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## Anticipating the Future of Capital Market and Investment Climate in Indonesia: A Scenario Personarrative Approach

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### Abstract

Capital markets are essential for a country's development. However, the effort to develop a sustainable capital market may be challenged by many uncertainties, such as pandemics, politics, and investor behavior. This study aims to unveil the future of Indonesia's capital market and provide implications and options for stakeholders to develop a best-practice capital market. The scenario personarrative method, including cluster analysis, is used in this research as it can complement each other by signifying options to different types of investors. Data were gathered from interviews with 25 experts and a questionnaire survey of 438 respondents. With an analysis emphasizing the government's political direction and regulator ability, four transformative scenarios were constructed: (1) thin bull in the pastureland, (2) facing Torero in the bullring, (3) train the circus bull, and (4) world-champion bull. Eight personas were described, each with unique characteristics. Finally, 32 behavioral narratives were constructed based on the four scenarios and eight personas with the options provided. These results benefit stakeholders when deciding on acting in Indonesia's capital market. It is recommended that stakeholders carefully consider ensuring that Indonesia's capital market can achieve the world champion bull scenario in 2030.

### Keywords

Scenario Personarrative, Scenario Planning, Cluster Analysis, Capital Market, Investor Behavior.

### Introduction

The role and performance of the capital market cannot be separated from a country's economic growth. Several studies imply that capital markets positively affect economic growth, especially in emerging countries (Coskun et al., 2017; Barna & Mura, 2010). Fisher and Statman (2002) also argue that better-performing capital markets increase consumer confidence and economic sentiment.

Despite the enormity of the Jakarta Composite Index (JKSE) growth by 1,483% by 2019 from the crisis period in 1998, the COVID-19 pandemic has become a primary global concern and affects the capital market environment. The fall of the global economy, increase in unemployment, and company bankruptcies are some of the domino effects. On the other hand, the pandemic created new trends such as remote working, technological development, and sustainability issues. These negative and positive effects represent examples of uncertain conditions. Moreover, long-term contextual shifts such as political instability, social inequality, ecological concerns, artificial intelligence, and the crisis cycle will be more variable and less predictable in the future under this VUCA condition.

Correspondingly, future studies approach is essential to address this challenge as it accounts for external collective and inner individual levels in a layered approach to shape more feasible futures (Inayatullah, 2002). For this research, the scenario personarrative method, which is a combination of scenario planning and persona analysis and was introduced by Vallet et al. (2020), is used to develop future scenarios of Indonesia's capital market in a developing country with many dynamic changes in two critical aspects, those are nation's stability and investor related.

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The nation's stability is weighted by the government's vital role in preventing uncertainty caused by the spread of new emerging variants of the coronavirus as well as maintaining the economic conditions affected by it. The direction of future government policies plays an important role. Indonesia will face an election in 2024 with an unreadable political map, contributing to even more significant uncertainty.

As for the investor-related aspect, two factors have become an issue for Indonesia's capital market: financial literacy and financial inclusivity. According to Indonesia's Financial Services Authority, Indonesia's financial literacy and inclusivity in the capital market were only 4.92% and 1.55% in 2019, respectively (OJK, 2020), compared to the banking sector at 36.12% and 73.88%, respectively. In addition, Indonesia's proportion of domestic investors is only 1.87%, much lower than the total productive and post-productive population%. These factors demonstrate the importance of government involvement and regulation to pursue a better capital market by implementing effective options and decision-making.

This study aims to provide effective options that stakeholders and investors can implement. To achieve this, plausible scenarios for Indonesia's capital market in 2030 and the types of investors in each scenario need to be identified. To conduct this scenario planning, identifying the key driving forces influencing Indonesia's capital market in the next ten years and their relationships are first required. The scenarios originate from an iterative discussion process based on these driving forces. The implications of each scenario and personas are then identified and explored to generate potential and effective strategic options.

### **The Capital Market and Its Role in the Economy**

Similar to banks, which are intermediating suppliers and demanders of money, capital market products are equity and debt securities traded between companies, issuers, and investors in both primary and secondary markets. According to Mary et al. (2012), the capital market consists of various entities in which funds are gathered and provided to businesses, governments, and people.

The capital market plays an essential role in developing the country's economy because it connects those who have excess funds with those who need funds. Tandelilin (2001) explained that the capital market plays a vital role in a country's economic development and motivates an efficient allocation of funds because alternatives are provided to generate the optimum profit. This argument supports Ang (1997), who stated that the capital market measures economic development. Barna and Mura (2010) state that capital markets significantly contribute to the economic development of emerging countries.

### **Capital Market Forecasting and Future Studies**

Investment is a means to create profits from initial capital. Therefore, forecasting the price difference between buying and selling asset instruments is essential for maximizing profit. However, some studies have concluded that forecasting investment returns in the capital market are complicated (Teixeira & Oliveira, 2010; Zielonka, 2004). Therefore, many techniques have been developed and conducted by investors and stakeholders to forecast future stock prices. In general, the techniques used in capital markets are fundamental and technical analyses.

In a study by Wafi et al. (2015), fundamental analysis is summarized as a set of rules and stages to specify the value of instrument assets in the capital market by understanding the company's historical and current financial conditions to grab investment opportunities. The significance of fundamental analysis has been demonstrated in several studies. For example, in developing countries, Cheung et al. (1997) on the Hong Kong Stock Exchange and Chung et al. (1999) on the Korean financial market proved that fundamental analysis strategies create predictions and generate profits.

On the other hand, the concept of technical analysis is outlined by Nazario et al. (2017) as a set of methods utilizing historical data to forecast future profits in the investment instrument, with examples of stock price and transaction volume (Park & Irwin, 2007; Wei, Chen, & Ho, 2011; Yamamoto, 2012; Zhu & Zhou, 2009). However, technical analysis of prediction and forecasting methods has been debated over the years. For example, Levy (1967), who stated that the strength of technical analysis does not overpower the long-term investment strategy, was opposed by some studies that concluded otherwise, such as the study by Brock et al. (1992), Ratner & Leal (1999), and Lo

et al. (2000). This is because technical analysis is in contrast with the market efficiency hypothesis (Fama, 1970) and rarely has an acceptable level of profitability (Fama & Blume, 1966; Van Horne & Parker, 1968; Jensen & Bennington, 1970) so that the use of technical analysis in investment strategy changes over time in a different context. Therefore, other methods have been combined with technical analysis to increase the optimum return to overcome these issues. For example, Stankovic et al. (2015) used predictive modeling and technical analysis in emerging markets in their study.

Meanwhile, fundamental and technical analyses often overlook other aspects of the capital market. For example, Ticknor (2013) explained that aside from financial reports, the capital market is related to many factors, such as political events, international influence, and investor behavior. In addition, both fundamental and technical analyses mainly depend on historical data (Teixeira & Oliviera, 2010). With these setbacks, the forecasting margin of error is high because it fails to include all possible outcomes.

Therefore, methodology from future studies, or foresight, can shape more feasible futures by measuring longer time horizons, ensuring the originality of alternatives, encouraging higher participation from stakeholders, and being action-oriented compared to planning (Inayatullah, 2013; Inayatullah, 2002). In many organizations, future studies methodologies have been widely adopted as they can provide big pictures to align the planning and future structure by catechizing the future and ascending issues investigation and scenarios.

In the capital market industry, for example, PricewaterhouseCoopers (PwC), in 2019, analyzed the future of the world capital market in 2030 by asking 370 executives in the equity capital market worldwide and conducting in-depth interviews with eight director-level executives in financial industries. The range of the results obtained was broader than the usual forecasting, as it included the future trend and sector in the capital market, how the market reacts to the future of the capital market, and its drivers of it.

## Research Design and Model

In this study, a model was developed by comprehending the notions of stakeholders based on their answers to the present situation and future views of Indonesia's capital market in 2030. This approach, also known as interpretivism philosophical thinking, uses an inductive approach (Okasha, 2002; Hutajulu et al., 2020). The scenario planning approach is used in the model formulation because this study aims to reveal the future of Indonesia's capital market, as it is impacted by the nation's stability and investors' behavior. In addition to that, it has the strength to capture the extensive possibilities in detail and accounts more clearly for the environment's complexity and uncertainty (Porter, 1985; Mintzberg, 1994; Gordon, 2013; Dean, 2019) and is regarded as exceptional among other methods of strategic planning (Schoemaker et al., 1995). The shell method, explained by Wack (1985), generates first-generation scenarios for inductive scenario planning. Unlike other deductive scenario planning approaches, inductive scenario planning narratives are generated without an absolute imposition. In addition, it does not provide a clear signal that each scenario is an eventual future and that the process continues. Scenario planning has been recorded in many academic pieces of literature in various research fields, such as in work engagement in the organization (Chermack et al., 2020; Hawkins & Chermack, 2014), technology and telecommunication (Moqaddamerad et al., 2017) and even specifically for the development of future business model orientation in developing countries (Ghazinoory et al., 2018).

However, according to Inayatullah (2009), although the scenario can amazingly create the preferred future and unveil different possibilities, the single usage of the scenario method only shows that the world is complex and transforming; thus, it is only a part of the process without any specific action. Vallet et al. (2020) also argued that scenario planning frequently evaluates only the aggregate impact of plausible futures and tends to presume homogenous populations. However, different individuals may decide their actions for the future based on various aspects, such as sociocultural, biological, and behavioral (Andreani et al., 2019). Therefore, Inayatullah suggested that the scenario method should not be a stand-alone method; it needs an action to complete the entire process. For this research, scenario planning also covers the specific action that must be done and involves another key actor, the investor.

