PREDICTING THE ADOPTION OF INSURTECH AMONG GENERATION Z IN INDONESIA

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ABSTRACT

The emergence of Insurtech services in Indonesia has been a transformative force, changing how insurance companies operate and reach their customers. However, most insurance companies still use conventionally by relying on agents and brokers to provide insurance purchases and payments. The success and growth of the insurance industry require technological support to make the process efficient and profitable. This research aims to empirically identify the factors that influence insurance industry customers to adopt Insurtech services among Generation Z in Indonesia, which is known to be technologically literate and reaches 28% of the total population. This research is quantitative, where the research questionnaire will be distributed using Google Forms to a minimum of 310 respondents based on the Cochran formula. Six hypotheses were developed based on the literature and will be tested using the Structural Equation Modeling (SEM) approach with software AMOS version 23. The results are expected to contribute to academics, insurance companies, and regulators regarding the determining factors for the adoption of Insurtech services in Indonesia.

Keywords: Information Quality, System Quality, Regulatory Expectancy, Perceived Trust, Intention to Adopt Insurtech

1. INTRODUCTION

The use of digital technology in insurance is inevitable. The presence of digital insurance is mainly driven by the increasing popularity of the use of mobile devices and the proliferation of mobile technology [1]. Digital-based insurance services have the potential to reach health services and can even resolve conflicts of interest inherent in the insurance industry itself [2]. Digital insurance, often called "insurtech", has increasingly gained ground since Covid-19 and public awareness has emerged about the importance of self-protection using health insurance and life insurance. Insurtech is an insurance product obtained online. It means that customers can directly access the product without intermediary agents, as is usual with conventional insurance. It can be accessed online via a gadget or personal computer (PC) from the customer's hand.

Unfortunately, according to the Financial Services Authority (OJK) report, digital insurance brokers only collect 3.4% of total insurance industry premiums in 2020. The low number of online insurance users in Indonesia stems from the public's need for more understanding of how online insurance works and the benefits of online insurance (https://www.manulife.co.id, 2023).
In order to expand the market share of online insurance users in developed countries such as Germany, the government created a particular application that is integrated with doctor's prescriptions called DiGA to improve quality and service as widely as possible [3]. The implementation of services like this allows the integration of primary services so that they can reach the wider population [4].

It is generally known that many people still lack access to financial services in Indonesia, including insurance products. However, the Financial Services Authority (OJK) stated that financial literacy in the insurance sector in Indonesia continues to experience significant improvement, namely from 15.8% (2016) to 19.40% (2019). Furthermore, financial inclusion in the insurance sector also showed an increase, although smaller, from 12.1% (2016) to 13.15% (2019).

If you look at BPJS Health data as of the end of 2019, registered Indonesians have reached 224.1 million people or 83% of Indonesia's total population of around 269 million. However, the use of insurance products other than BPJS is only 2%, or in other words, only 4.5 million of the total Indonesian population have additional insurance policies other than BPJS (https://sikapiuangmu.ojk.go.id, 2023).

Even though the penetration of Insurtech in Indonesia is low, it is quite promising because it provides more comprehensive access. Therefore, its potential must be utilized optimally. Insurtech's existence is hoped to encourage increased use of insurance products, especially for those who are technology literate. Generation Z was born between 1995 and 2009 [5]. They were born when digital technology was booming and are called the technology generation. If we look at the age range, generation Z in 2023 will have an age range of 14-28 years. The increasing number of Generation Z in Indonesia is a market opportunity for the insurance industry to penetrate its products.

In short, the emergence of digital insurance is driven by the increasing popularity of mobile devices and developments in mobile technology. It can improve health care and resolve conflicts of interest in the insurance industry. This digital technology can even be used to track client outcome data in health services to reach a broader range of services. In Indonesia, the potential of this service is worthy of development, but what is the process of adopting this digital insurance for the community, and what factors influence the intention to use this digital insurance service? This research is presented to investigate by filling the gaps in previous research by answering the following questions: 1) What is the perception of Generation Z in Indonesia towards Insurtech? 2) How does the model in this research predict the acceptance of Insurtech by Generation Z in Indonesia?

