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# Analysis of Investor Behavior Types in Choosing Capital Market Investment Preferences in Indonesia

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**ABSTRACT**

*The increasing number of retail investors and advances in the digitalization of investment services have driven significant growth in the Indonesian capital market. The proliferation of digital investment platforms and rising retail investor participation have notably transformed the landscape of the Indonesian capital market. Understanding investor behavior types and their investment preferences is crucial for market development and regulatory policy formulation. This research aims to identify investor behavior types based on the Behavioral Investor Types framework and analyze their influence on investment style preferences using Social Network Analysis (SNA) and statistical testing methods. The researcher identified investor behavior types based on four Behavioral Investor Types, namely Preserver, Follower, Independent, and Accumulator, and analyzed their influence on investment style preferences, specifically Capital Gain or Dividend, using a Social Network Analysis (SNA) approach and statistical tests. SNA visualization revealed that Independent investors (58.3%) constitute the majority, followed by Preserver (18.1%), Follower (14.6%), and Accumulator (13.1%) types. Most investors prefer Capital Gain over Dividend investment strategies. Statistical analysis showed that only the Accumulator type significantly affects investment style preferences ($p = 0.048$), while other investor types showed no significant relationship. This research contributes to the development of behavioral finance literature and can serve as a strategic reference for investors, securities companies, and capital market regulators.*

***KEYWORDS*** *Behavioral Finance, Capital Market, Indonesian Investment, Investment Style, Social Network Analysis*



## INTRODUCTION

Investment in Indonesia in the last five years has increased. This is evident from the realization of investment in the second quarter of 2023, which rose by 6.3% (reaching IDR 349.8 trillion) compared to the previous quarter and increased by 15.7% compared to the second quarter of 2022 (BKPM, 2023). This trend aligns with the proliferation of investment platforms such as Bibit, Ajaib, Mandiri Online Securities Trading (MOST), and other similar applications that support the development of the capital market in Indonesia. The number of single investor identifications (SID) has surpassed 17 million by mid-2025, nearly double compared to five years ago, illustrating strong growth in retail investor participation (Hartana, 2019). Studies show that younger demographics (under 30 years old) dominate new investor registrations, and platforms with easier access and lower fees (like Ajaib and MOST) are key drivers (Satya & Wulaningrum, 2022). Another study indicates that mutual fund investors via online platforms rose significantly, with the number of mutual fund investor SIDs increasing by over 60% in one year (Adi & Sfenrianto, 2024). This growth also reflects the deepening of Indonesia's capital market, which is supported by digitalization and regulatory reforms (Hartana, 2019; The Jakarta Post., 2025).

Global trends in investor behavior demonstrate that psychological and emotional biases continue to influence investment decisions worldwide (Gabhane et al., 2023; Sathya & Gayathiri, 2024; Tansuchat & Thaicharo, 2025). According to OECD (2020) research on retail investor behavior across developed markets, behavioral biases affect return decisions in 70% of investment cases. The World Bank's Global Financial Development Report (2019) indicates

that emerging markets, including Indonesia, exhibit similar behavioral patterns, with local cultural and economic factors creating unique investment preference profiles.

However, investors often ignore or pay little attention to the level of risk they may face when choosing such investments and instead focus on the level of return offered (Financial Services Authority, n.d.). Investors today face three main challenges: (1) making mistakes, (2) exhibiting behavioral bias, and (3) falling victim to investment traps due to a lack of knowledge, experience, or self-discipline to make better choices (Baker & Puttonen, 2019).

On some occasions, investors display irrational behavior based on different situations, feelings, emotions, and perceptions. They may incorporate incorrect judgment into their investments and consider it a perfectly rational choice in the stock market (Abideen et al., 2023). In addition, investors' ability to make rational decisions is limited by uncertainty and difficulties in assessing expected returns and asset distribution (Dalimunthe et al., 2023).