As investor behavior becomes critical in this scenario planning development, a persona analysis is also implemented to identify different types of investors. Personas are not actual humans but are portrayed throughout

the design-thinking process. These are fictional representations of real users (Tu et al., 2010). Although fictitious, they are specified rigorously and accurately (Cooper, 1999). It is an effective tool for communication in design teams because it encourages them to address sociopolitical elements of design that sometimes go unnoticed. Therefore, through cluster analysis, persona analysis is used in this study to complement scenario planning to ensure that the investors can identify themselves and define what strategy to be implemented based on the scenarios. Previously, the correlation of investors, risk, and futures was explained by Jackson (2022) in his article, emphasizing Taleb's and Soros' investment activity based on the tail-risk event probability forecast that successfully generated major profits back in the late 1900s to early 2000s.

The combination of scenario planning and persona analysis, called the scenario personarrative method, is depicted in Figure 1 for the framework of this research.

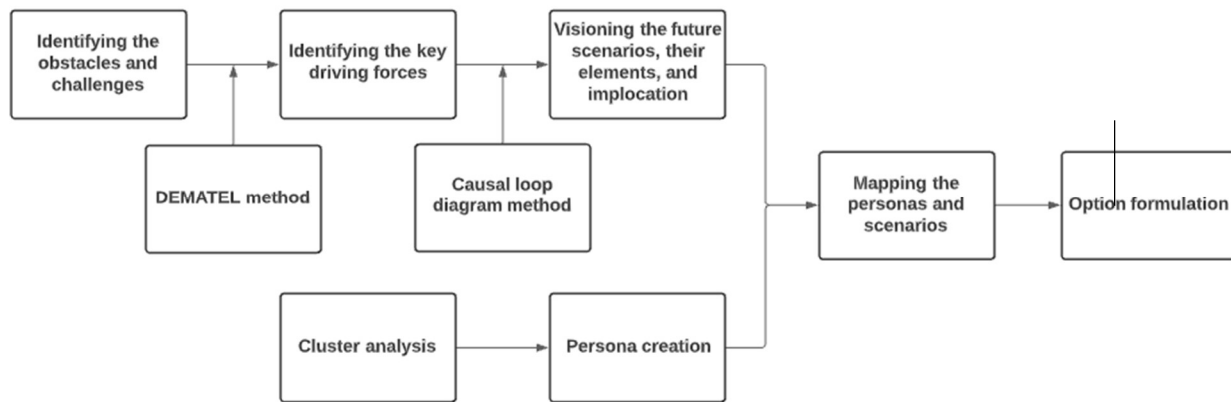


Fig. 1: Scenario personarrative method

**Stage 1A: Identifying the obstacles and challenges**

Scenario planning typically involves participants representing various functions of a company or industry and other stakeholders, such as customers and critical positions in organizations, regulators, or industry experts, to provide information from broader perspectives. The objective of this stage is to gather stakeholder perspectives regarding their views on current obstacles and future challenges that could influence Indonesia’s capital market. Six pillars of futures studies, popularized by Inayatullah (2008); mapping, anticipation, timing, deepening, creating alternative, and transforming (MATDCT), is also considered in creating the questions to ensure that essential assumptions can sufficiently construct the make-sense alternative and preferred futures. Based on the responses, the current obstacles, future challenges, and key driving forces (later derived from Stage 2A) were codified and categorized according to issue similarity. Finally, the codification results are analyzed and discussed in Stage 3A to understand stakeholders' perspectives in the capital market.

**Stage 2A: Identification of key driving forces**

This stage assesses the key driving forces shaping Indonesia’s capital market over the next ten years. A list of key driving factors can be identified using the decision-making trial and evaluation laboratory (DEMATEL) method to identify the most discussed topics and their interrelationships. DEMATEL is used to illustrate the structure of complex causal interactions using the matrices of a digraph. In scenario planning, DEMATEL was used by Tavana et al. (2021), Govindan & Chaudhuri (2016), and Luthra et al. (2016).

**Stage 3A: Visioning future scenarios, their elements, and implications**

In this stage, future scenarios, their elements, and implications are identified based on the logic created by the Causal Loop Diagram (CLD) development. CLD aims to define a system's structure and feedback to comprehend its

processes. It can also be used to acknowledge the behavior established in the system; thus, approaches can be designed to oppose the behavior (Haraldsson, 2004). Further, elements that significantly distinguish each scenario can be identified. Narratives are then developed by engaging the creativity of the authors who participated in the scenario planning stages. Finally, after the scenarios were developed, the implications of each scenario were presented.

**Stage 1B: Cluster analysis**

This stage precedes persona creation. The purpose of cluster analysis is to identify the optimal number of clusters needed to depict personas accurately. This stage consisted of substages: sampling design, data collection, questionnaire design, and data analysis. After data from participants in Indonesia’s capital market were gathered, data analysis was conducted. Data analysis in this stage was conducted using R software (R Core Teams, 2020), using Gower's distance method, as the questionnaire was mixed between categorical and numerical data. The Gower coefficient (Gower, 1971) is derived from Equation 1:

$$d_G(x_i, x_j) = \frac{\sum_{c=1}^m w_{ijc} d_{ijc}}{\sum_{c=1}^m w_{ijc}} \dots \dots \dots \text{Equation 1}$$

k-medoids method from partitioning around medoids (PAM) was used for the final cluster development and was previously used by Kaufman and Rousseeuw (1990) to determine the final clusters formed.

**Stage 2B: Persona creation**

After obtaining the number of clusters required, the next step was identifying the personas. Thus, the unique characteristics of each cluster can be identified. From the clustering result, the personas can be identified from the tendency of variables, and as a result, a story can be made to describe each of the personas.

**Stage 1C: Mapping the personas and the scenarios**

In this stage, the results from the scenario planning stage and persona analysis stage were integrated. Narratives are developed for each scenario-persona pair to show the scenario's implications on the persona.

**Stage 2C: Options formulation**

This is the final stage of the research process. At this stage, options are formulated by utilizing the scenario's persona results and the implications of the scenarios already generated. The output of this stage consists of options uniquely tailored to each persona and options provided to the capital market stakeholders.

**Sample, Instruments, and Procedure**

This study collected qualitative and quantitative data using two simultaneous procedures. Data was collected through interviews with each respondent for the scenario planning stage. Through purposive sampling, the respondents in this stage consisted of 25 stakeholders who played essential roles in Indonesia’s capital market. Stakeholders from various subindustries were chosen to obtain divergent views to enrich the analysis. See Appendix A for how stakeholders relate to the capital market industry.

Data were collected using an online questionnaire through convenience sampling in the persona analysis stage. The participants were required to be investors in Indonesia’s capital market who lived in Java, Indonesia, and had experience investing from at least 2018. Java region was chosen as its population dominates the investor population in Indonesia by 71.85% (KSEI, 2021). The questionnaire used for data collection was adapted from the theory of interpersonal behavior (Triandis, 1977) and integrated with investment behavior terms, such as prospect theory (Kahneman & Tversky, 1979), risk aversion (Holt & Haury, 2002), heuristic bias, cognitive bias, and PESTEL factors to support scenario planning. As for PESTEL analysis as a part of external environment elements, it is considered essential and needs to be acknowledged and highlighted to address uncertainty and gives clarity of ambiguity (Chermack et al., 2020).

From this stage, 436 data points were collected (n = 328 men, n = 108 women) aged 21 to 59 years (M = 30.81; SD = 10.36). Other general information is that the respondents have an undergraduate degree of 66% and have up to five years of experience in the capital market of 54%.

**Results**

**Current obstacles and futures challenges of Indonesia's capital market**

Perceptions about current obstacles and future challenges were extracted from interviews and questionnaires administered to stakeholders. Text coding is then performed by taking each stakeholder's keywords from their answers. A summary of the keywords is shown in Table 1.

**Table 1:** Current obstacles and future challenges of Indonesia's capital market

Topics	Number of Keywords	
	Current Obstacles	Future Challenges
Financial Literacy	27	15
Government Role and Commitment	10	11
Regulation Making and Law Enforcement	-	10
Investor Activities	8	10
Capital Market Infrastructure	14	6
Investor Demography	12	3
Investment Behavior	11	4
Macro- and Micro-economical Factor	8	7
Company Adaptation	-	7
Governance, Law Cases, and Fraud	7	5
IPO Supply and Quality	2	3
Environmental Change	-	1
Effect of the Presidential Election	2	-
Effect of the Pandemic	1	-

As the most frequent keyword for the current obstacles, financial literacy portrays low scores and inequality in financial literacy in Indonesia. Most respondents considered Indonesia's financial literacy and education level, especially regarding investment risk, financial planning, and capital markets compared to banking, worrying. The next most significant obstacle is capital market infrastructure. The keyword is based on respondents' answers about Indonesia's capital market inefficiency, limited investment alternatives, limited sector availability, and its infrastructure. The third ranking in the list is investor demographics. Most respondents mentioned that the number of investors was relatively low compared to Indonesia's population.

The only topic that remains consistent is financial literacy for future obstacles. Meanwhile, the top two are government role and commitment, as well as regulation-making and law enforcement. Based on these answers, financial literacy will remain the ultimate challenge in developing Indonesia's capital market. The next challenge, the government's role and commitment, focuses on the government and regulator's functions in providing proper financial education to citizens by improving the socialization of the capital market.

**Key driving forces of future Indonesia's capital market**

The interviews also identified the driving forces to describe Indonesia's capital market's future. Similar to the

previous stage, codification was performed to summarize the driving forces from the PESTEL factors (see Table 2).

