

# Insurance Technology (Insurtech): A Momentum to Restore Public Trust in Insurance During Pandemic

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## Abstract

Indonesia is one of the countries experiencing an economic crisis due to the Corona pandemic. Although the Covid-19 pandemic has had a negative impact on various industrial sectors, in fact in the midst of this pandemic and economic uncertainty, the Insurance technology (insurtech) sector or technology-based insurance is actually experiencing rapid growth in Indonesia, this is because public awareness of the importance of health protection is increasing during the pandemic. This study aims to analyze the creation of a relationship between technology related, knowledge related, and trust related in insurtech through collaboration in utilizing digital platforms that are popular in the market, both e-commerce platforms, ride-hailing platforms, and insurance platforms.

## Keywords

Technology Related, Knowledge Related, Trust Related, Insurtech, Platform E-Commerce

## 1. Introduction

According to the 2020 Central Statistics Agency (BPS) report, Indonesia is one of the countries experiencing an economic crisis due to the Corona pandemic from April to October 2020. Although the Covid-19 pandemic has had a negative impact on various industrial sectors, in fact, in the midst of this pandemic and economic uncertainty, the Insurance technology (insurtech) sector or technology-based insurance is actually experiencing rapid growth in Indonesia. According to the Head of the Insurtech Department of the Indonesian Life Insurance Association (AAJI), the trend of health insurance continues to improve during the pandemic. This is indicated by the increasing number of premiums distributed by the industry and the lower number of claims from 2019 until the first half of 2021.

It was explained that the distribution of health insurance premiums in 2020 reached Rp 11.74 trillion, an increase of 11 percent on an annual basis. Meanwhile, premiums until the first quarter of 2021 have reached Rp 7.39 trillion or more than 50 percent from the previous year. Then, the total claim payments are also recorded to decrease every year. Payments for group and individual health insurance claims in 2020 were recorded at Rp 9.88 trillion. This amount is smaller than the premiums earned and decreased when compared to claims in 2019 which reached Rp 11.71 trillion. Meanwhile, the total claim payments until mid-2021 reached Rp 5.41 trillion.

The reason for this increasing trend is that public awareness of the importance of health protection has increased during the pandemic. Second, the Indonesian people are starting to adapt to digital services such as the mushrooming trend embedded finances such as retail investment applications to online loan applications that are widely used by the public when they start working from home. Apart from that, Indonesia is the third largest country in Asia that has internet users, around 212 million people. almost 90% of Indonesians use the internet. So it's not surprising that Indonesia is the fastest country to adapt to the shift from conventional culture to digital.

Insurtech (Insurance Technology), basically changing the insurance industry radically and positively through digital technology innovation. Insurtech is a combination or collaboration between insurance and technology, where all activities from transactions to insurance claims use technology. With the existence of Insurtech (Insurance technology), it is expected to encourage increased use of insurance products through the provision of simple micro-insurance products that are integrated with e-commerce platforms, making it easier for consumers to access insurance products. Currently, there are many types of Insurtech businesses growing from insurance management to processing, sales, data management, and more. The existence of InsurTech also further boosts the efficiency of the insurance business. In addition to reducing the risk of transmission of Covid-19,

The pandemic makes the challenges to the life insurance industry even greater. This has triggered several insurance companies to fail to pay their customers. For this reason, efforts to restore and increase public confidence in this industry are absolutely necessary. Trust is the main antecedent to taking part in e-commerce (Gefen, 2000). Compared to other consumer-related industries, trust is considered to be more important in insurance settings reflecting interactions in the frequency, complexity of services and the large amount of money that may be at stake (Hocking et al., 2014; Lim et al., 2009; Wang and Lu, 2014). Previous research combining technology acceptance and trust factors to analyze online service adoption has shown that trust and trust attitude play a stronger role in predicting customer intention to use technology than aspects related to perceived usefulness and ease of use. (Benamati et al., 2010; Pavlou, 2003).

Through the technological advantage, it is hoped that Insurtech will be able to answer three main problems that hinder the insurance industry, namely complicated access, difficult claim processes, and unaffordable premiums. Technology will also change the direction of the insurance industry, such as the way services are presented and offered, and the way insurers and customers interact (Deloitte Digital, 2017; O'Mara and Memmo, 2015; Silverberg et al., 2016; Zagorin, 2018). Compared to other industries and even financial services, the insurance industry feels quite lagging behind in the digital transformation changes (O'Mara and Memmo, 2015).