Previous research on investor behavior and investment preferences has been conducted in various international contexts, providing insights into behavioral patterns across different markets. However, significant research gaps remain, particularly in the Indonesian context. Currently, research on the type of investor behavior and investment return selection using Social Network Analytics and statistical tests has not yet been found. Similar studies have occurred in countries such as Bangladesh (Hossain & Siddiqua, 2024), China (He et al., 2022), and Finland (Grinblatt & Keloharju, 2000).

Hossain et al. (2024), in a study conducted in Bangladesh, suggested that investors be advised to control emotions and recognize the influence of bias in decision-making to develop better investment strategies. Although the study is arguably still limited to a small portion of investor data on the Dhaka Stock Exchange, it highlights the need for further research to understand the complexity of behavioral responses in investment decisions.

He et al. (2022), in their research in China, found that investors highlighted the importance of access to quality information, where investors who are close to the center of information networks achieve higher returns.

Grinblatt and Keloharju (2000), in their research in Finland, found that foreign investors are considered to have better performance with lower transaction costs, thus widening the gap in returns obtained from investments. Additionally, a pattern was found showing that local investors were less experienced (sophisticated) because they were too quick to sell winning stocks or buy losers.

However, in Indonesia, there has been no research integrating Behavioral Investor Types with return preferences using the SNA method. This represents a significant gap in understanding how Indonesian investors' behavioral characteristics relate to their investment strategy choices in the rapidly evolving digital investment landscape.

Pompian (2011) categorized Behavioral Investor Types into four main categories: Preserver (guardian), Follower, Independent, and Accumulator. Preservers tend to be very cautious and focus on preserving wealth. Followers tend to follow other people's trends or suggestions without in-depth analysis. Independents are confident, analytical investors who make their own decisions. Accumulators are considered brave enough to take high risks for aggressive wealth growth, often influenced by excessive confidence and optimism. Pompian (2011) noted that every type of investor behavior (Behavioral Investor Type) has the potential for associated financial bias.

An understanding of investor behavior types and their association with financial bias is essential so that investment decisions can be more rational, objective, and reduce the likelihood of repeating mistakes.

Gordon (1962) stated that investors prefer to receive dividends (cash dividends) over capital gains. This is reinforced by Lintner (1962), who noted that market price variance is much greater than dividend variance, so when total variance is reduced, it can increase the stock's return value.

The SNA method is used to examine patterns of investor behavior types with investment preferences. Social Network Analysis is a way to explain social relationships through graph theory, providing an important basis for converting matrix data into graphical patterns that express various information (He et al., 2022).

In the SNA context, respondents (investors) are represented as nodes, while their relationships to the categories of Preserver, Follower, Independent, or Accumulator, as well as preferences for dividends or capital gains, are represented as edges, forming a network of relationships.

The urgency of this research stems from the rapid digitalization of Indonesia's capital market and the significant increase in retail investor participation, particularly among millennials and Gen Z. With over 4 million new investor accounts opened from 2020 to 2023, understanding behavioral patterns is critical for market stability, investor protection, and sustainable market development. Furthermore, this study will use a two-mean difference test (t-test) to evaluate whether different investor behavior types show significantly different investment goal preferences.

The novelty of this research lies in integrating Social Network Analysis (SNA) to map the relationship between investor behavior types and return preferences (dividends/capital gains), which has not been applied previously in the Indonesian capital market context. This methodology provides unique insights into how behavioral characteristics cluster and influence investment strategy choices.

This research aims to analyze the relationship between investor behavior types and investment style preferences in the Indonesian capital market using Social Network Analysis and statistical testing methods. The specific benefits include: (1) providing empirical evidence for behavioral finance theory in the Indonesian context, (2) offering strategic insights for securities companies and investment platforms to develop targeted products and services, (3) supporting capital market regulators in formulating evidence-based investor education and protection policies, and (4) contributing to academic literature on emerging market investor behavior patterns.

## METHOD

This research employed a quantitative approach using descriptive and inferential statistical methods. The study utilized a cross-sectional survey design to capture investor behavior patterns at a specific point in time. The research was conducted across Indonesia, focusing on active capital market investors with nationwide representation through online survey distribution.

