultations can be managed by the insurance company, effectively preventing overprescription. As stated by participant P4, "But if it is through an application (InsurTech), the people who will use the application will all be under our control. That way, we can control them to ensure that medications and other treatment are given out appropriately, so... in the future, this will certainly reduce the value of those claims."

Apart from the issue of cost efficiency, process and time efficiency also leave much to be desired. traditional insurance involves lengthy procedures. Typically, when visiting a hospital for outpatient care, insured consumers need time to determine whether the procedure will be covered. Even after completing the procedure and filling a prescription, this process takes a

considerable amount of time, as pharmacies await approval from the insurance company for the prescribed medication. Longer time is required, even for consumers undergoing inpatient care.

InsurTech is considered by insurance companies as a means to enhance process and time efficiency. Participant P1 stated, "Technological advancements make the policy issuance process, claims payment process, and claims handling more efficient." For instance, consumers can engage in online chats with the insurance team via an application to determine if a procedure will be covered. After the procedure, consumers can receive their medication through the application, which will be delivered to their homes, eliminating the need to wait at the hospital. This efficiency can reduce complexity in the insurance companies' supply chain, enhancing the consumer experience, potentially influencing satisfaction and loyalty.

Insurance companies try to improve efficiency not only to achieve customer satisfaction and loyalty but also to reduce operational costs. InsurTech allows for the elimination of agents or other intermediaries between companies and consumers, reducing the workforce needed to run the insurance companies' supply chain from start to finish, and cutting claim costs by providing greater control over the process. Consequently, they can offer lower premiums to consumers and encourage more individuals to take out policies. This even enables insurance companies to increase profit margins (Chang, 2023).

According to participant P3, "For the insurer, if the InsurTech is truly effective and efficient, it certainly reduces costs. It is because the business process becomes more effective and efficient. So, the costs are reduced. Then, it also opens up opportunities to reach a customer base that was previously untapped, like millennials, new millennials, and so on. Then... So, the business process becomes faster, more efficient, then open new markets by reaching customers who were previously untapped. And then, well, it is all about operational efficiency. That is if InsurTech is applied in various aspects of their business. That is it. So, in the end, costs go down, and profits go up."

However, some participants emphasise that not all insurance products can have their efficiency improved with InsurTech. For products categorised as major risk and giant risk, most aspects still need to be handled traditionally. According to participant P3, "It cannot be done online because the risks are complex. But there are aspects that can be digitised and done online. Those certainly exist. But not the sales part, it cannot be replaced."

Another factor driving the development of InsurTech is regulation. Unfortunately, in Indonesia, regulations related to aspects within InsurTech are non-existent. This conclusion arises from the question posed to participant P8, "Our regulations, not just in insurance, but regulations regarding two things. First, electronic signatures still are not recognised. Then, the stamp... Now, e-stamps are recognised, if I am not mistaken. If I recall correctly, e-stamps are already recognised, but signatures are not. That is inconvenient. If it is not banks, right? I do not know about banks, but for online loans, now you can take a photo while holding your ID card. It is possible to do so right now. But for insurance, that's not the case." With a lack of supportive regulations, it is difficult for insurance companies to adopt suitable technology into their supply chains.

The absence of supportive regulations poses a significant challenge for insurance companies looking to integrate appropriate technologies into their supply chains. It is crucial to note that the perspective shared by participant P8 might reflect a pre-Law No. 4/2023 on Financial Sector Development and Strengthening scenario. This legislation now explicitly allows the electronic and digital submission of insurance documents to policyholders. However, the historical context highlighted by P8 underscores the hindrance that regulatory gaps presented before the introduction of this law. Despite recent advancements, these challenges underline the importance of ongoing regulatory adaptation to foster a conducive environment for InsurTech innovation and adoption within Indonesia's insurance sector.

Besides regulation, several participants stated that InsurTech continues to grow due to the availability of advanced technology. In comparison to recent years, current technology is now better suited to be applied in the insurance industry, addressing pain points for both companies and consumers. For example, big data, analytics, artificial intelligence, and blockchain technology offer opportunities for insurance companies to make their operations more effective and extend their market reach.