Insurtech first appeared in the early 2010s. It is classified as part of fintech and has continued to experience significant growth since 2015. Over time, Insurtech activities have looked different enough to be separated from fintech [6]. Its emergence has become a new opportunity for insurance companies to penetrate the market. [7] stated that most Insurtech start-ups have become a threat to incumbents. Initially focused on individual consumer segments, it is gradually expanding the market to other segments, such as Small and Medium Enterprises (SMEs) and corporate lines.

However, there is still controversy, and there is yet to be a definite definition regarding the definition and scope of Insurtech, both among practitioners and researchers. Some consider Insurtech a technology-based start-up company aiming to improve the insurance industry value chain [8]. Others view Insurtech more broadly, no longer limited to just start-ups. For example, the Insurance Information Institute defines Insurtech as using new technology for cost efficiency in the insurance value chain [9]. Meanwhile, [10] see Insurtech as a term that covers many new technologies being integrated into the insurance industry. This technology includes two essential components, namely technology-based components such as Artificial Intelligence (AI) and

Internet of Things (IoT), as well as solution-based components such as data solutions, payment solutions, and so on [11].

The existence of Insurtech is slowly continuing the value chain of the insurance industry, starting from product or service development, pricing and underwriting, sales, marketing, and distribution to claims settlement. This cross perspective makes industry players and researchers have several arguments regarding the role of Insurtech in the insurance value chain. To get an overview of its value chain, [12] describes how Insurtech plays a role in influencing the Insurance Value Chain as shown in Figure. 1 below
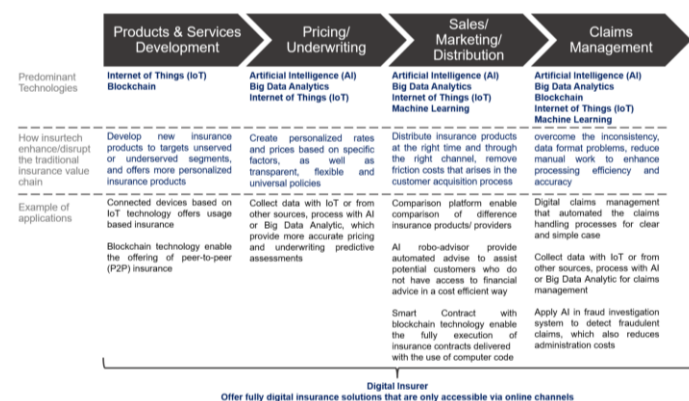

Figure 1. Insurtech Value Chain
Source: [12]

2. RESEARCH METHOD

The conceptual framework used in this research refers to the relationships and conceptualization of variables based on empirical studies of previous research. There is one dependent variable, namely the intention to use, three independent variables, namely Information Quality, System Quality, and Regulatory Expectancy, and one mediating variable, namely perceived trust. The relationship between variables can be seen in Figure 2 below.
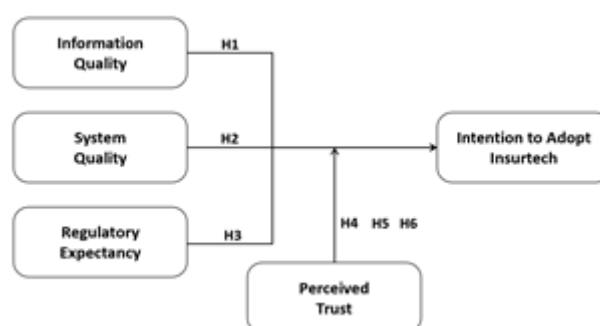

Figure 2. Research Framework

This research model uses the basis of the Integrated Theory of Acceptance and Use of Technology (UTAUT) [13]. As is known, the UTAUT model integrates various theoretical models and frameworks that were initially developed for adopting new technology among organizational employees.

Currently, much research uses UTAUT as a basis for predicting consumer behavioral intention. Even UTAUT2 has been developed by [14] with modifying the model in response to changes in

the consumer usage environment. Just as the UTAUT model integrates several root constructs from various sources, this research also selects relevant constructs, inserting new constructs by modifying relationships and including variables from the Delone and McLean (D&M) information systems success model in 1992 [15] and 2003 [16]. The model includes information quality and system quality to measure the intention to use information systems. Several technology and information systems adoption studies have used and validated the D&M model, such as evaluating the success of e-commerce systems [17] and the performance of mobile banking individuals [18].