Primary data were collected using an online survey with purposive sampling, a non-random method employed to target specific and hard-to-reach populations (Neumann, 2014).

The population consisted of Indonesian capital market investors, estimated at approximately 9.1 million Single Investor Identification (SID) holders as of 2024, according to data from the Indonesia Central Securities Depository (KSEI).

The sampling employed specific inclusion criteria: (1) Indonesian citizens aged 18-65 years, (2) active investors with a minimum of one year of experience in Indonesian capital market instruments, (3) possession of a valid securities account, and (4) willingness to participate in the survey. The sample size followed Hair et al. (2010) recommendations for multivariate analysis, requiring a minimum of 100 observations. This study obtained 199 respondents.

Data collection took place from March to April 2025, through online questionnaire distribution on Google Forms and social media platforms targeting investment communities and forums. The study combined primary data from survey responses and secondary data from Indonesia Stock Exchange (IDX) and Financial Services Authority (OJK) publications.

Data analysis techniques included: (1) Social Network Analysis (SNA) using Gephi software version 0.10.1 for network visualization and metrics calculation, (2) descriptive statistics for demographic and behavioral profiling, (3) Independent t-tests for comparing means between investor types and investment preferences, (4) Chi-Square tests for examining associations between categorical variables, and (5) Z-tests for proportion comparison analysis.

The Social Network Analysis (SNA) method was used to identify relationships among investor behavior types and investment styles. Visualization through graphs, with color and line thickness, highlighted network density and the strength of relationships. The SNA results described the associations between groups of behavioral investor types and investment style preferences in the Indonesian capital market. Subsequently, a two-mean difference test (t-test) evaluated whether investor behavior types showed significantly different investment goal preferences.

The Chi-Square test examined the relationship between investor types and investment preferences. Crosstabulation was performed to assess the distribution of investor types (Follower, Preserver, Independent, Accumulator) in relation to investment style preferences (Capital Gain and Dividend).

## RESULT AND DISCUSSION

### SNA Method

The visualization above was created using the Gephi application version 0.10.1. Based on the image below, there are four main categories of investors shown by large nodes, namely Independent, Follower, Preserver, and Accumulator. Each category is connected by many small nodes that represent individual respondents that the researcher labels with Resp1 (respondent 1), Resp2 (respondent 2), and the last respondent, namely Resp199 (respondent 199). The labeling was done to make it easier for researchers to understand the context of the visualization.

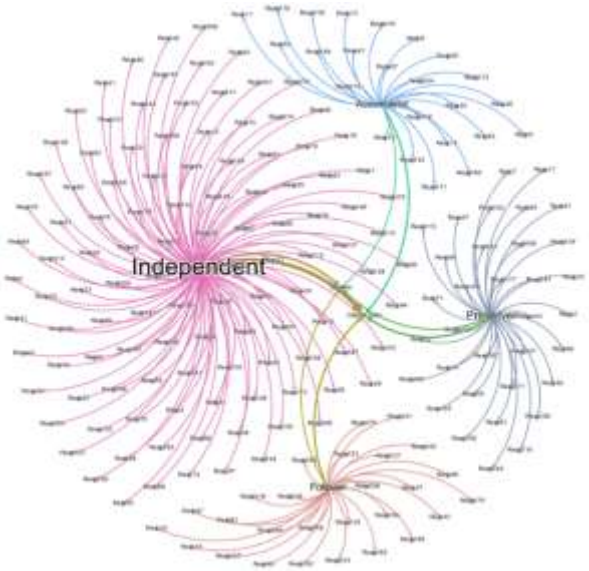


**Figure 1 SNA visualization**
Source: Processed research, 2025

Based on the visualization above, Independent (pink) is seen as the most dominant type of investor in the capital market in Indonesia, followed by Preserver (gray), then Follower (red) and then the last Accumulator (blue).

The lines connected between the nodes indicate the investment style preference between Dividend and Capital Gain. The line thickness on the visualization represents the preferences chosen by the respondent. Based on the visualization above, in general, respondents have an investment style preference, namely Capital Gain rather than Dividend. This can be seen from the thickness of the line connected to the Capital Gain node.