In terms of data processing, big data and analytics technologies assist insurance companies in swiftly and accurately gathering, managing, and analysing data. As a result, insurance companies can make better decisions and provide solutions that are more well-suited to consumer needs (Neale, Drake, and Konstantopoulos, 2020). Meanwhile, artificial intelligence technology aids insurance companies in improving the claim process, evaluating risks, and delivering more appropriate product recommendations tailored to individual consumer requirements. Lastly, blockchain technology can also support insurance companies in increasing data transparency and security, thereby

reducing risks of fraud and strengthening consumer trust in insurance products.

Yet another driving factor is the emergence of new competitors adopting InsurTech. Participant P4 said, 'Numerous new start-ups have the potential to transform the business models of insurance companies themselves. Previously, we interacted with customers through agencies, branch offices, and insurance officers within banks. One day, the interactions might be fully virtual." This statement implies that the presence of insurance start-ups that are already employing InsurTech-related business models serves as a catalyst within the industry, compelling traditional insurance companies to adapt to the changing landscape.

Does InsurTech have the potential to stimulate innovation in business models?

Most participants stated that InsurTech has the potential to stimulate innovation in business models. However, so far, InsurTech has just affected the consumer aspects of business models, namely in terms of how products are offered to them.

Traditionally, insurance companies offer their products through four channels, including agents, brokers, bancassurance, and telemarketing. InsurTech may reduce insurance companies' dependence on agents and telemarketing. This advantage, according to participant P1, has served as a solution in responding to the common challenges faced by traditional insurance. "These traditional insurance industry actors do not dare to have direct interaction with their customers or policyholders." By using digital advertisements, insurance companies may connect directly with consumers to further guide them to access the website or interact with chatbots. Both are able to provide consumers with complete information about the insurance products. If consumers take an interest in them and decide to purchase a policy, it can be done directly through a website or application.

The direct relationship between an insurance company and consumers offers speed and ease as a new value proposition to the latter. It is as stated by participant P4 that "it used to take 2-3 days for people to sign up for insurance, but now it can be done in just a day or even an hour." In addition, this allows insurance companies to cut intermediary costs, leading to a more affordable insurance premium.

Besides, it is said that InsurTech could prevent fraud that often occurs through agents as one of the traditional insurance channels. Since InsurTech

enables insurance companies and consumers to interact directly, consumers can manage the payment process of policy and the claim process on their own. There was once an incident where an agent did not deliver the policy payment received from a consumer to the company. As participant P1 said, “It turned out that the consumer was dealing with a fake broker or a fake agent, the consumer had paid the amount but just as the consumer was about to claim it, the broker ran away.”

For example, in a scenario where a consumer, left without assistance from the agent during the claim process, felt disillusioned, perceiving that the initially promised benefits were not obtained. Such occurrences are often associated with agents engaging in overselling practices. Insurance overselling transpires when an agent persuades or convinces a consumer to purchase a policy by offering a broader range of benefits or coverage than the consumer genuinely needs or desires.

Overselling in insurance can be driven by various factors, including pressure to achieve sales targets, a desire for higher commission profits, or a lack of knowledge about insurance products and selling experience. This practice results in consumers paying higher premiums for benefits they neither need nor want, leading to financial losses. The issue of insurance overselling poses a significant challenge as it breaches customer trust in the insurance industry (Tennyson, 2008).

While the adoption of InsurTech does not directly eliminate the practice of overselling, it significantly contributes to mitigating this risk. For instance, through advanced technological solutions, InsurTech ensures that consumers have access to comprehensive information, empowering them to make informed and objective decisions based on the actual benefits outlined in the policy. To illustrate, consider a scenario where an InsurTech platform provides a detailed breakdown of coverage, offering specific examples and scenarios relevant to the consumer's needs.

Moreover, InsurTech facilitates transparency in the sales process, making the communication of policy details, terms, and conditions more streamlined. For example, interactive digital platforms can present policy information in a user-friendly manner, allowing consumers to navigate through complex details with ease. This transparency not only builds trust but also reduces the likelihood of consumers falling victim to overselling practices.