Furthermore, another construct included in the model is Regulatory Expectancy, arguing that the role of regulatory and legislative bodies never ends. For example, research by [18] in the context of mobile shopping acceptance found that 'perceived regulatory support' can protect customers' interests from disputes. Meanwhile, the placement of perceived trust as a moderating variable is based on gap research proposed by [12] that the trust variable can be considered as a moderating variable in the technology adoption literature.

In previous research, it has been widely stated that the quality of information significantly impacts consumers' intentions to use Insurtech. [19] found that factors such as transaction speed, competitiveness of insurance premiums, and information quality have a positive and significant influence on consumer usage intentions. Another researcher, [20], highlighted the importance of implementing appropriate information technology in shaping consumer perceptions of information quality. Furthermore, [21] confirmed that perceived usefulness and attitudes toward information quality are significant indicators of customers' behavioral intentions to use lodging search sites.

In the insurance context, it is necessary to emphasize the principles of transparency and increasing financial literacy to improve the quality of information services provided [22]. In addition, Komiak [23] research found that the quality of information customers perceive significantly impacts behavioral intentions. In the Indonesian context, the quality of the information presented is critical, so the following hypothesis is proposed:
(H1): *Information Quality has a positive and significant impact on the intention to adopt Insurtech.*

Several previous research shows that the quality of a system has an impact on consumers' intentions to use Insurtech. For example, research conducted by [24] found that the service's practicality and consumer value influence the consumer intentions in using services. In addition, [25] explored the relationship between system quality and total customer satisfaction, indicating that system product quality can influence customer satisfaction. [26] found that users' perceptions of information systems influence their perceptions of the importance of quality factors in system design.

Meanwhile, [27] supports a strong relationship between information quality and system quality, as well as its impact on user evaluation and performance. In short, several of the research results above support the importance of system quality in influencing consumers' intentions to use Insurtech because it will be directly related to service practicality, perceived value, and customer satisfaction. It shows that a high level of system quality is critical to attracting and retaining consumers in the Insurtech industry. Then, the hypothesis is developed as below.
(H2): *System quality has a positive and significant impact on the intention to adopt Insurtech.*

In the literature, it is found that the role of regulators in a business system is critical. In other words, there is a strong relationship between regulatory expectations and consumer intentions to use Insurtech. To illustrate, research conducted by [28] found that customers' expectations of online services, including perceived usefulness, ease of use, and reputation, influence their intention to recommend those services. Meanwhile, [29] explored consumers' willingness to insure online and identified factors such as perceived benefits, trust, and product involvement that influence attitudes and behavioral intentions.

Furthermore, [30] investigated consumer activities in various markets and concluded that expected costs and benefits and switching experiences in other markets influence consumer behavior. Overall, this paper highlights the importance of regulatory expectations factors in shaping consumer intentions. With the same argument, the following hypothesis is formulated.

(H3): *Regulatory Expectancy has a positive and significant impact on the intention to adopt Insurtech.*

In literature, definitions of trust vary, and there needs to be more consensus among practitioners and researchers. In their paper, [31] stated that user trust combines two dimensions, namely perceptions of honesty and benevolence. This concept was later expanded by [32] stating that trust is a feeling of trust and reliability, which includes three main elements: benevolence, honesty, and competence.

In the digital banking context, other researchers have different perspectives on trust. For example, [33] emphasizes trust as a customer's perception of security in using a service without thinking about risks or other problems. Meanwhile, [34] define trust as an individual's perception that technology is safe and trustworthy. Meanwhile, in the context of mobile payments, [35] define trust as the willingness of a party to entrust it with carrying out actions on behalf of another party.

Meanwhile, [36] found that consumers' general inclination towards trust and social normative pressure increased their intention to trust product information and sustainable certification. [37] shows that perceived integrity and perceived risk have the most significant influence on consumer trust in internet shopping, and the tendency towards trust moderates this relationship. [38] and [39] examined the impact of various services provided by trusted third parties and found that these services combined affect consumers' motivation and trust behavior. These findings collectively suggest that trust is essential to consumers' intention to use Insurtech. Based on the arguments above, three hypotheses were developed that place perceived customer trust as a moderating variable.