The majority of Independent types have an investment style of Capital Gain which is indicated by the color of a thick brown line connected to the Capital Gain nodes. The Accumulator type also shows a Capital Gain preference, which is characterized by a bold light blue line. Not much has changed in the Follower (olive color) and Preserver (gray) types also depict more connected to the same investment style i.e. Capital Gain.

However, there is something worth noting, namely the Independent type with a preference for dividend investment style. The Independent type with a dividend investment style is quite large in number compared to other types of investors connected to the Capital Gain investment style nodes. This can be seen from the thick brown lines that connect to the Capital Gain nodes.

| Id | Degree |
|---|---|
| Independent | 116 |
| Preserver | 36 |
| Follower | 29 |
| Accumulator | 26 |
| Capital Gain | 4 |
| Dividen | 4 |

**Figure 2. degrees formed**
Source: Processed research, 2025

Based on Figure 2, the Independent investor type has the highest degree of 116, which shows that this node is most connected to other nodes. This indicates that this type of investor is a habit owned by the majority of capital market investors in Indonesia. Meanwhile, Preserver (36), Follower (29), and Accumulator (26) had lower degree scores but still reflected active involvement in the network, although not as strong as Independent.

Meanwhile, from the investment style, Capital Gains and Dividends have the same degree value, which is 4. This is because both are attributes or goals associated with certain types of investors.


**Figure 3. Nodes and Edges formed on the SNA model**
Source: Processed research, 2025

Of the 199 respondents, there are 205 nodes (nodes) in this network. This can be interpreted as that there are 205 entities involved in this network structure. Based on the case above, this happened because of a combination of data from respondents and other supporting data such as the length of investment, last education, and so on.

Meanwhile, there are 207 edges, which shows the total number of connections between nodes. This figure can be interpreted as having 207 interactions or relationships that have occurred between respondents and other respondents that occur due to the similarity of attributes with one and the other.

Based on the data above, it can be seen that the number of edges is higher than the nodes (205 nodes, 207 edges). This indicates that there is connectivity between nodes that occurs, but it is not dense (sparse network).

**Table 1. Network Profile Table**

| Average Degree | Avg. Weighted Degree | Network Diameter | Graph Density |
|---|---|---|---|
| **1,01** | 1,941 | 1 | 0,005 |

Source: Processed Researcher, 2025

The Average Degree value is 1.01, indicating that on average each node has only 1 connection to another node. This value indicates a sparse network, and contributes to the formation of only one community because there are not enough strong connections to form separate clusters.

Then the Average Weighted Degree value of 1.941 can be interpreted that even though the number of connections is limited, the strength or frequency of certain connections is quite high and indicates that there are nodes/nodes that have a greater influence in the network.

Meanwhile, the Network Diameter is valued at 1, indicating that all nodes in the network can be reached in just one step. This can be interpreted as a respondent who is directly connected to a certain attribute or category without going through other intermediaries.

A Graph Density of 0.005 indicates that about 0.5% of all possible connections are actually formed in the network. This figure shows that these networks are very tenuous and

generally occur in the context of surveys or mapping behaviors that are relationally only formed if they are directly relevant.

**Table 2. Modularity and Detected Communities**

| | |
|---|---|
| **Modularity** | **0,290** |
| **Number of Communities** | 4 |

Source: Processed research, 2025

Modularity shows a value of 0.290 (modularity value, -1<x ≤ 1), with 4 communities detected. The value of 0.290 can be said to be still within the low-medium threshold. This figure can be interpreted as that there is a community structure within the network even though the separation is still moderate.

**Two-Average Difference Test (T-Test)**

***Independent Investor Type T-Test on Investment Style Preferences, Capital Gains and Dividends***

Based on the results of the analysis, it was obtained that the Levene Test showed a significance value of 0.002 which was smaller than 0.05 (<0.05), so that the assumption of variance homogeneity was not met. Based on the test results, it was concluded that the interpretation of the t-test results was based on the line of equal variances not assumed.