However, participants believe that InsurTech has the potential to change business models in the future to grow even more advanced by entering the end-

to-end supply chain and changing the making process of the value proposition as well as the offering process of the new one. For instance, by providing online consultation with doctors for consumers and immediate medicine delivery to their home addresses. If the patients seem to be needing an offline triage, online doctors may refer them to the appropriate specialist. traditionally, consumers might spend a very long time in the health facility to wait and receive treatment due to administrative matters related to insurance. This aligns with participant P2's statement that "with this complexity, it is probably safe to say that the policyholder might stuck in the hospital for 2-3 hours not for the treatment process with the doctor but rather to merely wait for their turn to come in and leave."

On one hand, this could increase speed and ease for consumers to receive health services. On the other hand, this could reduce insurance companies' claims-handling costs owing to its capability to control both the cost and the process. In traditional insurance, consumers often directly visit general practitioners/ specialists. It is without a doubt that there is a huge difference between offline and online doctor's fees and a tendency of overprescription charged to insurance consumers. These two factors alone are enough to cost an expensive claim expense. Not to mention if consumers visit a specialist who is not able to give a solution according to his/her condition and has no other choice but to refer them to another specialist. It is explained by P4 that "in truth, InsurTech could reduce the claim costs by leveraging online consultation. This way, the cost will be relatively cheaper, will it not? Sometimes, they are clearly aware of our large insurance, so they do not think twice and just go for it. They proceed to prescribe unnecessary medicines, the ones we do not need. But through an application, people who access it will fall under our control. So, we could supervise them and make sure that they prescribe medicines accordingly so that the claim costs could be reduced. So, this way, the premium will be a lot cheaper, right?" Hence, aside from speed and ease, InsurTech allows insurance companies to add affordable costs as another value proposition. To companies, it also creates a possibility to increase profitability through higher profit margins and to reach a wider market.

Furthermore, several participants stated that how InsurTech changes the end-to-end supply chain of insurance companies could significantly reduce demand for labour. With the existence of InsurTech, a lot of roles that used to be required to run traditional insurance will no longer exist. An example of this phenomenon occurred in Adira Insurance. Participant P1 said, "Back then in Adira, I used to witness a downsizing because there was no need for people to act as claim surveyors. Not anymore. It was enough by merely checking the images anyway. Then, they also eliminated the branches that used to exist." In

the era of imaging technology and ease of sending images via application, companies no longer need surveyors to come and directly check the vehicle condition before approving the claim. Again, it naturally increases efficiency in insurance companies' operational costs.

What gaps exist between the current insurance business model and the models needed for development, considering the initial emergence of InsurTech in the industry?

Table 2: Gap

Rank	Gap	Frequency
1	Underdeveloped business models leading to low technology adoption	20
2	Lack of will to innovate	19
3	Inadequately prepared human resources	10
4	Incompatible product characteristics	10

From the interview, four gaps are found between the traditional insurance business model and the models needed to develop InsurTech, including the underdeveloped business model that makes technology adoption difficult to proceed, the lack of company superiors' will to innovate, inadequately prepared human resources, and high product risks.

Participant P3 stated that "technology adoption in the insurance industry is underdeveloped and so are its core system and operating system. Everything. Hence, to participate in this InsurTech movement, the insurance industry still has a long way to go. Let's say, a business uses InsurTech from a certain region, from a particular customer base, with a specific system. But since it is an underdeveloped system, it cannot connect to the core system." From participant P3's statement, it can be concluded that the shortcoming of the traditional insurance business model is its underdeveloped technology adoption, along with the underdeveloped core and operating systems. It makes new technology adoption, like InsurTech, difficult to occur as traditional insurance systems cannot integrate with more modern and innovative new systems. This gap may cause traditional insurance to lose opportunities to develop and meet the increasing consumer needs.