Most of the studies on technology adoption in financial services investigated internet banking customers, whereas a little of the research focused on the insurance industry (Lim et al., 2009; Wang and Lu, 2014; Alsajjan and Dennis, 2010; Grabner-Kräuter and Faullant, 2008; McKechnie et al., 2006). Therefore, this study discusses how the influence of technology related, knowledge related, and trust related to the intention to use which is mediated by technology attitude and trusting attitude on Insurtech users. The topic of this research is considered interesting because the researcher wants to know how the influence of these factors are interrelated.

## 1.1 Objectives

This research activity has priority and is expected to produce managerial implications, including:

- Knowing and identifying what factors have the most influence on technology related, knowledge related, and trust related in insurtech so that insurance products will become more market driven
- To become an information tool regarding the development of insurtech and its role in the future in insurance penetration, especially in increasing awareness of young people or the millennial generation.

## 2. Literature Review

TAM is part of the most important technology acceptance theory in information systems research (Gefen et al., 2003). Although introduced several decades ago, it is still widely used to describe the use of new technologies and the way external variables affect the implementation of an information system (cf. Agrebi and Jallais, 2015; Dachyar et al., 2014; Nurittamont, 2017). Based on social psychology theory, the TAM model assumes that underlying beliefs influence attitudes toward technology use, and that these attitudes in turn predict individuals' intentions to use, as for example online applications (Davis et al., 1989).

Complementing the model from TAM, Gidhagen and Gebert-Persson (2011) show that technology-related, knowledge-related, and trust-related beliefs that underlie beliefs that influence adoption and use of online insurance applications, as well as technology-related, knowledge-related, and trust-related beliefs are underlying beliefs that influence the adoption and use of online insurance applications. Technology-related beliefs are determined by considering perceived usefulness and perceived ease of use.

Perceived ease of use considers how complex the technology is to learn and use, and how it affects perceived usability. If a technology is recognized as easy to understand and use, individuals will be more positive about the value of the technology (Davis et al., 1989). Knowledge-related beliefs refer to how knowledgeable a person is about a product category and using online applications. According to cf. Mayer et al., (1995) beliefs related to knowledge in turn affect trusting attitudes and technology attitudes.

Therefore, internet knowledge, according to Potosky (2007), is a relevant factor to consider. If the customer has little internet knowledge, then they tend to have a skeptical attitude towards online services, and this will have a negative impact on their trust in technology, an attitude which in turn directly affects the customer's intention to use the application in question. Another aspect relates to product complexity

Wang and Lu (2014) find that when products, such as insurance and other financial services, are complex or even unfamiliar, it is difficult for customers to fully understand and use them. This state is here referred to as the level of product knowledge. The lower the level of product knowledge, the higher the fear of customer behavior towards the product. As product knowledge increases, so does customer trust in technology and the company. Therefore, it can be concluded that the more knowledge the customer has about the product, the higher the trust attitude.

Gidhagen and Gebert-Persson (2011) argue that beliefs related to beliefs are formed by three attributes: first, perceived competence relates to how individuals perceive the expertise, skills and knowledge of the provider company and its representatives. Second, perceived benevolence is related to the extent to which individuals perceive the company as wanting to do the best for customers, regardless of any profit motive. Third, perceived integrity relates to the degree to which the company is considered to act in line with a set of principles in running the business. These three attributes have a direct effect on trust attitudes (cf. Chen and Dhillon, 2003).

The TAM model is derived from psychological theory to explain the behavior of information technology users based on belief, attitude, intensity (intention), and user behavior relationship. Where this theory makes a model of a person's behavior as a function of behavioral goals. (Davis et al., 1989).

### 3. Methods

The method used in this paper is quantitative research. Sampling in this study was conducted by non-probability sampling using a purposive sampling approach. Data collection by distributing questionnaires to consumers who have purchased insurance products, then data analysis using SmartPLS 3 software.

In this study, there are five independent variables, namely Perceived Ease of Use (X1), Perceived Usefulness (X2), Internet Knowledge (X3), Product Knowledge (X4), Trusting Beliefs (X5) and two intervening variables, namely Technology Attitude (Z1), Trusting Attitude (Z2), and one dependent variable, namely Intention to Use (Y). This study uses an analysis model description as follows Figure 1:

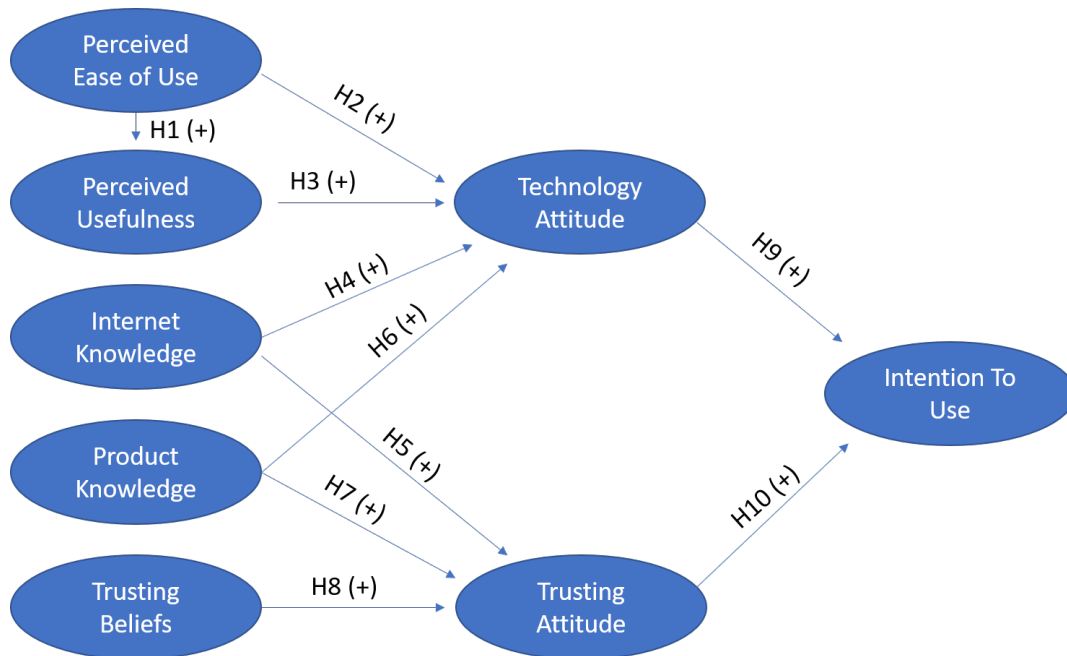


Figure 1. conceptual framework

#### 4. Data collection and processing

Convergent validity analysis is a test used to measure whether or not an indicator is valid (Ghozali, 2016). According to Chin (1998) states that the indicator can be said to be valid if it can measure variables with a value  $> 0.6$ . (Table 1)

**Table 1. Convergent Validity Value**

Variable	Indicator	Outer Loading	Information
<b>Perceived Ease of Use</b>	PEU1	0.726	Valid
	PEU2	0.741	Valid
	PEU3	0.382	Valid
	PEU4	0.712	Valid
<b>Perceived Usefulness</b>	PU1	0.891	Valid
	PU2	0.897	Valid
	PU3	0.797	Valid
	PU4	0.893	Valid
<b>Internet Knowledge</b>	CT1	0.813	Valid
	CT2	0.838	Valid
	CT3	0.837	Valid
	CT4	0.844	Valid
<b>Product Knowledge</b>	PK1	0.835	Valid
	PK2	0.831	Valid
	PK3	0.890	Valid
	PK4	0.823	Valid
	PK5	0.982	Valid
	PK6	0.877	Valid
<b>Trusting Beliefs</b>	TB1	0.745	Valid
	TB2	0.681	Valid
	TB3	0.643	Valid
	TB4	0.840	Valid
	TB5	0.674	Valid
<b>Technology Attitude</b>	Tech1	0.789	Valid
	Tech2	0.890	Valid
	Tech3	0.833	Valid
	Tech4	0.691	Valid
	Tech5	0.749	Valid
	Tech6	0.630	Valid
<b>Trusting Attitude</b>	Trust1	0.726	Valid
	Trust2	0.881	Valid
	Trust3	0.574	Valid
	Trust4	0.599	Valid
	Trust5	0.687	Valid
	Trust6	0.869	Valid
	Trust7	0.931	Valid
<b>Intention to use</b>	IT1	0.923	Valid
	IT2	0.866	Valid
	IT3	0.740	Valid
	IT4	0.685	Valid
	IT5	0.642	Valid
	IT6	0.839	Valid

The measurement of the AVE value can be used to compare each construct with the correlation between other constructs in the model. The AVE value must have a value  $> 0.5$  (Latan and Ghozali, 2014). (Table 2)

**Table 2. AVE Value**

No	Variable	Average Variance Extracted (AVE)
1	Perceived Ease of Use	0.717
2	Perceived Usefulness	0.714
3	Internet Knowledge	0.730
4	Product Knowledge	0.643
5	Trusting Beliefs	0.720
6	Technology Attitude	0.756
7	Intention to use	0.733