**Table 2:** List of driving forces

Key Driving Forces	Occurrences in:						Total
	Politics	Economy	Social	Technology	Environment	Legal	
Dynamic Government Policy Direction	21	-	-	-	-	-	21
Domestic Political Stability	17	-	-	-	-	-	17
Domestic Presidential Election and Transition	16	-	-	-	-	-	16
External Geopolitic Stability and International Relation	9	2	-	-	-	-	11
Domestic macro-economic Indicator	-	25	-	-	-	-	25
Financial Literacy, Education, and Human Development	-	-	21	-	-	-	21
Investor Behavior (Speculative, Rumours, and Influenced Behavior; Tendency to be Fickled)	-	-	12	-	-	-	12
Information Flow and Availability (Asymmetric Information and Influencer Trend; Regulated Information Sharing and Interaction)	-	-	11	-	-	-	11
Effect of the Technology Adaptation	-	-	-	18	-	-	18
Technology Supports the Infrastructure for Investment	-	-	-	16	-	-	16
Technology Developments	-	-	-	10	-	-	10
The Development of Tech-based Companies	-	-	-	10	-	-	10
Technology Supports the New Asset Class of Investment	-	-	-	8	-	-	8
Eco-friendly Activities Adaptation by the Companies	-	-	-	-	20	-	20
People's Awareness and Interest in the Eco-friendly Activities	-	-	-	-	12	-	12
Motivating Factor to Shift to Eco-friendly	-	-	-	-	9	-	9
Global Perception on Environmental Issues	-	-	-	-	9	-	9
Law Enforcement Consistency	-	-	-	-	-	14	14
Supporting Investment Regulation	-	-	-	-	-	30	30
Law Making and Adjustment	-	-	-	-	-	9	9
Regulator Function	-	-	-	-	-	8	8

Because scenario planning involves looking into the future, CLD is employed to help stakeholders understand the consequences of their choices. It can explore the link between the driving forces influencing system behavior in each Indonesian capital market scenario. The DEMATEL method was used with its ability to describe the interdependencies in cause-effect relationships, notifying essential factors, and building a causal relationship map between the driving forces (Shi et al., 2018). The DEMATEL method steps are mainly used to identify the key driving forces that have high prominence to one another using an impact-relation map.

**Table 3:** List of highlighted key driving forces

Key Driving Forces	Prominence Value
Investor Behavior (Speculative, Rumours, and Influenced Behavior; Tendency to be Fickled)	1.33
Dynamic Government Policy Direction	1.11

Key Driving Forces	Prominence Value
Law Making and Adjustment	1.00
Information Flow and Availability (Asymmetric Information and Influencer Trend; Regulated Information Sharing and Interaction)	0.78
Financial Literacy, Education, and Human Development	0.67
Eco-friendly Activities Adaptation by the Companies	0.67
Domestic Political Stability	0.67
Law Enforcement Consistency	0.67
People's Awareness and Interest in the Eco-friendly Activities	0.67
Regulator Function	0.67

**Table 4:** Impact-relation map of Indonesia’s capital market

Driving Forces	FE	GP	EA	PS	LE	IB	AE	IF	LM	RF	Total R
FE Financial Literacy, Education, and Human Development	0	0	0	0	0	1	1	1	0	0	3
GP Dynamic Government Policy Direction	0	0	0	1	1	0	0	0	1	1	4
EA Eco-friendly Activities Adaptation by the Companies	0	0	0	0	0	0	1	0	1	0	2
PS Domestic Political Stability	0	0	0	0	0	1	0	0	0	0	1
LE Law Enforcement Consistency	0	0	0	1	0	0	0	1	0	0	2
IB Investor Behavior (Speculative, Rumours, and Influenced Behavior; Tendency to be Fickled)	0	0	0	0	0	0	1	1	0	0	2
AE People's Awareness and Interest in the Eco-friendly Activities	0	0	1	0	0	0	0	0	0	0	1
IF Information Flow and Availability (Asymmetric Information and Influencer Trend; Regulated Information Sharing and Interaction)	1	0	0	0	0	1	0	0	0	0	2
LM Law Making and Adjustment	0	0	1	1	1	1	0	0	0	0	4
RF Regulator Function	1	0	0	0	1	0	0	0	1	0	3
<b>Total C</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>24</b>

The key driving forces listed in Table 3 have prominence above average. The relationship between the selected driving factors is presented in Table 4. Subsequently, the impact relation map is depicted using CLD. Additional links and variables are added to complete the CLD structure. The CLD is shown in Figure 2.



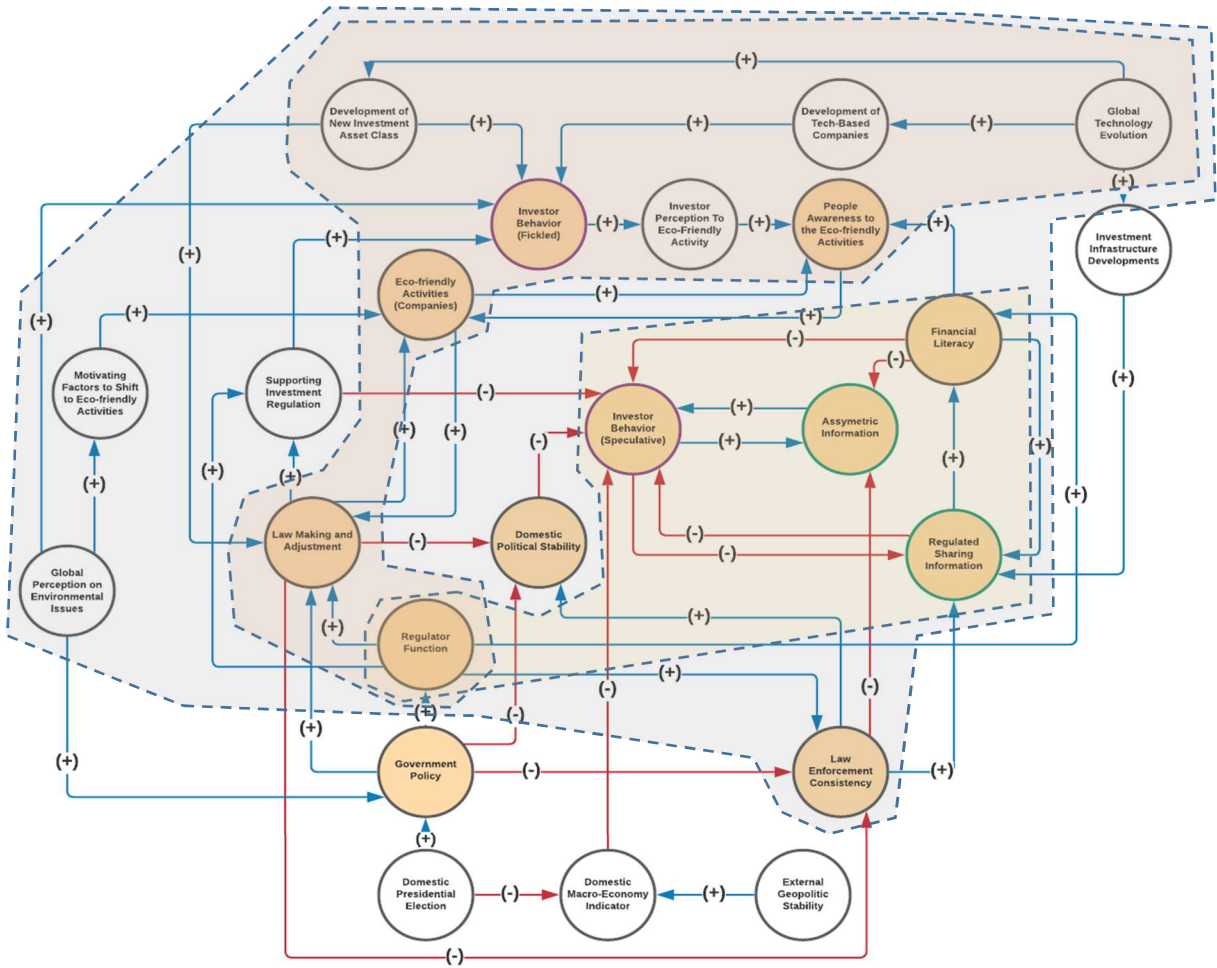


Fig. 2: Causal loop diagram of Indonesia’s capital market

**Future scenarios and their elements of future Indonesia's capital market in 2030**

Based on the CLD, the regulator function plays a vital role in Indonesia’s capital market, as it is involved in various influencing aspects. However, regulators must achieve many objectives to develop Indonesia’s capital market. Thus, the tasks may be implemented in stages based on urgency rather than simultaneously considering external factors. Correspondingly, a transformative scenario was used in this study using an iterative method to build a plausible scenario, as shown in Figure 3.

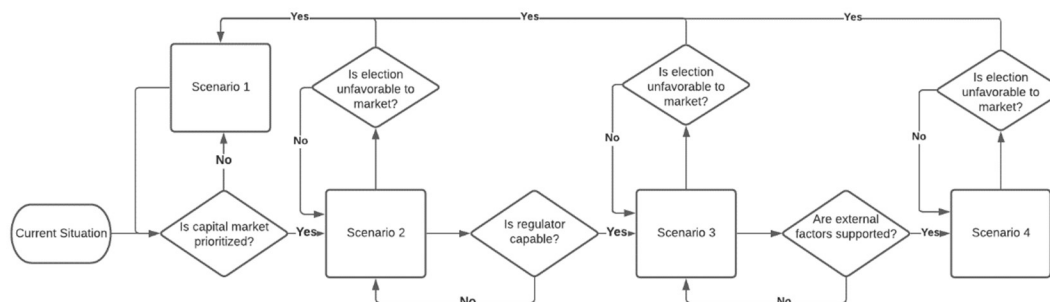


Fig. 3: Indonesia's capital market 2030 scenario framework

Based on the scenario framework, the scenarios embodied in the CLD involve dynamic government policy direction, financial literacy, education, human development, law enforcement consistency, law-making and adjustment, global perception of environmental issues, global technology evolution, and investor behavior.

Each scenario has a name and headline that depict the situation. In addition, the precise situation in each scenario is described in a scenario narrative, which displays the distinctiveness of one scenario from another and, more crucially, describes Indonesia’s capital market situation in 2030.