Moreover, if InsurTech is forcefully implemented on the core system and operating system of underdeveloped traditional insurance, it will bring about ineffectiveness. This is due to the existing system might be unable to support

new features required by the new technology. Not to mention the complicated system integration and time-consuming process which in turn could hinder the new technology adoption. Sosa and Montes (2022) stated that if forced, it may cause chaos instead, leading to declining performance due to employees' confusion in facing changes and incompatibility between core and operating systems with the new technology.

Moreover, a significant gap has emerged due to the mindset and behaviour of the company's leadership. Participant P4 highlighted that "the decision-makers in the company harbour a perception that innovation is both risky and expensive, leading to a reluctance to display the necessary agility to embrace new technologies and adapt to evolving market demands." This assertion underscores a palpable lack of willingness among the insurance company's superiors to innovate using InsurTech. This hesitancy appears rooted in their acknowledgment of the underdeveloped nature of the company's core and operating systems, dissuading them from making substantial investments and assuming high risks for full-scale InsurTech implementation. This perspective aligns with the insights of Imerman and Fabozzi (2020), who identify key factors influencing the decisions of company superiors regarding innovation, including the availability of budget for investments, the company's adaptability to technological changes, and concerns about product risks and company performance.

Several participants stated that the unreadiness of the human resources within the insurance company to develop and implement InsurTech could hinder its development. Participant P3 said, "That is the second gap. This is because we do not have human resource quality with creative and innovative thinking capability but still proceed with InsurTech or technology adoption for their businesses." The development and implementation of new technology, such as InsurTech, require human resources with sufficient knowledge and skills in information, data science, and digital marketing technology. However, not every insurance company has adequate human resources in such fields. Additionally, required skills training and development also cost quite a lot.

Other than the aforementioned factors, another factor influencing the gap is related to product characteristics. Certain characteristics within the product make it difficult to be implemented in InsurTech. Let's take an example from the products under the major and giant risk categories. Participant P1 said, "So, it is safe to say that the products to be included in the application are only the simple ones, not those classified as complicated or containing giant risks. I personally think those products can never be included in the application. It is impossible since it requires surveys in many kinds of places. Therefore, today

there are a lot of insurance companies that create an application for simple insurance products." Hence, this implies that risk assessment and premium value on the policy cannot be set by providing basic data. Insurance companies need to bring in surveyors to conduct risk and premium value assessments. Moreover, it requires multiple visits by the surveyor to ensure that the existing policy is not detrimental to both the company and the consumer.

On the contrary, participant P6 asserted that InsurTech may not find suitable application in products encompassing not only pure protection but also unit links. Since unit links constitute an investment product, an agent needs to meet with the consumer to determine his/her profile as an investor and put him/her into a category based on whether they are capable of taking aggressive, moderate, or low investment risks or not, so that the agent can offer the appropriate product. In addition, when consumers are interested in purchasing a product with unit links, the agent needs to confirm the consumer's understanding of the product offered. Therefore, participant P6 stated that "The InsurTech is utilised for appointment purposes. So, they search for the agent who is currently closest to their proximity and able to make a visit." This view implies that technology can only be implemented as a gateway to draw consumers in, building their curiosity to know more about insurance products.

In a similar vein, for insurance products with comparable complexity, such as variable annuities, where investment components intertwine with protection features, a personalised approach is crucial. Agents need to assess investors' profiles, determine their risk tolerance, and tailor product recommendations accordingly. This complex nature necessitates direct interaction to ensure consumers fully grasp the intricacies of the product. Thus, the use of technology, including InsurTech, may be more limited in these scenarios, emphasising the continued importance of human engagement in conveying nuanced information about intricate insurance products.

What capabilities do existing insurance companies need to close the identified gap?

Table 3: Required capabilities

Rank	Gap	Frequency
1	Creativity and innovation	28
2	Leadership that is open to changes	17
3	Receptiveness for collaboration	12

To bridge the gap between the current business model and the integration of InsurTech, insurance companies must enhance their creativity and innovation capabilities, as emphasised by participant P3. According to P3, "An insurance company that truly possesses the capability to identify problems and find creative and innovative solutions is a prerequisite." This aligns with the findings of Izzo, Tomnyuk, and Lombardo (2021), who underscore the paramount importance of creativity and innovation in addressing challenges faced by insurance companies adopting InsurTech.

