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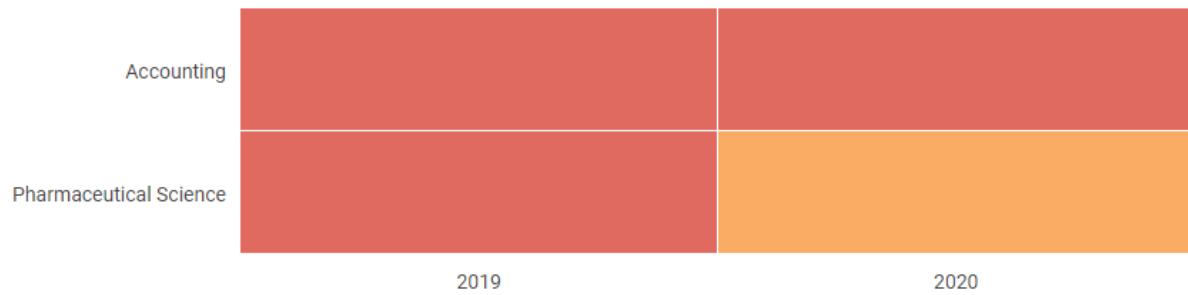
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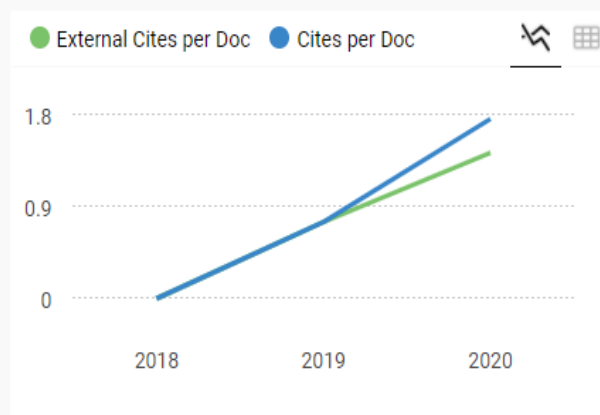
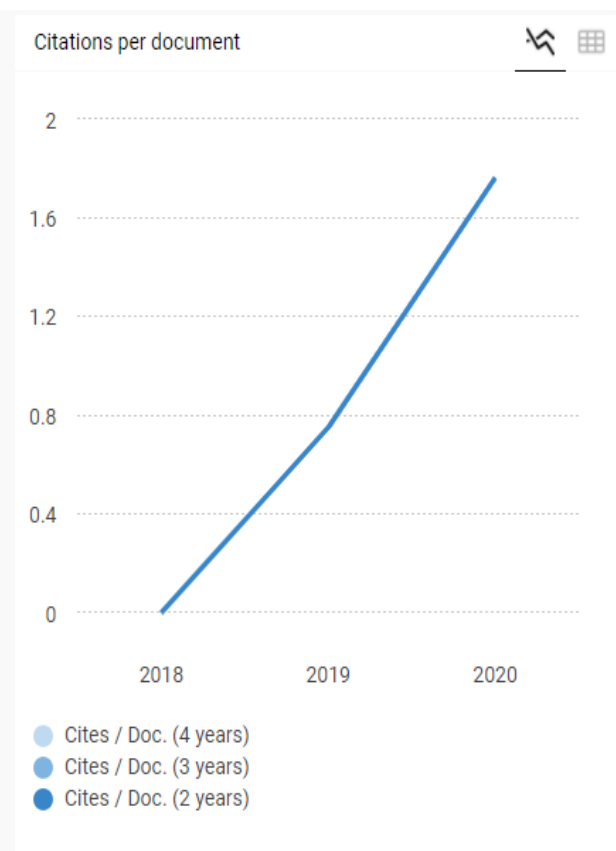
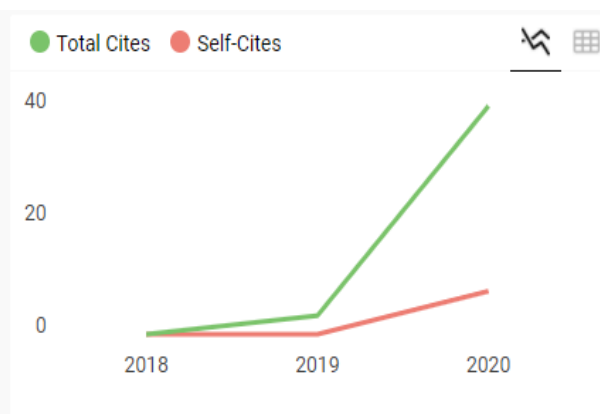
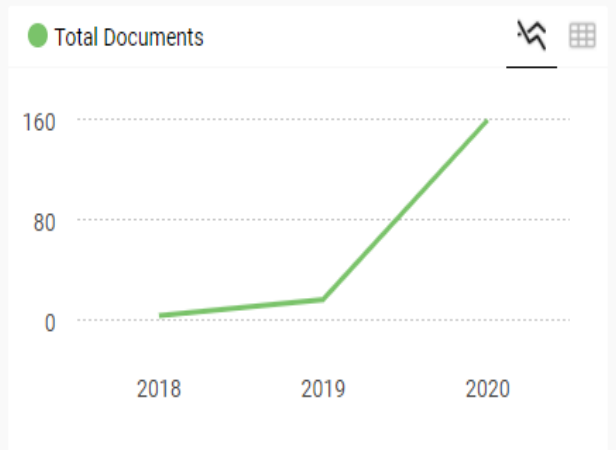
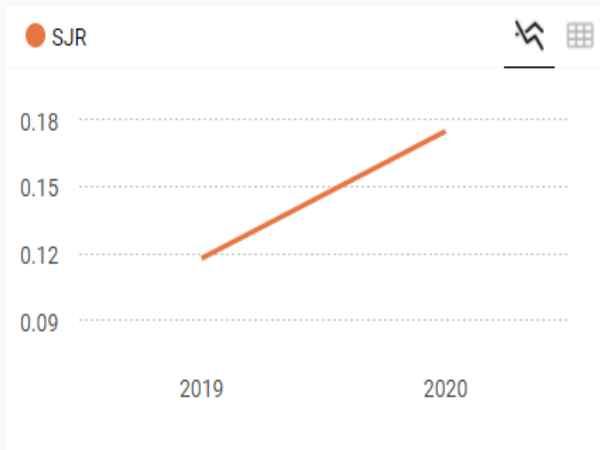
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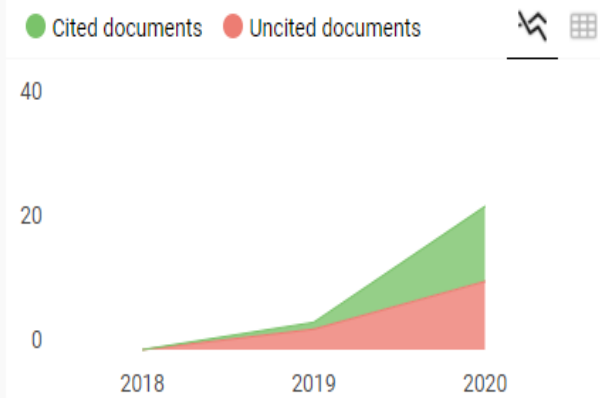
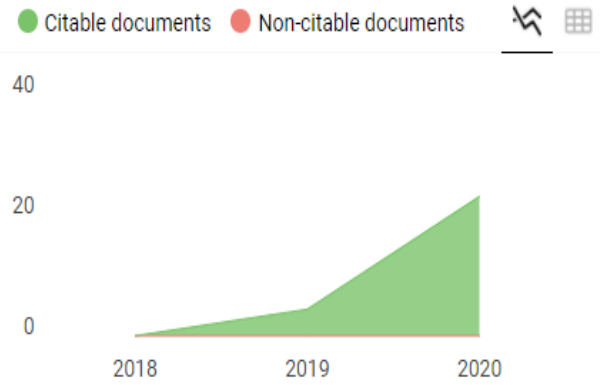
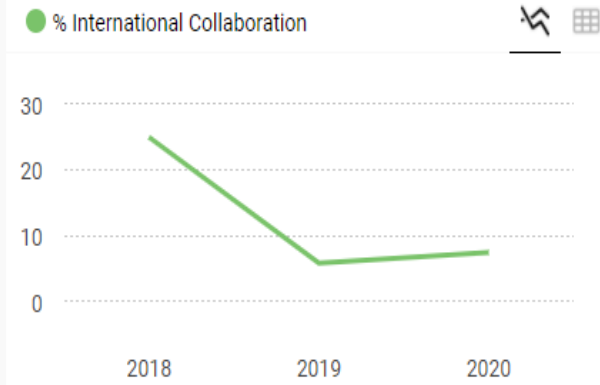
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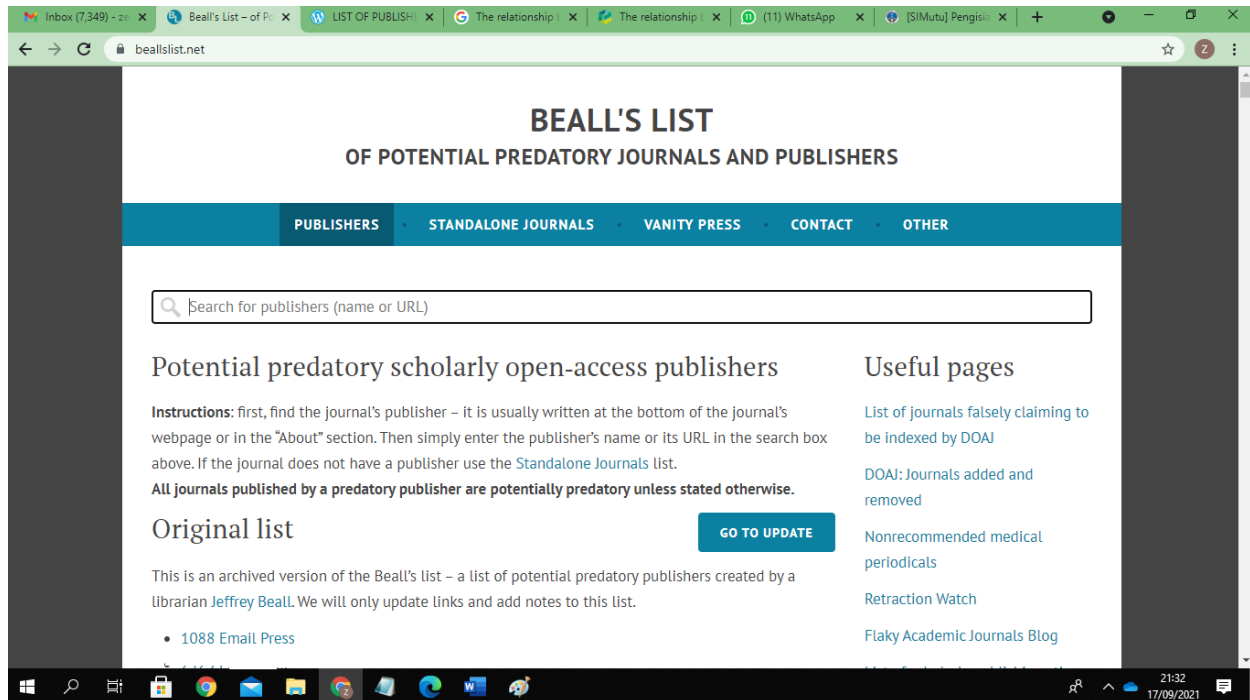
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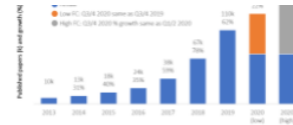
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- Global Advanced Research Journals
- Global Business Research Journals
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- The Global Journals
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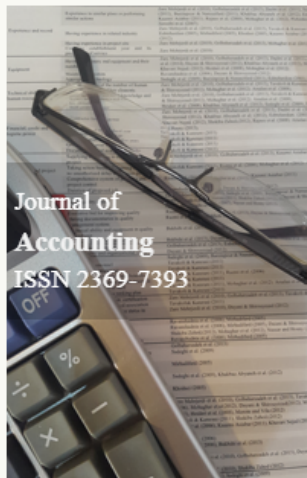
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## The effect of essential information and disposition effect on shifting decision investment