Table 5: Scenario titles and headlines

Scenario	Scenario 1	Scenario 2	Scenario 3	Scenario 4
	<b>Thin Bull in the Pastureland</b>	<b>Facing Torero in the Bullring</b>	<b>Train the Circus Bull</b>	<b>World-champion Bull</b>
<b>Headlines</b>	<i>"a mediocre performance of the capital market in the middle of huge potential"</i>	<i>"Inability of the regulators to keep up with the soaring performance negative sides"</i>	<i>"Smarter and regulated capital market creates inclusivity."</i>	<i>"Internal factor: checked, external factor: checked. Indonesian capital market growth significantly and leading among countries."</i>

Each scenario was designed around the key driving forces. The elements, as detailed in Appendix B, were derived from the respondents' answers and keywords from the interviews.

**Scenario 1: Thin Bull in the Pastureland**

New variants of Covid-19 still appear in different parts of the world. The economy struggles as the government focuses on reducing the spread of Covid-19 and the entry of new variants. Policies such as limiting people's activities at many levels have been implemented. Global concern and uncertainty are still high, and focus is placed on reducing the pandemic to endemic areas. Following that, Indonesia’s government’s policy is somewhat not correlated with the performance of the capital market; any means necessary to restore Indonesia's condition to be as it used to be.

This high uncertainty causes the JKSE not to perform well. IPO plans for some companies change; big companies tend to hold their expansion, while relatively small companies try to get funding for their operations; thus, the IPO number only increases on average, but with small capitalization. Many investors consider capital market unreliability to be a source of stable profits. Most shift their assets to safer ones that still perform above inflation or move to riskier assets to acquire more significant returns, such as cryptocurrency. This condition makes some transactions in the capital market drag to other asset classes.

However, with the urge to profit in the capital market, individuals with huge funds try to be price makers, causing some stocks with small capitalizations to move erratically. On the other hand, uncertainty causes stocks with large capitalizations to become stagnant. Further, many new investors are interested in joining the capital market, following the market maker to gain profit relatively quickly. However, herding behavior with low financial literacy

causes many new investors to suffer losses and be reluctant to participate in the capital market.

The regulator continues to implement law enforcement and adjustments. Unfortunately, without proper support from government policy and sufficient financial literacy, the regulator's effort is limited and has little impact on improvement.

### ***Scenario 2: Facing Torero in the Bullring***

The pandemic did not interfere with the government's plan to focus on Indonesia's capital market, as the government successfully held new variants to enter Indonesia. The stable Covid-19 case and vaccination rate above the target make the policy to limit people's activity less necessary. The priority to recover the economy supports capital market performance as expectations increase.

The spike in the JKSE marks the supporting condition. With the return of economic activity, the corporate actions of both large and small companies are on track. Expansions, M&A, and IPO are crowded in the capital market. With more opportunities, investors consider the capital market a source of stable and high gains. Therefore, daily transactions in Indonesia's capital market increased significantly.

However, this condition is exploited by high-net-worth individuals to obtain higher gains from newly listed companies in the market. The rumors and prospects in the market are used excessively to lead other investors' opinions. As a result, many new investors are interested in joining the capital market and following the market maker to profit relatively quickly. However, herding behavior with low financial literacy causes many new investors to suffer losses and be reluctant to participate in the capital market.

Correspondingly, the regulator continues to adjust the existing regulations, primarily to support the IPO process of the new economy companies and ease retail investors' account opening. IPO regulations also support the technology company in conducting the IPO. Therefore, the IPO of technology companies floods the capital market. However, the regulator cannot balance financial literacy and law enforcement improvement because of the explosion of new investors in a relatively short time and the influencer trends that the new investor supports.

### ***Scenario 3: Train the Circus Bull***

The performance of Indonesia's capital market has risen significantly since economic recovery has become the ultimate priority and is supported by the government's success in maintaining the Covid-19 case at a low level. This situation satisfies the "old" investors who successfully profit when selling their stocks. On the other hand, many new investors who only follow rumors become victims of their behavior. Consequently, stock prices move erratically. For example, a stock hit top auto-rejects by two days in a row, followed by a seven-day hitting bottom auto-reject. This condition is also caused by new sectors listed in the capital market, such as technology, which are relatively unknown to Indonesia's investors, especially those with lower financial literacy. The issue spread quickly through mainstream and social media, which caused fear among new investors and a negative stigma about the capital market.

As the condition may lead to trust issues in capital markets, regulators focus on pursuing inclusivity and financial literacy in the capital market. Financial literacy and inclusivity regulation are strengthened with full government support, obliging stakeholders in the capital market ecosystem to contribute to increased financial literacy and inclusivity. Some examples include integrating the financial literacy of the capital market into the education curriculum, cooperation between universities and securities companies, and introducing the capital market to rural locations in Indonesia.

In addition, law enforcement has been tightened. Legal investigation of capital market perpetrators, insider trading, and fraud has been intensively implemented. Law enforcement also applies to unlicensed influencers and endorsements. Cross-agency governance is increased to prevent capital modal law cases from occurring again.

These efforts affect the quality of the capital market ecosystems. The number of investors in Java is increasing and has started to spread evenly across all regions in Indonesia. This condition causes the daily transaction rate to increase, in line with the increase in investors. A healthier ecosystem improves with a declining trend of influencers, herding behavior, and higher financial literacy and law enforcement affect IPO and bond issuing for both old- and new-economy companies. Companies are more confident in doing an IPO with greater capitalization because their

speculative behavior is lower than before. Bond issuance has also become retail investors' focus on diversifying their assets. Moreover, companies also focus on improving their profitability and expansion because the fundamental analysis is one of the investors' main methods. Therefore, Indonesian capital market performance increases with more measurable volatility.

#### ***Scenario 4: World Champion Bull***

A determined political direction to strengthen the capital market, followed by the regulator's ability, successfully creates an environment where inclusivity coexists with financial literacy. Moreover, the capacity of the government and regulators to combine these methods leads to policy implementation that creates confidence in the capital market. As a result, Indonesia's capital market challenges neighboring countries in almost all aspects, especially IPO numbers, transactions, capitalization, and financial literacy.

Under these conditions, the inefficiency of Indonesia's capital market was reduced. On the other hand, a more efficient capital market affects the potential gain in one year is lower because the stock price reflects the company's performance. Thus, foreign investors move their investments to other countries with more inefficiency to generate more profit. Thus, domestic investors dominate the market.

With the lower potential gain, domestic investors, which have higher financial literacy, demand more investment products that can be utilized to diversify their assets and hope that Indonesia's capital market can adopt the practices in the developed countries. Therefore, considering that Indonesia's capital market is ready, regulators and the government have put some effort into improving and adding products to the capital market.

Some policies are seen in this scenario, such as the accreditation of certain investors to conduct specific transactions and the role of banking in supporting retail investors in the capital market. The flexibility of the regulation, despite its high enforcement, becomes the focus of the regulator and government to make Indonesia's capital market more attractive to investors. The integration between stakeholders, such as academics and securities companies, is also strengthened when introducing adjustments in the capital market.

Law-making and adjustments are also made along with global perception and evolution, such as environmental issues, global technology evolution, and adaptation in other capital markets. As for the environmental issue, bound with the Paris Agreement, the regulator of Indonesia's capital market contributes as well as exploits by adjusting some of the regulations to support eco-friendly activities in the company's business operations. For example, incentives for IPO, ratio adjustment, and credit rating for companies with low carbon footprint policies are enacted. In addition, the government's commitment supports regulations to hinder the fossil-based industry in Indonesia. As a result of these efforts, companies are motivated to implement environmental, social, and governance (ESG) and achieve better performance.

#### **Scenario implications**

This section discusses the implications of each scenario on various elements such as capital market performance, regulations, corporate action, and society. These stakeholders are evaluated and merged so that the consequences for the stakeholders as a whole may be created. Interviewees' contributions to this study were classified.

#### ***The implication of the capital market performance***

The scenarios involve a change in the increasing number of IPOs, the trend of the daily transaction, and the number of capitalizations as impacts of the government policy direction and regulator ability. Given the different focuses of government policy that can affect regulators, each scenario has its own set of implications for capital market performance. Respondents mentioned the effect of government policy on capital market performance several times.

An election is decisive because it depends on the leader and the political views. (GAI, Security Company, Equity Research, when asked about political effects on the capital markets)

President-elected background can affect the investment climate. (DWW, Government Financing Institution, Director of Business, when asked about political effects on the capital market)

Scenario 1, mainly caused by election-related and dynamic government policy and transition, hampers the performance of the capital market. This condition raises uncertainty in the market and can make companies take a "wait-and-see" stance. In addition, it affects a lower IPO rate with lower capitalization. Similar to companies, uncertainty also reduces investor transactions. The most similar condition occurred in the transition from the new order era to the reformation era and the four-time leadership transition until the 2004 election. One of the respondents supported this statement.