In light of these insights, insurance companies must explore novel strategies and innovations to create products and services that add value for consumers, thereby enhancing their competitiveness in the market (Capozza and Divella, 2018). This involves the application of innovative approaches in designing and developing insurance products, incorporating data analytics, machine learning, and blockchain technology to enhance the efficiency and security of business processes.

Furthermore, acknowledging the broader potential of InsurTech, insurance companies should optimise its use to support various business processes within the insurance sector. Beyond research and development of insurance products, InsurTech can play a pivotal role in enhancing distribution, marketing, business acquisition processes, and after-sales services, including the efficient handling of claims. To fully leverage the benefits of InsurTech, insurance companies should foster collaborations with InsurTech start-ups and other technology firms, tapping into the latest advancements to accelerate the innovation process.

Collaboration is also mentioned by the participants as a capability that must be possessed by insurance companies to adopt technology to the fullest. Participant P4 stated, “We need a collaboration of all stakeholders, including insurance, insurance agents, and technology.” Collaboration can serve as a solution for insurance companies to tackle the issue of limited resources and accelerate InsurTech technology adoption process. Within this collaboration, insurance companies can work together with InsurTech technology start-ups that possess expertise and resources that are more focused on technology development.

In the context of Indonesia, insurance companies not only partner with InsurTech startups but also engage in collaborations with stakeholders in the digital ecosystem, including e-commerce and on-demand multi-service platforms. Such collaborations serve to expand the insurance company's target market and enable the attainment of optimal economies of scale in its digital

operations. Moreover, insurance companies may also cooperate with regulators and the government to create a regulation that supports a balanced and controlled InsurTech technology adoption. Therefore, collaboration may expedite InsurTech technology adoption and open new opportunities for insurance companies to compete and reinforce their business models (Nayak and Bhattacharyya, 2020).

Furthermore, recognising that every company operates within the constraints of limited resources, participant P3 aptly emphasises the need for collaboration to address complex challenges. The participant notes, "It (an insurance company) has problems but it cannot resolve all of them on its own, it needs help. And for that, it must be able to collaborate with others." Opting to enhance internal resources before embracing technological adoption could potentially leave a company lagging behind in the fast-paced industry landscape.

Choosing collaboration offers a strategic advantage as insurance companies can achieve cost efficiency by tapping into external resources, sparing them the need for substantial investments in new resources or hiring additional personnel for technology development. Moreover, collaboration enables companies to share the burden of risk costs with their partners, resulting in a reduction of the financial burden they would otherwise bear independently.

However, it is crucial to highlight that collaboration between InsurTech start-ups and insurance companies, without a simultaneous enhancement of the technological capabilities of the latter, may weaken the bargaining position of insurance companies. This could lead to sizable commissions being ceded to InsurTech start-ups, potentially leaving companies with insufficient premiums to adequately cover future claims. Therefore, while collaboration presents significant benefits, it necessitates a strategic approach, ensuring that insurance companies bolster their technological capabilities to maintain a strong negotiating position and long-term sustainability.

In the collaboration, creativity, innovation, and receptiveness should be achieved. Yet, it is hard without leadership that is open to changes. Participant P6 stated, "If the company is not open (to changes), if the company also wants the status quo to run or such, then they will not succeed. In this case, it is either the management or the owner is lacking in will. Let's say, we are not talking about the management since they usually follow what the owner wants. Now, if the owner himself does not want it, it will not proceed. It is a big investment after all." Leadership that is open to change is highly vital in adopting InsurTech

technology. Without support from the management or the company's owner, it will be difficult for the team or department that wants to develop or implement new technology to make significant changes in the company (Toufaily, Zalan, and Dhaou, 2021). Besides, without the management's support, it will be tough to allocate the resources required to develop or implement InsurTech technology. Therefore, leadership that is open to change is of major importance in ensuring the success of InsurTech technology adoption and obtaining benefits from that innovation.