Sautma Ronni Basana<sup>a</sup> and Zeplin Jiwa Husada Tarigan<sup>b\*</sup>

<sup>a</sup>Finanace Department, Petra Christian University, Siwalankerto 121-131 Surabaya, Indonesia

<sup>b</sup>Master Department, Petra Christian University, Siwalankerto 121-131 Surabaya, Indonesia

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### ABSTRACT

The current pandemic era has given uncertainty to the country's economic growth and resulted in many countries experiencing a drastic decline in share prices. This condition impacts investors' perceptions of the funds that have invested in the stock market. This study investigates the effect of essential information and disposition effect on shifting decision investment with the character investor's moderation as the moderator variable. A survey was conducted on 252 investors who have invested in the Indonesian stock exchange. The Data processing used the partial least square (PLS) technique. This study indicates that essential information for investors in the pandemic era can increase the disposition effect in deciding beneficial share ownership. The essential information obtained by investors in the covid era regarding stock market movements and its internal performance in the stock market list can increase investor shifting decisions. The disposition effect can have a significant effect on shifting decision investors. Essential information related to stock price movements and its internal performance affects investors' courage to take risks and provide optimism for shifting decisions. Then the investor type does not affect the disposition effect on shifting decisions. This study contributes to the theory of financial behavior in decision making by considering psychological factors when uncertainty exists in the stock market.

## 1. Introduction

Investors invest in several funds with the hope of obtaining higher returns in the future compared to the current result. Investors always try to tailor to investors' needs but have a time limit in making the right decision. Yearly reports by publicly traded firms and individual investors' information demands for investment decisions (Dang et al., 2020). Investors can invest in the short and long term. Short-term investments are carried out to take profits in the short term (less than one year), whereas long term investment will generate more profits but require a relative lot of funds (Nia, 2020). Investors who make short-term investments, called traders, carry out day-to-day trading activities where buying and selling transactions are carried out more than once a day. Conversely, when investors need investment to overcome long-term obligations, investors are advised to use their funds on long-term investment activities, namely, activities buy and hold on the stock market (Zahera & Bansal, 2019). Investors have invested in shares before the COVID-19 (Pandemic Coronavirus Disease), estimated to be in late December 2019 in Wuhan, China. This incident resulted in the Chinese government taking a strict policy or regulation on social and economic activities such as carrying out lockdowns. The policies set by the Chinese government have indeed had an impact on the spread of the virus but also have an impact on global economic growth (Wang et al. 2020). Pandemic conditions determine changes in global stocks around the world and have an impact on stocks in the Asian region and have

\* Corresponding author.