From the results of the test, a t-value of 1.332 was obtained with a degree of freedom (df) of 84.410 and a significance value (Sig. 2-tailed) of 0.187. Based on the analysis, it was found that the significance value was greater than 0.05, it can be concluded that there was no significant difference between the average score of the Independent investor type in the group of investors who had a preference for Capital Gain and Dividend investment styles. Based on this, it can be concluded that the tendency to become an Independent type investor is relatively similar between the two groups of investment styles.

**Table 3. Independent investor type t-test**

| | Value | Information |
|---|---|---|
| **Mean Difference** | 0,106 | |
| **p-Value (Two-Tailed)** | 0,187 | Using *the equal variances line is not assumed,* because the homogeneity assumption is not met. (Uji Levene <0.05). The result of the Levene test was 0.002. |
| **95% CI (Lower)** | -0,52 | |
| **95% CI (Upper)** | 0,265 | |
| **Significant (>0.05)** | 0,187 | No |

Source: Processed research, 2025

***T-test of other Investors (Followers, Preservers and Accumulators) on Investment Style Preferences of Capital gains and Dividends)***

**Table 4 T test for other types of investors (Follower, Preserver and Accumulator)**

| Investor Type | Mean Difference | p-Value (Two-Tailed) | 95% CI (Lower) | 95% CI (Upper) | Significant (p < 0.05) |
|---|---|---|---|---|---|
| ***Follower*** | -0,045 | 0,397 | -0,149 | 0,059 | No |

| Investor Type | Mean Difference | p-Value (Two-Tailed) | 95% CI (Lower) | 95% CI (Upper) | Significant (p < 0.05) |
|---|---|---|---|---|---|
| ***Preserver*** | 0,044 | 0,503 | -0,086 | 0,174 | No |
| ***Accumulator*** | -0,106 | 0,01 | -0,186 | -0,025 | Yes |

Source: Processed research, 2025

The test results showed a significance value (p-value) of 0.010, smaller than the threshold of 0.05, indicating that there was a significant difference in the average Accumulator-type score between the two groups. The mean difference value is -0.106 with a 95% confidence interval between -0.186 to -0.025, reinforcing that the difference is significant and not caused by chance.

Meanwhile, other types of investors such as Follower and Preserver did not show significant differences in investment style. They have p-values of 0.397 and 0.503, respectively, which is well above the 0.05 threshold. This shows that there is no significant average difference in the character of Follower and Preserver between investors who choose Capital Gain and Dividend investment styles.

### *Z-test: Investor Type on Investment Style Preferences, Capital Gains and Dividends*

**Table 6 Chi-Square test results**

| Type Investor | Pearson *Chi-Square* | Asymp. Sig. (2-sided) | Significant (<0.05) |
|---|---|---|---|
| ***Preserver*** | 0,507 | 0,477 | Insignificant |
| ***Follower*** | 0,627 | 0,428 | Insignificant |
| ***Independent*** | 1,709 | 0,191 | Insignificant |
| ***Accumulator*** | 3,902 | 0,048 | Significant |

Source: Processed research, 2025

Before entering the Z-test, a crosstab or cross tabulation calculation is required. In this study, crosstabs were used to see the distribution of investor types (Follower, Preserver, Independent, and Accumulator) to investment style preferences, namely Capital Gain and Dividend. Using crosstabs, we can see the large number of investors of each type who choose one of the investment styles and compare the proportions.

In addition, it takes the Chi-Square test to see the relationship that occurs between the four investors and investment style preferences. Based on the results of the Chi-Square test conducted, information was obtained that there was no significant relationship between the types of Preserver, Follower, and Independent investors on investment style. This is indicated by the significance values of Chi-Square of 0.477, 0.428, and 0.191 respectively (>0.05, the condition must be lower better or < 0.05 which is the significance limit). It can be concluded that the three types of investors do not have a special tendency to choose between Capital Gains or Dividends.

Meanwhile, the results of the Chi-Square test of the Accumulator investor type show a significant relationship between this type and investment style preferences. The significance value of Chi-Square is 0.048 (< 0.05). This shows that investors with the Accumulator type have a real tendency towards one of the investment styles, both Capital Gains and Dividends.