Furthermore, open leadership may also influence the company's culture. If the company's owner is not open to change, employees will automatically adopt that mindset. This may hinder InsurTech development within the company since employees will be less motivated to experience something new and innovate, and will not dare to collaborate (Dasgupta and Gupta, 2019). On the contrary, if the company's owner is open to change and innovation, employees will be encouraged to try out something new and innovate, and vigorously collaborate with different parties to achieve innovation acceleration. Hence, it will be easier for the company to adopt InsurTech and expedite its business growth.

Yet, it is important to note that collaboration between InsurTech start-ups and insurance companies that is not accompanied by an increase in the technological capabilities of insurance companies means that insurance companies do not have a high bargaining position, so that companies are forced to give very large commissions to InsurTech start-ups, which in the end can make insufficient premiums to cover claims that arise in the future.

5. Conclusion

In conclusion, the growth of InsurTech in Indonesia is driven by several key factors, with changes in consumer behaviour being the most prominent. The shift in target markets towards millennials and generation Z, who are technologically savvy and value efficiency, has led insurance companies to embrace InsurTech as a means to align with their lifestyles. This shift is also influenced by the perception that traditional insurance channels are inefficient and may limit access to comprehensive information.

Improvement of efficiency is another significant factor, both in terms of operational processes and cost reduction. InsurTech enables insurance companies to connect directly with consumers, streamlining the policy issuance and claims processes. The efficiency gains extend to reducing claim costs, preventing overprescription, and enhancing overall customer experience.

The desire to reach new customer bases, particularly millennials, and achieve operational efficiency motivates insurance companies to invest in InsurTech.

Regulations and technological advancements play crucial roles in the growth of InsurTech. While the absence of supportive regulations in Indonesia poses a challenge, technological advancements such as big data, analytics, artificial intelligence, and blockchain create opportunities for innovation and improved efficiency within the insurance industry.

InsurTech's potential to stimulate innovation in business models is evident, primarily in the consumer-facing aspects of how insurance products are offered. The direct relationship between insurance companies and consumers, facilitated by InsurTech, offers speed, ease, and transparency. It addresses challenges such as insurance overselling, fraud prevention, and enhances trust by providing comprehensive information and transparent communication.

However, participants also foresee the potential for InsurTech to evolve further, influencing the end-to-end supply chain and altering the entire value proposition and offering process. This includes possibilities like online consultations with doctors, immediate medicine delivery, and a more streamlined claims-handling process. InsurTech not only improves customer experience but also has the potential to reduce operational costs and increase profitability for insurance companies.

Identified gaps between the current insurance business model and the models needed for InsurTech development include underdeveloped business models, a lack of will to innovate, inadequately prepared human resources, and issues related to product characteristics. To address these gaps, insurance companies need to enhance their capabilities in creativity and innovation, leadership openness to change, and receptiveness to collaboration. These capabilities are crucial for navigating the challenges posed by underdeveloped technology adoption, reluctance to innovate, resource limitations, and product complexity.

The successful adoption and growth of InsurTech in Indonesia hinge on the insurance industry's ability to adapt to changing consumer behaviours, improve operational efficiency, navigate regulatory challenges, and embrace technological advancements. Closing the identified gaps requires a holistic approach that combines creative and innovative thinking, supportive leadership, and collaborative efforts within the industry and the broader digital ecosystem. InsurTech holds significant promise for reshaping the insurance landscape in Indonesia, offering not only enhanced customer experiences but

also opportunities for operational optimisation and sustainable business growth.

Traditional Insurance Business Model

The following is the explanation of the traditional business model of insurance companies formulated by the researcher based on the qualitative study result using the business model components by Gassmann (2020):

1. Who are the consumers?
   Insurance company's consumers are individuals who want to transfer risks they own to the insurer by paying a certain amount of premium. The traditional insurance company's distribution is more limited than during the existence of InsurTech.

2. What values does it offer customers?
   What the traditional insurance business model offers to policyholders is the payment of some benefits when the policyholders submit a claim. However, this process tends to take a long time and is not efficient in traditional insurance companies.