E-mail address: [sautma@petra.ac.id](mailto:sautma@petra.ac.id) (Z. J. H. Tarigan)

an impact on stock price conditions in ASEAN. Research conducted by Chia et al. (2020) stated that the Covid 19 outbreak caused Malaysia's economic changes, very much affected by China's policies and regulations. Malaysia is experiencing economic disruption due to China's lockdown due to the need for industrial raw materials in Malaysia, mostly from China and one of the most massive trades. The COVID-19 epidemic has impacted Jordan's whole global financial market. The Jordanian financial market responded to the epidemic by experiencing significant volatility because of worldwide market disruptions (Yaseen & Omet, 2021). The coronavirus outbreak is affecting Malaysian stock prices. According to the Kuala Lumpur Composite Index (KLCI), cases related to the coronavirus outbreak have impacted Malaysia's share prices. Lee et al. (2020) has researched 13 sectors, including the consumer, Construction, Energy, Finance, Healthcare, Industrial products, Plantation, Property, Real Estate Investment Fund (REIT), Technology, Telecommunication, Transportation, and Utilities sectors. Lee et al. (2020) found that the sectors studied on the Malaysian stock exchange were significantly affected by the coronavirus's impact, and only one sector was not significantly affected, namely Real Estate Investment Fund (REIT). Stock exchange trading in Indonesia experienced shocks when there was a coronavirus. Investors also experienced a change in expectations when the virus was present. There is a change in risk and return obtained by investors and significant changes in the capital market price, which impacts investors to make transactions quickly and benefit from getting a good return. Meanwhile, the banking and consumer sectors can be used by investors as a long-term alternative (Nia, 2020). Investors who had invested in the stock market before the coronavirus pandemic did not withdraw the investment funds until the coronavirus's occurrence. Investors not only judge based on the fundamental analysis of a company but also see based on the perceptions built up against a company or brand (De Vries et al., 2017). A market is efficient when the stock price listed on the stock exchange reflects all available and relevant information. The Covid 19 pandemic era's situation has an impact on investor behavior to take an opportunity to get a high return or a high risk (Yaseen & Omet, 2021). Investor behavior will use existing data on the capital market and analysis used to make the right decision and predict financial market conditions correctly (Yalcin et al., 2016; Makoni & Marozva, 2018). Individual investors' decisions are categorized into four criteria: overconfidence, disposition effect, herding bias, and home bias/familiarity bias (Kumar & Goyal, 2015). Finance Behavioral arises from the statement that the anomalies in the market are caused by investors making irrational decisions (Phuong, 2020). Investors should look at how the management manages the firms efficiently and look at the prospects from the profitability perspective, looking at the percentage of income used to fund operational costs, non-operational costs, and dividend distribution to shareholders (Aryantini & Jumono, 2021).

Saliency appears as a bias that falls into the heuristic group that affects investors' investment decisions. Saliency is a condition in which investors make investment decisions based on familiarity or a close feeling towards an investment object or have essential information that investors consider primary (Chaudary, 2018). Saliency is the essential information and is considered the most robust cognitive bias. The reason is that because this bias shows the most significant impact on the decision-making process. Investors get the most influence from saliency than other types of bias, also known as essential information for investors (Yalcin et al. 2016). Investors tend to sell stocks when they are in a profitable position because they are worried that changing market trends can reduce profits (Saravanan & Satish, 2020). Besides, investors can also hold shares they own when they are in a loss position because of regret if they sell their shares at a loss. The Covid era saw a decline in stocks in various countries so that it took time to recover. In Vietnam, the stock market experienced a drastic decline during the lockdown period during the Covid 19 period (Anh & Gan, 2020). The covid 19 also caused the decline of Indonesia's stock market index from February 2020 until September 2020. This situation affects the investor decisions in determining the allocation of investment funds, whether to stocks that had before the pandemic covid 19 or have made shifting towards stock- shares that are considered potential with vital information in making the right decision. This study aims to determine whether a shifting investment decision is caused by essential information and disposition effect with investors type as a moderator in Indonesian during the pandemic era.

## 2. Literature review

### 2.1 *Financial behavior and investment*

A decision making to invest in several funds used psychological factors at their disposal (Kumar & Goyal, 2015; Phuong, 2020). An investor's behavior is related to the emotional involvement, nature, preferences, and various things inherent in humans as intellectual and social beings are interacting in deciding to take any action that investors think is the right decision. An investment decision is based not only on a company's fundamental analysis but also on a company (De Vries et al. 2017; Dang et al., 2020). An individual investor's ability to make the right decisions will result in having no financial problems in the future and show healthy financial behavior (Saravanan & Satish, 2020). Investors who rely on reasoning and acting following financial market data will act based on the value of shares owned at the company book value, not based on behavioral factors (Yalcin et al. 2016). Investors who make investments by assuming a financial market is an efficient form of the market will state that a company stock value is the same as its book value or intrinsic value (De Vries et al., 2017). The market depends on short-term and long-term investors to form an efficient market (Park & Hoorn, 2012). Short-term investors have a high trading frequency, which makes the market liquid. Meanwhile, long-term investors can create market stability. Long-term investors are those who have long-term obligations (Park & Hoorn, 2012). The long-term investment includes investing in assets that are not liquid (Phuong, 2020). Using long-term investments, investors can accept lower risks than using short-term investments. The user of funds (the company) benefits from obtaining stable long-term funding. The benefits received include stable market conditions, stable economic growth, and growth in state

infrastructure funding for the community. Investors cannot benefit from using long-term investments to address short-term risks.