(H4): *Perceived trust has a moderating role in the relationship between Information Quality and the intention to adopt Insurtech.*

(H5): *Perceived trust has a moderating role in the relationship between Information Quality and the intention to adopt Insurtech.*

(H6): *Perceived trust has a moderating role in the relationship between Information Quality and the intention to adopt Insurtech.*

3. RESULTS AND DISCUSSIONS

This research adopts several research approaches, namely descriptive research, exploratory research, and explanatory research. Descriptive research is used primarily to obtain demographic

profiles of respondents, awareness of the use of insurance and Insurtech products, and to describe the characteristics and profiles of respondents.

Meanwhile, exploratory research was applied considering the limited research and lack of insight regarding Insurtech from the perspective of consumers in Indonesia, especially among Generation Z. Apart from that, the research also aims to test some of the variables in the UTAUT model and expand it by adding Delone and McLean (D&M) in an Insurtech context. Through this model, this research will also investigate the antecedent variables that will influence the acceptance of Generation Z in Indonesia towards Insurtech. In this case, explanatory research is also applied to explain the causal relationship between the variables in this research.

Due to consideration of time and cost constraints, this research chose a cross-sectional study, which allows the analysis of a particular phenomenon in a certain period. The data collection is estimated in three months, namely March to May 2024. The target respondents for this research are Generation Z in Indonesia, which refers to those born between 1995 and 2009 [5]. Based on the results of the 2020 Population Census conducted by the Central Statistics Agency, there are around 74.93 million Generation Z in Indonesia, equivalent to 27.94% of Indonesia's total population.

This research uses non-probability techniques with samples taken using convenience sampling. This technique was chosen because the sampling frame could not be defined in this study. Therefore, this technique was the only option that could be applied [40]. In addition, convenience sampling techniques allow researchers to obtain information from large populations quickly and cost-effectively [12].

The sample size in the study uses a formula recommended by Cochran, which is based on the estimated population proportion, the desired level of precision, and the level of confidence. [41] emphasizes that the Cochran formula is ideal for large populations. The calculation is as follows:

$$n = \frac{Z^2 p(1-p)}{e^2}$$

Whereby,
Z = The Z-value that based on the confidence level
p = Estimated proportion of the population
e = Margin of error

In the research, the margin of error = 5% and confidence level = 95% (Z-Value of 1.96). The population of Generation Z is estimated at 28% of the total population of Indonesia, so the following results are obtained.

$$n = \frac{1.962 \times 0.28\,(1-0.28)}{0.05^2} = \frac{3.8416 \times 0.28\,(0.72)}{0.0025} \approx 310$$

So, the ideal sample size for this is equal to 310.

Regarding the research instruments & measurement scale for the five constructs in this research, the Information quality variable is measured using four question items, while the system quality variable is measured using three question items, each from [42]. Meanwhile, regulatory expectancy is measured using three indicators adopted from [43]. Perceived trust and Intention to use Insutech consist of three indicators adopted from [44] and [13]. All items perform a Likert

scale from 1-5 ("strongly agree" is given a value of 1, and "strongly disagree" is given a value of 5). The research questionnaire will be distributed using Google Forms.

The research analysis method uses Structural Equation Modeling (SEM), which has been widely applied in social science research [45]. It is an analysis that combines factor analysis approaches, structural models, and path analysis. In this research, SEM analysis will be assisted by AMOS version 23 to detect causal relationships between constructs. It is also used to identify the components' magnitude and the construct's formation to be more informative, complete, and accurate.

4. CONCLUSIONS AND SUGGESTIONS

The results of this research are expected to answer at least three substances: First, it can contribute theoretically by answering research questions, namely the extent of the perception of Generation Z in Indonesia towards Insurtech and how this research model can predict the acceptance of Insurtech by Generation Z in Indonesia. Second, it provides an empirical study to fill previous research gaps regarding the role of perceived trust as a moderating variable in this research. These results can contribute to theoretical development and be the novelty of this research. Third, research related to Insurtech in Indonesia is still very limited, so the presence of this research can enrich knowledge and insight for observers, insurance business practitioners, and regulators.

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