3. How does it create a value proposition?
   Insurance companies provide risk-pooling and premium calculation services, administrative, consumer data storage, claim payment, and insurance policy surrender services. The process currently running in traditional insurance companies tends to be less efficient since many of them are done manually.

4. How does it acquire a source of income?
   The source of income is acquired from incoming premiums as well as investments. However, the penetration remains relatively low and there are opportunities to increase income.

Recommended Business Model Innovations

The following part includes an elaboration on the recommended business model based on the qualitative study results using the business model components by Gassmann (2020). It is meticulously crafted to confront challenges and seize opportunities unearthed through comprehensive research. An exploration of the correlation between this proposed model and research outcomes reveals a nuanced understanding of various critical aspects.

1. Who are the consumers?
   InsurTech consumer targets are tech-savvy people and policyholders whose activities and lifestyles are not well-reflected on traditional insurance contracts. Such policyholders prefer more flexible and personal policies. With the rise of InsurTech, the insurance industry has developed three markets: online sales marketplace, technology-based products market, and ecology-oriented products market (Hao, 2019). This shift in target consumers, from a general audience to specific segments, aligns seamlessly with the identified change in consumer behaviour, particularly among millennials and generation Z, who prioritise efficiency and personalised services.

2. What values does it offer customers?
   InsurTech provides instant, digital, and flexible services, thus consumers do not have to pay for the coverage they do not need, hence a cheaper premium. Also, the claim submission process is more practical and simpler due to the minimum use of paper and its flexibility to be settled via handphone, application, or website. The premium withdrawal process is also more transparent since policyholders can digitally track it in a real-time manner. The correlation with InsurTech lies in the adoption of technology to streamline processes. InsurTech leverages advanced technologies, addressing the need for operational efficiency identified in the research. Insurance companies may also add gamification effects to their InsurTech system, making people's insurance experience more exciting. More consumers will be interested as InsurTech can help improve and expand risk prevention services (Chester et al., 2018).

3. How does it create a value proposition?
   InsurTech, the fusion of technology with insurance, has revolutionised the industry by reshaping product design, underwriting processes, and claims handling. Telematics, in product design, utilises devices to monitor policyholders' behaviour, allowing for personalised premiums based on factors like driving habits. Parametric products streamline claims processing by paying out based on predefined parameters, reducing the time compared to traditional assessments.

   In underwriting, machine learning analyses extensive datasets to accurately assess risk. Automation, facilitated by chatbots, expedites risk assessment, accelerating the underwriting process and minimising errors. These technologies not only enhance efficiency but also contribute to more informed decision-making in risk evaluation.

Claims handling sees the pivotal roles of image processing and IoT. Image processing swiftly evaluates damages through submitted visuals, while IoT devices, such as sensors, provide real-time incident data, expediting the entire claims process. Smart contracts, operating on blockchain, automate claims processing by executing themselves when predefined conditions are met, reducing manual intervention and hastening payouts.

In data collection and analysis, insurers leverage IoT devices like smartwatches to gather real-time data on policyholders. This aids in risk comprehension, facilitates personalised offerings, and supports incentive programs. To navigate these technologies successfully, insurers must invest in data science, AI capabilities, and collaborate with technology providers. Furthermore, a robust cybersecurity framework is imperative to safeguard sensitive data, ensuring the seamless and secure adoption of InsurTech solutions. A study by Geissbauer (2016) underscores that InsurTech adoption increases work efficiency, reduces fraud, expands customer reach through new distribution channels, and fosters improved consumer experiences.

4. How does it acquire a source of income?
   Income generation in the traditional insurance model hinges on premiums and investments, presenting opportunities for growth. In contrast, the InsurTech model embraces a multifaceted technological approach, recognising various tech-driven avenues for revenue enhancement. The integration of advanced technologies extends beyond the Internet of Things (IoT) and encompasses a spectrum of cutting-edge solutions.