## 2.2 Essential Information in Stock Market

Use practical guidance as essential information in determining the right decision (Tarigan et al., 2020). Decision making determined by investors only uses information that is very important because the information obtained is incomplete and less relevant to be used as a basis for decision making but must make a decision right away (Thuan et al. 2020; Tarigan et al., 2021). Investors that trade on the Vietnamese stock market on a regular basis discovered that there is a link between psychology and investor behavior, and that firm size affects stock returns for investors (Phuong, 2020; Dang et al., 2020). Heuristics can make decision making faster, but heuristics can also create bias. The bias caused by this heuristic can make decisions that are taken irrational. Saliency is a condition in which investors make investment decisions based on familiarity or essential information that is emotionally close to the investment object (Chaudary, 2018). Investors are willing to forego the benefits of diversification to focus on some very well-known companies. Investors must make risky decisions. Investors are more familiar with companies listed on the first market because they are larger, older, and more established (Yaseen & Omet, 2021). Investors feel more secure in choosing familiar information (essential information), especially in making decisions that require speed (Yalcin et al., 2016). Investors in the stock market consider more familiar newspaper articles than newspaper articles (Birz, 2017).

## 2.3 Disposition Effect

Investment relates to uncertainty factors so that information is needed. Stock investing in short-term investing activities is called trading, while long-term investing activities are called investing (Suresh, 2013). Trading and investing both include investing in the hope of making a profit. A trader will sell his shares when the target is met or "obliged" to come out to minimize losses (Zahera & Bansal, 2019). Investors are loss averse, the disposition effect makes investors sell the shares of the firms with good outlook too quickly and hold the shares of the firms with gloomy outlook too long. Investors are unwilling to accept the possibility of a decline in share prices when the share price is rising, so the winners' shares are sold too quickly (Kumar & Goyal, 2015). Conversely, investors will experience more significant losses because they do not immediately sell losers' shares as a prospect theory. Several causes were identified, including prospect theory, mental accounting, regret aversion, seeking pride, stop losses, December effect, overconfidence, sign realization preference, mean reversion, entrapment research, and social trust (Zahera & Bansal, 2019). Investors in making decisions tend to sort various investment types into different accounts by ignoring the correlation between accounts, just like an investment portfolio (Makoni & Marozva, 2018). The use of prospect theory is by selling profitable stocks and avoiding unprofitable stocks or holding losing stocks for a particular time to break even and even suffer more significant losses (Charpentier et al., 2016). Seeking pride and avoiding regret is a behavior that arises from selling winners' shares too quickly and holding losers' shares for too long. Losses experienced by investors positively impact the disposition effect even though they reduce investors' gains (Tenberge, 2009). Stop losses are a decision made by investors to postpone selling shares that generate gains until they reach the correct price and avoid detaining or selling shares whose prices have fallen (Zahera & Bansal, 2019; Fischbacher et al., 2017). Overconfidence is a behavior that investors have with confidence that the investment they hold will provide good value in the future, thereby increasing the disposition effect (Ahmad, 2020).

## 2.4 Investor type

Investors who invest in buying stocks without a time limit on when to go out are called a buy and hold activity, which aims to provide returns that can offset or exceed inflation and help achieve long-term goals (Zahera & Bansal, 2019). Investors are guided by value investment to invest in recognized companies and buy only recognized shares. However, this contradicts the claim that sometimes a familiar choice is not always the right choice when choosing an investment. Because the return on equity ratio exceeds the rate of return expected by investors, the higher the proportional retained profit, the higher the price earnings ratio. It is congruent with the Value of the Firm idea, which states that the shareholders' well-being should be prioritized over the firm's (Aryantini & Jumono, 2021). The choice of investment in India is divided based on the type of investor, namely, relaxed, technical, informed, and cautious (Mittal & Vyas, 2008). Research conducted by Kim et al. (2017) determines that investors are divided into 3, namely investors acting as individuals, institutional investors from within the country, and institutional investors from abroad. The three types of investors differ in obtaining essential information and sophistication of information, thus showing different trading responses. Research conducted by this type of investor is divided into four clusters: novice learner, competent confirmer, cautious anticipator, and efficient planner (Sahi & Arora, 2012). Individuals who buy or sell shares within a time to generate risk are categorized as conservative investors, moderate investors, and aggressive investors (Nagpal & Bodla, 2009). In the pandemic era, there is massive pressure on investors, so researchers state a form of a project undertaken by investors so that they are divided into three types of investors, namely pessimistic statements given a value of 1, Most likely given a value of 2 and Optimistic given a value of 3.