Political factors will affect (the capital market), but the uncertainty will not be as high as it was at the beginning of the 2000s. (LW, self-regulatory organization, director, when asked about the political effect in the capital market)

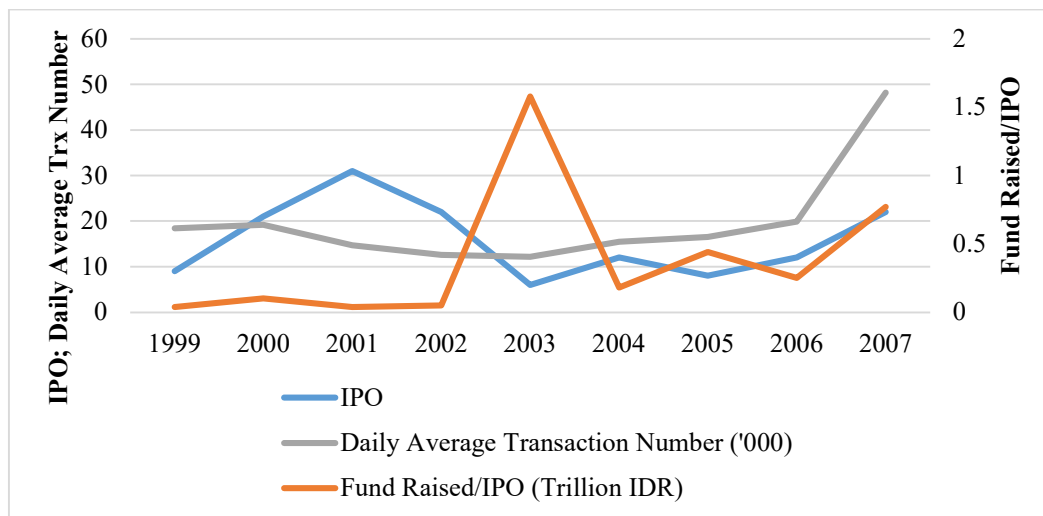


Fig 4: Indonesia's capital market performance (1999-2007) (Source: IDX)

Post the new order era, which showed heavy instability in the government, companies' confidence increased along with more stable political conditions. However, the reformation era started with an unstable presidential transition with four transitions. This condition affects the lower daily average transaction, resulting in a lower IPO number and low fundraising (an anomaly in 2003 was caused by four huge state-owned companies' IPOs). After the 2004 election, all aspects steadily increased because of increased political certainty.

On the other hand, Scenario 2 encourages capital market performance. Therefore, with the support of government policy to improve capital market performance and economic recovery, the regulatory function is strengthened.

Economic recovery makes the big-scale IPO starts to be seen. (HS, Security Company, President Director, asked about the effect of economic conditions on the IPO)

Investors' and companies' confidence spikes, especially in unstable political conditions or transitions, precede this scenario. The aspect that stands out the most can be seen in the increased number of IPOs and average daily transactions. However, the funds raised may not be related to the number of IPOs due to other aspects, such as financial literacy and investor behavior. The most similar conditions occurred between 2016 and 2019 owing to the supportive investment climate and regulation of IPO, especially in 2018 (Wareza, 2018).

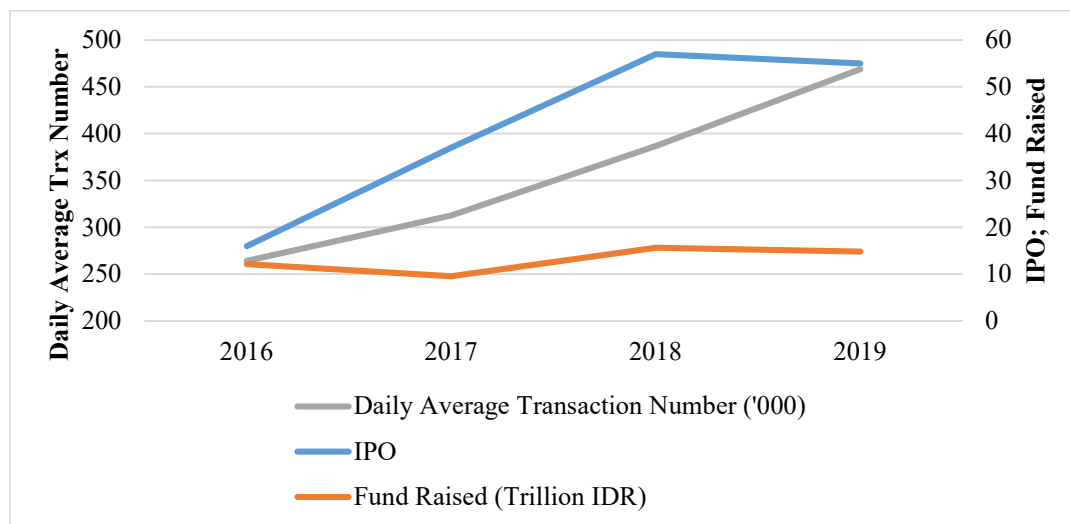


Fig. 5: Indonesia's capital market performance (2016-2019) (Source: IDX)

Scenarios 3 and 4 have similar conditions. In Scenario 3, the highest stand-out point is in the higher number of IPOs with higher capitalization due to the lower speculative behavior and higher financial literacy. On the other hand, Scenario 4 will highlight the IPO sector, which is supported by the incentives and regulations adapted from the global condition. Consequently, both scenarios show an increase in the number of investors. However, Scenario 3 emphasizes the inclusivity of the capital market, whereas Scenario 4 emphasizes the number of products provided. The most similar conditions to Scenario 4 are in 2020 and 2021 when the technology has been emerging due to the pandemic and pushing the technology sector to increase, while there is no precedent for Scenario 3.

**Implication on regulation**

Government policy direction can affect regulators' performance in Indonesia's capital market. Both parties play a significant role in dealing with current obstacles and future challenges. Therefore, the collaboration of these two elements with the capital market operator positively correlates with the level of regulation-making.

Law enforcement will become the most threatening aspect in the next ten years. (LW, self-regulatory organization, director, when asked about the key uncertainties of Indonesia's capital market in the next ten years)

Scenario 1 was the worst in terms of regulation. Despite an independent regulator's significant role in improving the capital market, unstable politics, transition, and policy can hamper regulation improvement to support the capital market reaching its potential. As a result, the regulation will improve, but it will not catch up with domestic and global development.

Scenario 2 emphasizes the maximum utilization of the high supply potential of companies. Therefore, the regulator "advertised" the capital market as an alternative company funding source. The regulator is also supported by government policies aimed at increasing the performance of the capital market. The impact can be seen from more regulations for IPO conducted, including supporting SMEs and startups. In this scenario, regulators have not limited specific sectors to conducting IPO, such as fossil-based companies.

The most crucial regulation (to push the number of IPO) is giving the companies the incentive and easiness to do the IPO and bond issuance. (AH, Private Bank, Industry Analyst when asked about regulations in the capital market)

Scenario 3 is reached when the government and regulators intend to reduce the adverse effects of Scenario 2,

such as speculative and herding behavior, and improve the capital market ecosystem.

Good corporate governance is noteworthy because many (capital market) cases exist today. (A, Security Company, President Director, asked about the current condition of the capital market)

Improvement of regulatory compliance and punishment is essential to make an investment-friendly climate. (A, Security Company, President Director, asked about regulations in the capital market)

The impact of regulation can be seen chiefly in financial literacy, inclusivity, and customer protection. One of the regulations that will be highlighted is the law enforcement of unlawful acts in the capital market, such as insider trading and unlicensed influencers. This law enforcement is also strengthened by collaboration between the regulator, government, and securities to expand the market base of investors in remote and secluded regions. The importance of law enforcement can affect investor performance, as stated by respondents.

Regulation in Indonesia's capital market is quite good, but the problem is law enforcement and certainty, as the law interpretation may differ. (IH, Energy Company; Issuer, Financial Director when asked about regulations in the capital market)

It is okay to have mediocre regulations as long as they have high certainty. The thing that investors dislike is when the regulations are constantly changing. (MPS, Lead Advisor of Bilateral Economic Project, Economy Expert, when asked about regulations in the capital market)

Finally, in Scenario 4, the government and regulators try implementing capital market best practices and adjusting to the global condition. In this scenario, the prominent impact can be seen from many law-making in several aspects, such as the IPO type and transactions that are implemented in developed countries, is to be implemented in Indonesia, such as a Special Purpose Acquisition Company (SPAC) and short selling, as the investors are also well-educated. In addition, companies that adhere to global demand are given incentives, such as environmental friendliness.

The product can be created in Indonesia's capital market when people in the market are ready. (MFP, Security Company, Product Development, when asked about the product development potential in the future).

Suppose economic development is increasing in line with financial education and human development. In that case, Indonesia's capital market may grow significantly, including creating various investment alternatives. (REP, state-owned bank, senior quantitative analyst, economist when asked about the effect of financial literacy on the capital market).

### ***Implication on corporate action***

Many companies require funding to expand their businesses. As banking becomes the primary source, the capital market can become an alternative to the cheaper source of capital. However, a company's level of participation in the capital market is affected by several factors, such as investor behavior in the market, economic conditions, and political situation. In this section, corporate actions are described for each scenario.

Scenarios 1 and 2 are similar regarding the shares willing to be issued to retail investors. However, companies will be reluctant to issue a large number of stocks due to investor behavior that tends to be speculative, especially for newly listed companies.

Because of the investors' speculative behavior with low financial literacy, the issuer is reluctant to do the IPO with a considerable size. (HS, Security Company, President Director, asked about the effect of financial literacy in the capital market).

Therefore, small-cap stocks dominate IPO in this scenario. The differences between Scenarios 1 and 2 can be

seen in the funding acquisition plan. The companies in Scenario 1 tend to either hold their plan to do the IPO or rely on banking because of an unsupportive investment climate. On the other hand, companies are motivated to conduct IPO because of the supportive environment and regulation.

Due to the pandemic, many IPO plans were postponed. (HS, Security Company, President Director, asked about the current condition of Indonesia's capital market, especially during the pandemic).

When 2024 is near (political year), investments tend to be held because companies wait on who will become the president to identify the investment policy direction. (AH, private bank, industry analyst, when asked about the effect of the election on the capital market).

Scenarios 3 and 4 also have similarities but in opposite directions from Scenarios 1 and 2. Companies will be more confident in IPO with high capitalization due to more intelligent investors. Companies will also invest more effort into improving their financial performance to increase their valuation in the market. Consequently, it can make the capital market the primary funding source compared to the banking role. Specifically, in Scenario 4, companies are more motivated to pursue eco-friendly activities because of incentives from the government and regulators to achieve environmental goals.