   InsurTech leverages IoT not only for dynamic pricing but also for comprehensive data collection from diverse sources, including smart devices, wearables, and connected systems. This wealth of data facilitates a granular understanding of user behaviour, lifestyle patterns, and risk factors. Machine learning algorithms analyse this data to refine risk profiling, enabling insurers to tailor coverage plans with unparalleled precision (Chester et al., 2018).

   Smart contracts, another technological cornerstone, streamline and automate policy-related processes. They ensure transparency, accuracy, and efficiency in the execution of contractual terms, minimising manual intervention and significantly reducing the potential for errors. This automation not only expedites administrative tasks but also contributes to a seamless and responsive customer experience.

   The use of artificial intelligence (AI) further amplifies the capabilities of InsurTech. AI-driven chatbots, for instance, enhance customer interactions by

providing instant support, addressing queries, and even facilitating the claims process. Natural Language Processing (NLP) within these systems ensures nuanced communication, contributing to improved customer satisfaction and trust. Moreover, blockchain technology plays a pivotal role in enhancing transparency and security within the InsurTech ecosystem. Blockchain's decentralised ledger ensures the integrity of transactions, reduces fraud risks, and expedites the claims settlement process. This not only fosters a higher level of trust between insurers and policyholders but also contributes to operational efficiency.

The emphasis on technology in revenue generation aligns seamlessly with the research's overarching theme of cost efficiency, flexibility, speed, and scalability. InsurTech's holistic adoption of IoT, machine learning, AI, and blockchain collectively transforms the traditional revenue model. It introduces a paradigm where technology is not merely a supportive element but a fundamental driver of innovation, enabling insurers to adapt swiftly to evolving market dynamics and customer expectations.

Recommendations

1. It must be noted that the compatibility of all new technologies does not always happen right away with insurance companies' established business models. To reach the right position in the existing insurance business model ecosystem, selecting a suitable partner serves as a very important factor (Greineder et al., 2020). Meanwhile, the company adopts digital innovation to reduce costs by optimising its operational function. However, it turns out that in practice, the readiness to experience a digital transformation journey is not guaranteed for all companies. This transformation might even put their regular activities at stake instead (Bittini et al., 2022). Therefore, external parties are also needed to support the development of InsurTech. The government, regulators, institutions such as the World Bank, and private sectors need to cooperate to create a framework where InsurTech can be developed to improve financial resilience and inclusion (Holliday, 2019). As for the internal aspect, companies need to provide qualified human resources since the internal issue that InsurTech companies might face is in the form of difficulty in finding high-quality local talents with capabilities (Lin & Chen, 2020).

2. Consumers also need to be convinced to welcome the insurance company's new business model with the rise of InsurTech. They must be assured that their preferences when purchasing insurance either from InsurTech start-ups or established companies are all safe (Koprivica, 2018). From the consumer

side, fraud will always remain an issue in the insurance industry that strongly relies on the customer's trust. Frankly, InsurTech provides a way out of this and will have a huge market in developing countries. It is owing to InsurTech companies' ability to leverage digital technology to settle claims faster, improve customer services, and reduce the risk of additional costs being accumulated. Today, policyholders are also able to take photos or videos using their phones, and even conduct a remote loss adjuster (Holliday, 2019). Delivering messages to buyers regarding InsurTech's efficiency may increase sales since they also need such services. Moreover, today's insurance buyers are already well-versed in technology.

3. While InsurTech is designed to increase industry efficiency, its rapid development also poses several new risks, such as cybersecurity. Cybercriminals may use stolen identity to obtain policies or perform account takeover, then proceed to make a false claim or change the payment recipient's information to receive the claim fund (Lin & Chen, 2020). Regardless of the argument by Norton LifeLock (2018) that awareness of privacy and security grows among technologically literate customers, most people are still willing to accept risks of data leakage and sell or give certain personal information to companies, such as location information and internet browsing history, and give up their own security to such risks for convenience and practicality. Insurance companies must be able to anticipate cyber risks and customer's lack of awareness. Insurance companies need to maintain customer's trust to ensure the InsurTech industry's continuous growth. In principle, when faced with this kind of cyber risk challenge, policyholders must remain a priority (Bittini et al., 2022).

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