## 2.5 The relationships between concepts

The covid era changed the stock market, and when the lockdown was carried out, certain countries needed time to recover (Anh & Gan, 2020). The pandemic era conditions made it difficult for investors to correctly carry out the analysis. Information obtained by investors about the company's competitiveness and its operational performance following its

financial reality conditions provides essential information for investors in making the right decisions (Tarigan et al. 2020). Making decisions about the information essential for investors is very decisive and is also called salience, which is one of the biases that can influence investors' investment decisions (Chaudary, 2018). The most prominent information is needed and is considered very important so that it becomes the primary consideration in making decisions. Investors use information salient to overcome difficulties in making investment decisions (Yalcin et al. 2016). Investors choose to invest in companies that are more familiar because it will increase investor confidence and optimism. Research conducted by Wang et al. (2011) revealed that company shares known to investors are less risky and better understood. This behavior shows that investors in Switzerland are affected by familiarity bias in making investment decisions. In comparison, Malaysian retail investors' investment decisions are influenced by patriotism (Jaiyeoba & Haron, 2016). Investors possess the spirit of nationalism intending to invest in local company shares because they feel they are participating in the country's economic development, thus creating a familiar feeling. Based on this argument, the first hypothesis is proposed as follows:

**H<sub>1</sub>:** *Essential information affects investor decisions shifting.*

Investments made by investors tend to sell the winning shares too quickly and hold the falling shares for too long is called the disposition effect (Ahmad, 2020; Zahera & Bansal, 2019; Fischbacher et al. 2017). Holding on to investments for a long time can provide investors losses because the longer the investment does not break even, but it decreases so that it positively impacts the disposition effect (Tenberge, 2009). Inaccurate timing, such as selling shares winners too quickly, can cause the realized profits to be not optimal. Also, shares' initial purchase price is a benchmark for assessing these shares' loss rates, making investors hold the shares too long losers. The disposition effect will arise when investors do not want to lose when they have assets or have future expectations to produce better profits. The disposition effect on individual investors tends to realize a share of winners rather than losers from data, which shows that investors hold losers' shares rather than shares winners' (Zahera & Bansal, 2019). Stocks that have a good performance one day will also experience a price decline. Based on these arguments, the second and third hypothesis is formulated as follows:

**H<sub>2</sub>:** *Essential information affects the disposition effect.*

**H<sub>3</sub>:** *The disposition effect influences the investor decisions shifting.*

The investor group that conforms to behavior bias is dominated by investors who have stock trades experiences. Group investors with these characteristics prefer long-term investment activities compared to short-term investment activities (Kourtidis et al., 2011). This result contradicts the statement that activities trading carries a higher risk than investing more experienced investors (Suresh, 2013). The type of investor who can obtain detailed information will respond differently to the type of investor who gets information in general and sorts out information essential for decision making (Kim et al. 2017). The disposition effect can also occur on traders when making the right investment decisions, both individual and professional investors. Individual investors are vulnerable to the disposition effect and are determined by demographic factors related to age, gender, and investor experience (Zahera & Bansal, 2019). Moreover, investors tend to be exposed to the disposition effect when taking long-term investments compared to short-term investments because past stock movements affect investors' expectations of their shares (Svedsater et al., 2009). The disposition effect arises from expectations about stock prices by relating the latest stock's short-term movements. At the same time, when an investor is about to sell his shares, he will first compare it with the shares' initial purchase price. The type of investor determines that existing data is processed into essential information for everyone to make an investor shifting decision. The data processed by each investor uses long-term data, and some use relatively short data. This data movement results in a disposition effect so that the type of investor drives shifting decision making. Hence, the fourth and fifth hypothesis is determined as follows:

**H<sub>4</sub>:** *Investor type is an essential driver of information on investor decision shifting.*

**H<sub>5</sub>:** *Investor type is a driver disposition effect on investors decision shifting.*

### 3. Research method

This study population is all stock investors domiciled Surabaya and already performs shifting in during the covid era in March 2020 to September 2020. Samples are some of an affordable population with the same characteristics as the population, namely investors who have made changes to their investment decisions. This study data source is primary data obtained using questionnaires distributed. Three hundred twenty-two (322) respondents filled the questionnaires, 23 respondents did not fill in the questionnaire in terms of the type of investor, and 47 respondents never made a shifting decision during the covid period, namely that they did not change their share ownership before the pandemic until September 2020. Data analysis used the partial least square (PLS) technique utilizing the SmartPLS software. Data analysis resulted in the outer model assessment in terms of validity and reliability (Table 1). Based on Table 1. The lowest outer loading value was obtained at SID5 (setting aside income to invest during the pandemic) with a value of 0.729 and above 0.500, so it can be said to be valid. All indicators in the study were declared valid because they had a loading factor value greater than 0.500. These results indicate that the research has met the requirements of the external model validity and reliability. Table 1 also shows that the mean value on the variable disposition effect (DE) is 3,903, and the mean item of measurement is between 3,870-3,950. This finding shows that investors tend to have a disposition effect. Essential information (EI) has a