An industrial shift to renewables and ESG investing will occur in the next ten years. (GAI, Security Company, Equity Research when asked about the future conditions of Indonesia's capital market).

### ***Implication on society***

The implications for society vary in each scenario. The investor's perspective becomes the ultimate participant in capital market development. The societal implications can be divided into the number of investors, financial literacy, inclusivity level, and investor behavior.

The most significant increase in the number of investors can be observed in Scenario 2, followed by Scenarios 3, 4, and 1, as it is because a very high gain potential from investment occurs in Scenario 2, especially if preceded by the unstable environment in Scenario 1. In Scenario 3, the increase in the investor number occurs because of the inclusivity of the capital market. In contrast, Scenario 4 occurs because of the various products available in the market.

Regarding financial literacy, Scenarios 1 and 2 are conditions in which high financial literacy in the capital market is challenging because of the government's and regulators' insufficient regulation and action, worsened by investors' behavior. However, financial literacy and inclusivity are improved later in Scenario 3 from the stakeholders' efforts and remain high in Scenario 4.

Regarding investor behavior, the impact seen in Scenarios 1 and 2 is high herding and speculative behavior due to lower financial literacy. On the other hand, herding and speculative behaviors are reduced in Scenario 3 as financial literacy improves and the law is enforced. Finally, in Scenario 4, investor behavior is affected by the eco-friendly activities of the companies and adjustments from the regulation. Consequently, investors tend to consider eco-friendly activities in their investment decisions.

### **Cluster analysis and persona creation**

Indonesia's capital market persona classification uses Gower's distance, as the data are mixed between categorical and numerical data. The variables used are chosen based on the scenario planning process and results, mainly focusing on the political, regulatory, environmental, JKSE volatility, investor behavior, trends, and knowledge issues.

The silhouette width was used to determine the optimum number of clusters. The results of the silhouette width analysis are shown in Figure 6.



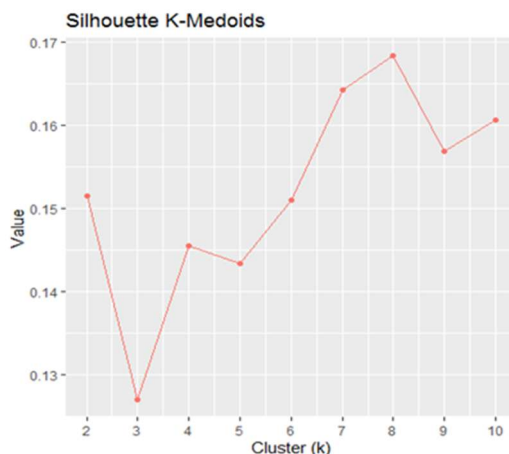


Fig. 6: Silhouette k-medoids result

As shown in Figure 6, the highest value within the clusters is in the eight clusters. Therefore, the eight-cluster formation is considered the optimum in this range. Each cluster's means and modes are then summarized to capture the characteristics that dominate each cluster in each variable that distinguishes all groups. Finally, the eight personas were named based on their risk profile (see Appendix C for an explanation), investment behavior, and their attitudes, as shown in Table 6.

Table 6: Investor persona profile

Cluster	1	2	3	4	5	6	7	8
% of Resp.	6.42%	18.35%	16.51%	13.30%	13.30%	8.72%	9.17%	14.22%
Persona	Wicak (M)	Irfan (M)	Salwa (F)	Ilham (M)	Ezi (M)	Addo (M)	Setya (M)	Diah (F)
Risk profile	Contrarian	Extra-polators	Passive	Optimistic	Extra-polators	Semi-optimistic	Extra-polators	Passive
Investment behavior	Low-herding behavior	On average	On average	On average	On average	High-herding behavior	High-herding behavior; high disposition effect	High-herding behavior; low disposition effect
<i>Attitude towards...</i>								
emerging trend	Flexible to change	In the middle	In the middle	Firm	In the middle	Flexible to change	Flexible to change	Flexible to change
pandemic	Indifferent	Reduced assets greatly in 1H20	Indifferent	Indifferent	Reduced assets greatly in 1H20	Reduced assets greatly in 1H20	Indifferent	Indifferent
political turmoil	Optimistic	Indifferent	Indifferent	Pessimistic	Indifferent	Indifferent	Indifferent	Indifferent
regulation	Profit > regulated-asset	Regulated-asset preferred	Regulated-asset preferred	Regulated-asset preferred	Regulated-asset preferred	Profit > regulated-asset	Regulated-asset preferred	Regulated-asset preferred
environment issues	Reluctant	Reluctant	Considering	Reluctant	Considering	Reluctant	Reluctant	Considering

**Mapping the personas and the scenarios**

In this stage, the personas identified in the previous stage were integrated with the scenario results. The integration form is created by creating narratives of the personas in each scenario. An example of the scenario personanarrative for the case of Wicak is shown in Table 7 for the four scenarios. These eight personas are provided in full in Appendix D.

**Table 7:** Narratives of Wicak for the four scenarios

<b>'Thin bull in the pastureland'</b>	As the contrarian with confidence, the turmoils occur as the effect of the pandemic and political events even make him buy more stocks, despite other people telling him to sell stocks due to the plunging index. However, since the profit may be reduced due to the decrease in the index, he diversified his asset to other investment types, such as cryptocurrency.
<b>'Facing torero in the bullring'</b>	With the economy slowly recovering, the index slowly rises. This condition makes Wicak stop adding the stocks that he owns. Instead, he leads buying the newly listed companies, especially those related to the emerging trend. Relatively with the small caps, Wicak can maximize the profit when the price soars significantly.
<b>'Train the circus bull.'</b>	The law that is being enforced makes Wicak struggle to do the transaction in the unregulated investment assets. Therefore, he has limited his transaction to unregulated assets but never left as long as he can get higher profit.
<b>'World champion bull'</b>	Wicak is excited to try the new products the government and regulators have prepared. In this condition, when the market efficiency is higher, Wicak cannot acquire as much gain as before. Thus, he diversifies his assets to other investment products, unregulated ones, and exploits the global trend, such as environmental issues, although he does not care about that.

**Options formulation**

Scenario personarrative, including its implications, was identified in the previous stages. In the typical scenario planning process, stakeholders provide options in response to the scenario's implications and often only impact the actors. In this study, the authors combine the options from the actors that significantly affect the beneficiary, in this case, the eight types of investors. The options are listed in Table 8. Detailed options are provided in Appendix E.

**Table 8:** Options linked with personas

Scenario	Options	Actors	P1	P2	P3	P4	P5	P6	P7	P8
'Bull thin in the pastureland scenario	'Solving an urgent problem as soon as possible (pandemic).'	Govt.	-	V	-	-	V	V	-	-
	'Developing national infrastructure... (internet connection).'	Govt.	V	V	V	V	V	V	V	V
	'...creating policies to support the capital market performance.'	Govt.	V	V	-	V	V	-	V	-
	'...creating the law supporting the IPO.'	Regulator Govt	V	-	**	-	**	**	**	**
	'Enhancing the capital market infrastructure...(data protection).'	Regulator Securities	-	V	V	V	V	-	V	V
'Facing torrero in the bullring' scenario	'...improving financial literacy ...'	Govt.	-	-	V	-	V	V	V	-
	'...independent financial education to customers'	Regulators Securities	-	-	V	-	V	V	V	-
	'...good governance in the business activity 'Improving the financial ratios.'	Issuer	-	-	-	V	-	V	-	V
	'Developing national infrastructure...in the secluded regions (internet and electricity availability).'	Govt.	*	*	*	*	*	*	*	*
	'...create, ratify, and implement law and regulation regarding the capital market.'	Govt.	V	-	-	-	-	V	-	-
	'...good governance to prevent unlawful activity.'	Securities	-	-	-	-	V	V	V	-
	'Strengthen the function of supervising & investigation (insider trading).'	Regulator	-	-	-	-	V	V	V	-
'Train the circus bull' scenario	'Participating actively... regarding an environmental issue.'	Govt. Regulator	-	-	V	-	V	-	-	V

Scenario	Options	Actors	P1	P2	P3	P4	P5	P6	P7	P8
	'Encouraging & including the eco-friendly activities in the rating scoring.'									
	'creating the regulation...new product...of investment'	Regulator	V	-	-	-	**	V	V	V
	'Adapting...new product...of investment'	Securities	V	-	-	-	**	V	V	V
	'...issuing other investment products...'									
	'Educating the investors about other investment products...'	Issuer	V	-	-	-	**	V	V	V
	'Adjusting business model ...global demand.'	Issuer	-	-	V	-	V	-	-	V
'World-champion bull' scenario	'promoting (president) candidates that favorable to capital market.'	Political Party	V	-	-	-	V	-	-	-
	'supporting stabletable transition.'	Govt.								

\*only if located in the isolated and secluded region

\*\*depends on the company or other people's recommendations (based on their unique characteristics)

### Conclusion

The role of the capital market must be considered, as it has a positive relationship with economic growth. With significant growth since the financial and political crisis in 1997-1998, Indonesia needs to keep this momentum growing, as it has enormous potential, such as the demographic bonus and a high proportion of productive age. However, uncertainties in the future may impact Indonesia's capital market differently.

Given Indonesia's capital market's importance, every stakeholder must prepare their strategy to face uncertain future conditions. Therefore, a future studies methodology is deemed essential to address this issue. In 2020, Vallet et al. introduced a scenario personarrative method that combines scenario planning and persona analysis.

As a result, this paper presents the development of the possible future of Indonesia's capital market in 2030 by understanding the current conditions and perceiving future challenges in capital market industries. DEMATEL and CLD were applied in the scenario planning method to create a plausible and logical future for Indonesia's capital market. On the other hand, cluster analysis is used to create the persona of Indonesia's capital market investors.