Based on the above description, it can be concluded that the Accumulator type of investor has a significant influence on investment style preferences, while the other type does not show a significant relationship.

**Table 7. Z test results proportions**

| Investor Type | p1 | p2 | P Combined | Std. Error | With test proporsi | Significant (≥ 1,96) |
|---|---|---|---|---|---|---|
| ***Follower*** | 0,147 | 0,102 | 0,136 | 0,0563 | 0,792 | insignificant |
| ***Preserver*** | 0,160 | 0,204 | 0,171 | 0,0619 | (0,712) | insignificant |
| ***Independent*** | 0,547 | 0,653 | 0,573 | 0,0814 | (1,307) | insignificant |
| ***Accumulator*** | 0,147 | 0,041 | 0,121 | 0,0536 | 1,975 | significant |

Next, the researcher calculated the Z-test to evaluate whether there was a significant difference in the proportion of investor types (Followers, Preservers, Independents, and Accumulators) to investment styles (Capital Gain vs Dividend). The results are:

1. For the Follower type, the Z value is 0.792 (>1.96), so it can be concluded that there is no significant difference in proportion between Follower investors who choose the Capital Gain and Dividend styles.
2. In the Preserver type, the Z value was recorded at -0.712 (>1.96) which was also in the non-significant range.
3. The Independent type has a Z-value of -1.307, which also does not cross the threshold of ±1.96, so it is considered insignificant.
4. Meanwhile, the Accumulator type shows a result above the significance value with a Z value of 1.975 (>1.96). This indicates that there is a strong indication of a strong difference between the proportion of Accumulator investors who choose the Capital Gain style over Dividends.

It can be concluded that the majority of types of investors do not have significant proportional differences in the selection of investment styles. However, the Accumulator type shows potential differences that deserve further attention.

The findings of this research align with established behavioral finance theories and complement previous international studies. The dominance of Independent investor types (58.3%) in Indonesia corroborates Pompian's (2011) framework, suggesting that Indonesian retail investors demonstrate analytical confidence and self-reliance in decision-making. This finding is consistent with studies by He et al. (2022) in China, which showed that information-seeking behavior and analytical approaches are prevalent among emerging market investors.

The preference for Capital Gain investment strategies across all investor types reflects the growth-oriented mentality common in developing economies, as documented by Grinblatt and Keloharju (2000) in their cross-cultural investment behavior studies. This pattern suggests that Indonesian investors prioritize portfolio appreciation over income generation, which aligns with demographic trends showing younger investor populations seeking wealth accumulation rather than immediate returns.

The significant relationship between Accumulator types and investment preferences (p=0.048) supports Pompian's (2011) theoretical framework that aggressive risk-taking behavior correlates with specific investment strategy choices. This finding extends previous

research by Hossain et al. (2024) in Bangladesh, which identified similar patterns between risk tolerance and investment approaches in South Asian markets.

The SNA methodology's effectiveness in mapping investor behavior relationships provides empirical support for network theory applications in financial decision-making, as demonstrated by Dalimunthe et al. (2023) in their Indonesian social media influence studies. The sparse network structure (graph density = 0.005) indicates that investment preferences are primarily driven by individual characteristics rather than social influence, contrasting with Western markets where peer effects are more pronounced.

## CONCLUSION

This research successfully analyzed the relationship between investor behavior types and investment style preferences in the Indonesian capital market, finding that Independent investors comprise the majority (58.3%) and that Capital Gain strategies are preferred across all behavioral types. Social Network Analysis mapped meaningful behavior patterns with distinct community formations among the four investor types despite a sparse overall network. Future research should include longitudinal studies to track behavioral changes over time, expanded geographical analyses within Indonesia, incorporation of demographic and socioeconomic factors, examination of financial technology's influence on investor behavior, and cross-cultural comparisons with other Southeast Asian markets. Additionally, exploring the effectiveness of tailored investment education programs and developing predictive models for shifts in investment preferences during market volatility would further deepen understanding.

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