mean value of 4,092 and a mean measurement item between 3,600-4,290. This result indicates that investors use information that is appropriate and has a positive meaning for investors in making investor shifting decisions. Investor decision shifting with a mean of 3,960 and the mean of measurement items are at an average value of 3,650-4,330 means that investors have made investor shifting decisions in the pandemic era by paying attention to changes in stock value. The variable moderating investor type with a mean of 2,180 and the mean of measurement items is at a value of 2,090 and 2,270, which indicates that the type of investor determines investors' shifting decisions. Based on Table 1. The lowest outer loading value was obtained at SID5 (setting aside income to invest during the pandemic) with a value of 0.729 and above 0.500, so it can be said to be valid. All indicators in the study were declared valid because they had a loading factor value greater than 0.500. For the reliability test, it was found that the reliability value was above 0.700, and Cronbach's Alpha was above 0.700, and Average Variance Extracted (AVE) is above 0.500, so it is stated that all research variables indicators are reliable. These results indicate that the research has met the requirements of the external model validity and reliability.

**Table 1**  
The results of factor loadings

Variable/Indicator's	Outer Loading	Mean
Disposition Effect (DE) with Reliability = 0.868; Cronbach's Alpha = 0.797; Average Variance Extracted (AVE) = 0.623		3.903
DE.1 (Tends to delay the sale of shares which have decreased in value)	0.731	3.920
DE.2 (Tends to sell stocks that have an increase in value)	0.750	3.870
DE.3 (regret when selling shares when lost position)	0.857	3.870
DE.4 (tend to treat each type of stock portfolios separately)	0.812	3.950
Essential Information (EI) with Reliability = 0.901; Cronbach's Alpha = 0.863; Average Variance Extracted (AVE) = 0.646		4.092
EI1 (Expert opinion as information when investing)	0.776	4.290
EI2 (Investing in companies has positive information)	0.809	4.100
EI3 (Investing in companies that have a good reputation)	0.873	4.320
EI4 (Investing in companies whose product information is already well known)	0.818	4.150
EI5 (Investing in companies that match investor preferences)	0.737	3.600
Investor Type (IT) with Reliability = 0.968; Cronbach's Alpha = 0.934; Average Variance Extracted (AVE) = 0.938		2.180
IT1 (Individual perceptions in deciding stock positions concerning risk)	0.965	2.270
IT2 (Individual perceptions in deciding stock positions with project characteristics)	0.972	2.090
Shifting Decision Investor (SDI) with Reliability = 0.882; Cronbach's Alpha = 0.832; Average Variance Extracted (AVE) = 0.601		3.960
SID1 (Relocation or shifting of share ownership during the pandemic era)	0.747	3.930
SID2 (Portfolio management control during the pandemic era)	0.731	3,650
SID3 (Having a portfolio that focuses on several types of potential assets)	0.820	3,730
SID4 (Investing changes into long-term assets Length)	0.840	4,160
SID5 (Set aside income to invest during a pandemic)	0.729	4,330

Table 1 also shows that the mean value on the variable disposition effect (DE) is 3,903, and the mean item of measurement is between 3,870-3,950. This finding shows that investors tend to have a disposition effect. Essential information (EI) has a mean value of 4,092 and a mean measurement item between 3,600-4,290. This result indicates that investors use information that is appropriate and has a positive meaning for investors in making investor shifting decisions. Investor decision shifting with a mean of 3,960 and the mean of measurement items are at an average value of 3,650-4,330 means that investors have made investor shifting decisions in the pandemic era by paying attention to changes in stock value. The variable moderating investor type with a mean of 2,180 and the mean of measurement items is at a value of 2,090 and 2,270, which indicates that the type of investor determines investors' shifting decisions.

#### 4. Analysis and discussion

A descriptive analysis is performed on the respondent demographic characteristics. Firstly, based on age, respondents consist of 17-30 years old (23%), followed by respondents with an age range of 31-45 years (31%), respondents with an age range from 45-60 group (38%), and the rest age group over 60 years. The respondents' largest component is in the 31-60 years age group because they have worked for a long time and have more stable incomes. Besides, respondents' characteristics based on education found that 51% had taken an undergraduate/equivalent education, 35% had a master's education (S2), 12% had a doctoral education (S3), and the rest were high school graduates. The subsequent analysis is hypothesis testing, and the results are shown in Table 2 and Fig. 1.