Through several analyses, four transformative scenarios were identified: 1) Thin Bull in Pastureland, 2) Facing Torero in the bullring, 3) Train the Circus Bull, and 4) World-champion Bull, which emphasizes the role of the regulator of Indonesian capital market development. Each scenario has elements with unique characteristics that distinguish them from one another. The elements consist of the presidency and political transition, regulator ability, capital market performance, investor demography, level of financial literacy, investor behavior, regulation, policy, law enforcement, IPO-related, corporate action, and main asset classes. In addition, we identify four implications based on capital market performance, regulation, corporate action, and society.

On the other hand, persona analysis is based on eight clusters shaped by risk profiles, emerging trend tendencies, investor behavior, and sensitivity to external factors. The personas are then created using their risk profiles as headlines. As a result, the personas are: 1) Contrarian Confidence Investor, 2) Ordinary Extrapolator Investor, 3) Passive Risk-Seeking Investor, 4) Optimistic Risk-Averse Investor, 5) Follower Extrapolator Investor, 6) Follower Semi-optimistic Investor, 7) Sensitive Extrapolator Investor, and 8) Passive Risk-Averse Investor.

Consequently, 32 narratives were created to provide a clearer picture of the personas' actions in each scenario. Ultimately, the narratives and implications are derived from specific options to actors, including the government, regulators, securities, issuer companies, political parties, and investors. With the similarity between the variables and scenarios developed, the options can be more effectively implemented in each scenario.

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**Appendix**

**Appendix A. Respondents of the Study**

No	Position	Institution	Role	Experience in the Industry	Relevance
1	Manager of FX Trader	Bank		4	Investment products in the capital market
2	Senior Quantitative Analyst	Bank		14	Capital market from a macroeconomic perspective

No	Position	Institution Role	Experience in the Industry	Relevance
3	Regional Industry Analyst	Bank	7	Capital market from an industry perspective
4	Financial Director	Energy Company	30	The issuer in the capital market and environment issue related
5	Lead Advisor	Government Bilateral Economic Project	7	Capital market from a macroeconomic perspective
6	Director of Business	Government Financing Institution	23	Government policy and perspective on the capital market
7	Head of Financial Education	Investment Startup Company	8	Technology in the capital market and the future of retail investors
8	Industry Analyst	Private Bank	9	Capital market from an industry perspective
9	Head of Asset Management Marketing	Private Bank	22	Investment products in the capital market
10	Assistant Vice President	Property Company	9	The issuer in the capital market
11	President Director	Securities Company	30	Future of securities company and capital market activity
12	Product Development	Securities Company	6	Future of securities company and capital market activity
13	Head of Research, Equity; Sales and Risk Management	Securities Company	20	Future of securities company and capital market activity
14	Director	Securities Company	17	Future of securities company and capital market activity
15	Equity Research	Securities Company	10	Future of securities company and capital market activity
16	Director	Securities Company	12	Future of securities company and capital market activity
17	Equity Analyst	Securities Company	13	Future of securities company and capital market activity
18	Equity Research	Securities Company	4	Future of securities company and capital market activity
19	President Director	Securities Company	30	Future of securities company and capital market activity
20	President Director	Self-Regulatory Organization	30	Regulation of the capital market activity

No	Position	Institution Role	Experience in the Industry	Relevance
21	Director	Self-Regulatory Organization	28	Regulation of the capital market activity
22	President Director	Self-Regulatory Organization	21	Regulation of the capital market activity
23	Head of Communication and Education Division	Self-Regulatory Organization	22	Regulation of the capital market activity
24	Assistant Professor	University	18	Financial behavior in the capital market
25	Managing Director	Venture Capital	25	Funding activity in the capital market

**Appendix B. Scenario Elements**

	<b>Scenario 1 Thin Bull in the Pastureland</b>	<b>Scenario 2 Facing Torero in the Bullring</b>	<b>Scenario 3 Train the Circus Bull</b>	<b>Scenario 4 World-champion Bull</b>
Presidency and Politic Transition	Priority went to other sectors	Plan to increase the performance of the capital market	Agenda to improve the capital market ecosystem	Agenda to follow the capital market best practice
	President and ministers are unfavorable to market	President and ministers are favorable to market	President and ministers are favorable to market	President and ministers are favorable to market
	The election gives a negative perception from the investors and market	The investors and market adapt to the elected president (if the elected president is unfavorable)	The investors and market adapt to the elected president (if the elected president is unfavorable)	The investors and market adapt to the elected president (if the elected president is unfavorable)
Regulator Ability	Gives little impact on the improvement	Significantly impacting the performance of the capital market performance	Significantly impacting the inclusivity and investor protection	Significantly providing regulations
		Focus on increasing the performance of the capital market (IPO number, daily transaction)	Focus on increasing financial literacy and inclusivity and reducing the capital market's noise (misinformation and fraud).	Focus on creating regulations in the capital market to pursue the best practice.
Performance of the Capital Market	The number of investors increases steadily on average	The number of investors increases due to the better capital market performance	The number of investors increases due to the increase in financial literacy and inclusivity	The number of investors increases due to the better practices
	The number of transactions reduced	Daily transaction rate increases significantly because of the exciting market.	Daily transaction rate increases because of the inclusivity, but the percentage is not as high as the Scenario 2	The daily transaction rate increase is not as high as in Scenario 2 and Scenario 3
	JKSE reacts negatively to the situation	JKSE increasing with high volatility	JKSE increasing with measured volatility	JKSE prospect is for the long term



	<b>Scenario 1 Thin Bull in the Pastureland</b>	<b>Scenario 2 Facing Torero in the Bullring</b>	<b>Scenario 3 Train the Circus Bull</b>	<b>Scenario 4 World-champion Bull</b>
Investor Demography		Domestic investors dominate the market if the geopolitical condition is not favorable (pandemic, tapering)	Domestic investors dominate because of the inclusivity	Foreign investors reduced because of the lower gain potential
Level of Financial Literacy	Low	Low	High	High Considering eco-friendly factors in the investments
Investor Behavior	People tend to shift their investment to the more stable asset class	Lower financially literate investors tend to have herding behavior	Financial literacy is evenly distributed, and the law is enforced consistently. Herding behavior reduced	Investors tend to do asset allocation to maximize the gain of the assets
	Short-term trading	Trading style based on rumors; very attentive to the new companies in the market	Investment based on the fundamental analysis and technical analysis	Investment based on the fundamental analysis and technical analysis
	Influencer trends by the significant fund individual	Influencer trend by the significant fund individual; focus on the small caps	Academician and regulator replacing the influencer role	Academician and regulator replacing the influencer role
Regulation, Policy, and Law Enforcement	Government policy is not correlated to the capital market	Government policy is correlated to the performance of the capital market	Government policy is correlated to the achieve financial inclusivity and law enforcement	Government policy is correlated to investment-friendly climate
	Increasing the tax to support government spending on infrastructure	Regulation to facilitate the company do the IPO generally	Enhance the regulation to increase financial literacy and inclusivity	New regulations to increase the market efficiency
		Regulation to increase the transaction by investors	Regulatory tightening to reduce fraud, insider trading, and misinformation	Regulations to adapt to the global condition (e.g., environmental issues)
IPO-related	The number of IPOs increased steadily on average	The number of IPOs increased significantly	The number of IPOs increased steadily on average	The number of IPOs increased steadily on average
	Low capitalization IPO	Low capitalization IPO	High capitalization IPO	High capitalization IPO
	Strategic IPO	Strategic IPO	Real IPO	Real IPO
Corporate Action	Prefer to get funding from the banking industry	Motivated to do an IPO	Motivated to do an IPO	Business model adaptation to do an IPO
Main Type of Asset Classes	Aside from capital market assets (banking products, cryptocurrency)	Stocks, mutual funds	Stocks, mutual funds, bonds	Stocks, mutual funds, bonds; eco-friendly companies; follow the global trend

**Appendix C. Risk Profile**

Risk Profile	Explanation (Effect on Investment Asset Possession)	
	Index significantly increased	Index significantly decreased
Passive	Unaffected	Unaffected
Optimistic	Increasing	Increasing
Risk Avoiders	Decreasing	Decreasing

Extrapolators	Decreasing	Increasing
Contrarian	Increasing	Decreasing
Semi-optimistic	Unaffected	Increasing