Evaluation of composite reliability and Cronbach's alpha can be used to help test reliability. According to Hair et al (2014) data with composite reliability values > 0.7 have high reliability, while Cronbach's alpha values are expected to have values > 0.6. (Table 3)

**Table 3. Composite Reliability and Cronbach's Alpha**

No	Variable	Cronbach's Alpha	Composite Reliability
1	Perceived Ease of Use	0.803	0.828
2	Perceived Usefulness	0.883	0.903
3	Internet Knowledge	0.832	0.859
4	Product Knowledge	0.913	0.823
5	Trusting Beliefs	0.824	0.808
6	Technology Attitude	0.919	0.854
7	Intention to use	0.854	0.830

The inner model is part of the hypothesis testing that is useful for testing the significance of the independent variables on the dependent variable and R-Square (R<sup>2</sup>). According to Ghazali (2016) the value of R<sup>2</sup> has several criteria including weak (0.19), moderate (0.33) and high (0.67). (Table 4)

**Table 4. Analysis of R<sup>2</sup>**

No	Variable	R Square	Criteria
1	Perceived Ease of Use	0.537	Moderate
2	Perceived Usefulness	0.678	Moderate
3	Internet Knowledge	0.567	Moderate
4	Product Knowledge	0.547	Moderate
5	Trusting Beliefs	0.683	Moderate
6	Technology Attitude	0.568	Moderate
7	Intention to use	0.547	Moderate

## 5. Results and Discussion

Hypothesis testing is divided into direct influence and indirect effect. Hypothesis testing in this study was carried out by looking at the T-Statistics value and the P-Values value. The research hypothesis can be declared accepted if the P-Values < 0.05. The following are the results of hypothesis testing obtained in this study through the inner model.

**Table 5. Hypothesis Test**

No	Hypothesis	Variable	Original Sample (O)	P Values
1	H1	PEU→PU	0.443	0.002
2	H2	PEU→Technology attitude	0.183	0.025
3	H3	PU→Technology attitude	0.725	0.000
4	H4	Internet know→Tech attitude	0.734	0.045
5	H5	Internet know→Trust attitude	0.826	0.000
.6	H6	Product know→Tech attitude	0.336	0.001
7	H7	Product know→Trust attitude	0.443	0.000
8	H8	Trusting Beliefs →Trust attitude	0.183	0.003
9	H9	Tech Attitude→Intention to use	0.728	0.002
10	H10	Trust attitude→Intention to use	0.731	0.000

Based on the test results shown in Table 5, it shows that Perceived Ease of Use has a positive effect on Perceived Usefulness, then Technology Attitude is positively influenced by Perceived Ease of Use, Perceived Usefulness, Internet Knowledge and Product Knowledge. While the Trusting Attitude variable is also positively influenced by Internet Knowledge, Product Knowledge and Trusting Beliefs. The last on the Y variable, namely Intention to Use is positively influenced by Technology Attitude and Trusting Attitude.

## 6. Conclusion

The conclusion is that all the hypotheses that have been tested have a positive effect, with these results showing that through the technological advantage, it is hoped that Insurtech will be able to answer the three main problems that hinder the insurance industry, namely complicated access, difficult claim processes, and unaffordable premiums. Technology will also change the direction of the insurance industry, such as the way services are presented and offered, and the way insurance companies and customers interact.

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## **Biography**

**Ninnasi Muttaqin** studied at the institute Management Telkom Bandung, where he earned his bachelor's degree in Management Business Telecommunication and Informatics and graduated in 2010. After graduating, he continued his master's studies at the University Airlangga Surabaya in Management Finance. Now he is a lecturer in financial management at the Nahdlatul Ulama University, Surabaya.

**Reizano Amri Rasyid** began the academic career from Institute of Teknologi Sepuluh November Surabaya (2003) followed by an undergraduate degree in industrial engineering design. In 2012, graduated in 2012 at MMT ITS Surabaya and then decided to continue as an entrepreneur. in 2016, reizano was interested in becoming a management lecturer at UNUSA Surabaya until now. His high interest in branding and local product development makes him focus on research related to branding and its relation to local product development and is active as a consultant and resource person for local product development and small and medium enterprises up to this moment.

**Azmil Chusnaini** graduated from Gadjah Mada University. currently works as a lecturer at the management department of the Nahdlatul Ulama University Surabaya. During his time as a lecturer, the focus of his field of study was entrepreneurship. currently not only a lecturer, but also a director of PT. Rosan Permai