**Appendix D. Narratives of the Persona in the Scenarios**

	Wicak (M)	Irfan (M)	Salwa (F)	Ilham (M)
<b>Caption</b>	<i>“Leading in changes with confidence...as long as the profit following”</i>	<i>“Walking in the safe-straight corridor, thinking when to make a turn”</i>	<i>“Just like the lion, only moves when huge prey is near”</i>	<i>“Everything will be okay,” said panda the bamboo-eater”</i>
<b>'Thin bull in the pastureland scenario</b>	As the contrarian with confidence, the turmoils occur as the effect of the pandemic and political events even make him buy more stocks, despite other people telling him to sell stocks due to the plunging index. However, since the profit may be reduced due to the decrease in the index, he diversified his asset to other investment types, such as cryptocurrency.	With the personality of the extrapolator, the pandemic effect, especially when the new variants enter Indonesia, makes him sell his stocks. However, for now, he can only wait for the condition to improve.	With the passive personality, the pandemic effect on the index does not affect her decision on her asset ownership. However, if she hears about certain stocks and regulated assets that may give her higher profit, she will immediately buy them.	With an optimistic personality, Ilham will likely add more stocks when the index falls. However, as the pandemic becomes the reason, he holds his additional purchase of the stocks. For now, he only can wait for the condition to be better.
<b>'Facing torero in the bullring' scenario</b>	With the economy slowly recovering, the index slowly rises. This condition makes Wicak stop adding the stocks that he owns. Instead, he leads buying the newly listed companies, especially those related to the emerging trend. Relatively with the small caps, Wicak can maximize the profit when the price soars significantly.	With the economy slowly recovering, the index slowly rises. This condition makes Irfan back to the market by buying the stocks. Unfortunately, the stocks he buys are similar to what he bought before. He knows many new companies listed in the market but is still considering buying them until they are proven to be good-performer companies.	The economic recovery is also not affecting her stock ownership. The one that affected her stock ownership was when the rumors of the newly listed companies spread. So naturally, if the rumors or the prospect can affect the stock price to rise, she will buy it. However, the stock that she wants to buy is only the stock of the old economy.	With the economy slowly recovering, the index slowly rises. This condition makes Ilham back to the market by buying the stocks. He knows many new companies listed in the market but tends to choose familiar stocks.
<b>'Train the circus bull' scenario.</b>	The law that is being enforced makes Wicak struggle to do the transaction in the unregulated investment assets. Therefore, he has limited his transaction to unregulated assets but never left as long as he can get higher profit.	With the preference to choose the regulated assets, the law enforcement by the government and regulation increase the confidence of Wicak to be more considerate on shifting to the emerging trend stocks.	With the preference to choose the regulated assets, the law enforcement by the government and regulation increase the confidence of Salwa in her usual investments.	With the preference to choose the regulated assets, the law enforcement by the government and regulation increase his confidence in his usual investments.
<b>'World champion bull' scenario</b>	Wicak is excited to try the new products the government and regulators have prepared. In this condition, when the market efficiency is higher, Wicak cannot acquire as much gain	Wicak learns that many products are introduced in the market. However, once again, Wicak still considers the safety and profit that he may get from that product. He	With her awareness of the eco-friendly activities of the company, the government's focus on raising environmental issues excites Salwa. As	Ilham is not affected by anything in this era as they are reluctant about the environmental issue and avoid trying any other asset possible.

	Wicak (M)	Irfan (M)	Salwa (F)	Ilham (M)
	as before. Thus, he diversifies his assets to other investment products, unregulated ones, and exploits the global trend, such as environmental issues, although he does not care about that.	also exploits global trends, such as environmental issues, as long as he can profit from them.	she was considering eco-friendly activities years ago, her assets significantly increased due to the positive perspective of eco-friendly activities in the companies.	
	Ezi (M)	Addo (M)	Setya (M)	Diah (F)
<b>Caption</b>	<i>“Parents guarding timid child in the exciting playground”</i>	<i>“Be loyal to the cult, even if to fall to the chasm”</i>	<i>“Also following the cult, but with more boundaries”</i>	<i>“Safety with some adjustments can be fun”</i>
<b>'Thin bull in the pastureland' scenario</b>	With the personality of the extrapolator, the pandemic effect, especially when the new variants enter Indonesia, makes him sell his stocks, especially when he hears everyone telling him to do so. For now, he can only wait for the condition to improve, and others say to re-buy the stock.	With the personality of being semi-optimistic, the usual index fall will not affect him. However, the pandemic hits differently, especially when the new variants enter Indonesia. He sells his stocks, especially when everyone tells him to do so. He has the trait to follow people no matter what happens. Thus, when people shift their assets to others, even the unregulated ones, Addo will join them.	With the personality of being an extrapolator, the pandemic effect, especially when the new variants enter Indonesia, makes him sell his stocks significantly. He sells his stocks, especially when everyone tells him to do so. He can only wait for the condition to improve; others say to re-buy the stock and join the investment in the unregulated one for more profit. In addition to that, he starts to set the trailing stop to his existing investment to prevent the higher loss.	With the passive personality, the pandemic effect on the index does not affect her decision on her asset ownership. The rumors of the riskier asset also did not interest her.
<b>'Facing torero in the bullring' scenario</b>	With the economy slowly recovering, the index slowly rises. This condition makes Ezi start to buy the stocks that other investors buy. He is aware of the newly listed companies in the market. However, he only buys and sells the ones that other people recommend.	With the economy slowly recovering, the index slowly rises. This condition makes Addo start to buy the stocks that other investors buy. He is aware of the newly listed companies in the market. However, he only buys the ones that other people recommend.	With the economy slowly recovering, the index slowly rises. This condition makes Setya start to buy the stocks that other investors buy. However, he only buys the stocks as much as half of what he sold before. He is aware of the newly listed companies in the market. However, he only buys the ones that other people recommend.	The economic recovery is also not affecting her stock ownership. However, she starts scanning the newly listed company in the market and asks for advice about the new sectors.
<b>'Train the circus bull' scenario.</b>	Higher financial literacy in the market leads to lower herding behavior in general. In this condition, Ezi struggles to find his usual influencers. Instead, the academician and the regulator are replacing	Higher financial literacy in the market leads to lower herding behavior in general. In this condition, Addo struggles to find his usual influencers, instead the academician	Higher financial literacy in the market leads to lower herding behavior in general. In this condition, Setya struggles to find his usual influencers, instead the academician	With the preference to choose the regulated assets, the law enforcement by the government and regulation increases confidence in Diah in

	<b>Ezi (M)</b>	<b>Addo (M)</b>	<b>Setya (M)</b>	<b>Diah (F)</b>
	them. With the character of being a follower, Ezi has now started to "follow" the academician and regulator's advice to study the company's performance.	and regulator replacing them. With the character of being a follower, Addo now starts to "follow" the academician and regulator's advice to study the company's performance. Still, he only leaves the unregulated assets once everyone also leaves.	and regulator replacing them. With the character of being a follower, Setya now starts to "follow" the academician and regulator's advice to study the company's performance. Still, he starts to leave the unregulated assets due to safety reasons and law enforcement.	her usual investments.
<b>'World champion bull' scenario</b>	With his awareness of the eco-friendly activities of the company, the government's focus on raising environmental issues excites Ezi. As he was considering eco-friendly activities years ago, his assets increased due to the positive perspective of the eco-friendly activities in the companies. However, the increase is insignificant since he has already sold some of his stock due to others' decisions.	Addo learns that many products are introduced in the market and only starts to invest when others say so. So he also exploits the global trend, such as environmental issues, as long as he can profit from that with more people advising him.	Setya learns that many products are introduced in the market and only start to invest the safe product when others say so. So he also exploits the global trend, such as environmental issues, as long as he can profit more from that with more people advising him.	With her awareness of the eco-friendly activities of the company, the government's focus on raising environmental issues excites Diah. As she was considering eco-friendly activities years ago, her assets significantly increased due to the positive perspective of eco-friendly activities in the companies.

**Appendix E. Options Provided for the Stakeholders**

	Key Options Scenario 1	Key Options Scenario 2	Key Options Scenario 3	Key Options Scenario 4
	Solving an urgent problem as soon as possible (pandemic)	Collaborating with regulators, operators, and academicians to create a channel to improve financial literacy (Webinar, offline seminar, research dissemination, regulation dissemination)	Participating actively in the global effort regarding environmental issues	Supporting stable transition between regimes.
Government	Developing national infrastructure that supports the capital market transaction activity (internet connection)	Developing national infrastructure that supports the capital market activity in the secluded regions (internet and electricity availability)	Providing incentives to the companies that pursue eco-friendly activity in their business line (e.g., tax reduction)	
	Implementing policies that support the capital market performance	Strengthening the Trias Politica function to create, ratify, and implement laws and regulations regarding the capital market.	Limiting the development of fossil-based companies (e.g., increase in tax, environmental recovery obligation, reducing the dependency on fossil-based sources)	

	Key Options Scenario 1	Key Options Scenario 2	Key Options Scenario 3	Key Options Scenario 4
	Collaborating with the regulator in creating the law supporting the IPO			
Political Party				Promoting (president) candidates that favorable to capital market
				Promoting a plan that is in line with the capital market improvement
Regulators	Collaborating with the government in creating the law supporting the IPO	Collaborating with government, operators, and academicians to create a channel to improve financial literacy (Webinar, offline seminar, research dissemination, regulation dissemination)	Encouraging security companies and analysts to include eco-friendly activities in the rating	Ensuring the consistency of the regulation that supports the capital market improvement
	Cooperating with the companies in the "rule-making rule."	Strengthening the function of supervising & investigating (insider trading, license suspension) by the responsible agencies.	Providing incentives to the companies that pursue the eco-friendly activity in their business line (e.g., IPO flexibility, ratio adjustment)	
	Enhancing capital market infrastructure (online voting, general shareholder meeting, data protection)		Tightening the IPO process for companies that cannot adhere to the environmental issues	
			Creating the regulation to adopt the new product or activity of investment (SPAC, short-selling)	
Securities Company	Cooperating with the regulator in the "rule-making rule."	Collaborating with regulators, government, and academicians to create a channel to improve financial literacy (Webinar, offline seminar, research dissemination, regulation dissemination)	Including rating for specific industries that support the global demand in the analysis (e.g., eco-friendly activities)	
	Enhancing capital market infrastructure (online trading, data protection)	Intense in doing independent financial education to its retail customers	Tightening the IPO process for companies that cannot adhere to the environmental issues	
	Ensuring capital available to be the leader as an underwriter	Implementing good governance to prevent unlawful action	Adapting the regulation to support the new product or activity of investment (SPAC, short-selling)	
	Strengthening retail investor base			

	Key Options Scenario 1	Key Options Scenario 2	Key Options Scenario 3	Key Options Scenario 4
Issuer Company	Cooperating with the regulator in the "rule-making rule."	Implementing good governance in the business activity	Starting to issue other investment products as the alternative source of funding	
	Focus on surviving the uncertain condition.	Improving the financial ratios	Educating the investors about other investment products created by companies (e.g., corporate bonds)	
		Participating in human development through CSR	Implementing the ESG in business activity	
			Adjusting the business model to adapt to the global demand	