Table 2 and Fig. 1 show the hypothesis testing results. Essential information affects the disposition effect (H1) with the path coefficient of 0.717 and a p-value of 0.000 (less than 0.05) to state a hypothesis is supported. It can be stated that essential information for investors in the pandemic era can influence the disposition effect. Investors who get essential information about companies related to their shares will move funds quickly or hold shares for a relatively long time. This condition occurs when investors find stock market conditions that are not conducive or uncertain during the pandemic era. The second hypothesis stated by essential information affects shifting decision investors (H2) by 0.560 and with a p-value of 0.000. This result shows that investors' essential information in the covid era can significantly influence investor shifting decisions. Investors are looking for information that is considered necessary in holding shares owned or making changes in share ownership, depending on the information that is considered necessary. In the era of a pandemic, investors are always trying

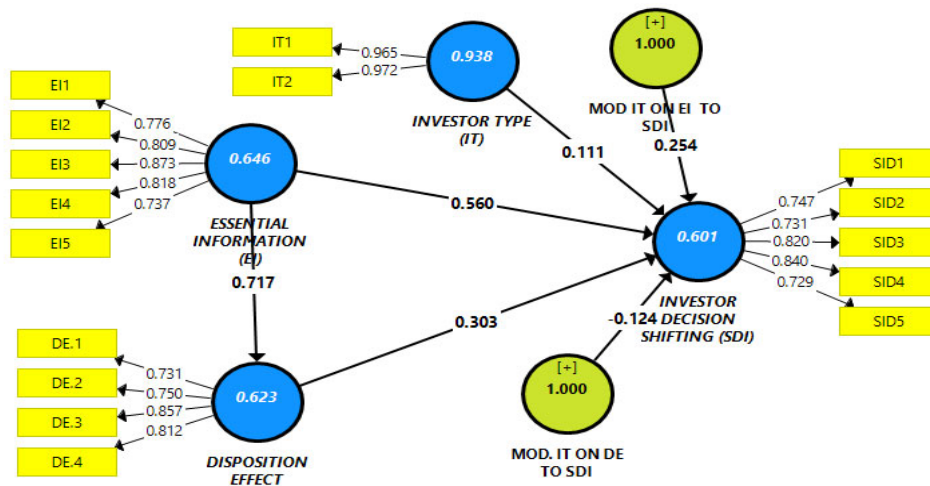


to find stocks that distribute dividends, resulting in shifting decision investors. Stocks that made dividends eventually saw a considerable price jump and were even above the value before the pandemic conditions, but the share price decreased drastically after listing shares.

**Table 2**

The results of testing the hypotheses

Hypothesis	Original Sample	P-Value
Disposition Effect (DE)→ Shifting Decision Investor (SDI)	0.303	0.002
Essential Information (EI) → Disposition Effect (DE)	0.717	0.000
Essential Information (EI) → Investor Decision shifting (SDI)	0.560	0.000
Investor Type (IT) → Shifting Decision Investor (SDI)	0.111	0.218
Mod IT on EI to SDI → Shifting Decision Investor (SDI)	0.254	0.015
Mod IT on DE to SDI → Shifting Decision Investor (SDI)	-0.124	0.244



**Fig. 1.** Research model for analysis results

The third hypothesis, the disposition effect affects shifting decision investors, has a coefficient of 0.303 and a p-value of 0.002. This finding confirmed that the third hypothesis is supported. It can be stated that the disposition effect affects investors' shifting decisions. The fourth hypothesis states that investor type is essential driver information on shifting decision investors in the pandemic era is obtained with a path coefficient value of 0.254 and a p-value of 0.015, and it can be said that the fourth hypothesis is acceptable. This result shows that the type of investor can be a moderator variable between essential information on investor shifting decisions. Investors' important information related to stock market developments and information related to companies' lists can give investors the courage to take risks and provide an optimal level of investor shifting decisions. The fifth hypothesis is Investor type is a driver disposition effect on shifting decision investors in the pandemic era with a path coefficient value of -0.124 and a p-value of 0.244 (greater than 0.05), so it can be said that the fifth hypothesis is rejected. This finding shows that the investor type cannot be a moderator variable between the disposition effect on shifting decision investors. This condition illustrates that the speed with which investors sell shares that have a profit, and the length of time investors hold shares that experience losses do not impact investor shifting decisions. The pandemic era for investors requires essential information related to stock market movements and performance conditions listed on the stock market to make the right decisions.

## 5. Conclusion

The pandemic era conditions resulted in differences and a drastic decline in the stock market, which resulted in many investors having difficulty choosing stocks that matched expectations. This study finds that essential information for investors in the pandemic era can influence the disposition effect in deciding to hold losing stocks or selling quickly on profitable stocks. Investors' essential information in the covid era regarding stock market movements and its internal performance in the stock market list can influence investor shifting decisions. The disposition effect on the stock market can have a significant effect on investors' shifting decisions. Essential information is related to stock market price movements and information related to the company's internal performance, impacting investors' courage to take risks, and provide an optimal level of investor shifting decisions. In contrast, investors do not determine the disposition effect on investors' shifting decisions. This study contributes to the theory of financial behavior related to investors' decision-making by considering psychological factors when conditions are unstable or the stock market uncertainty. This condition requires

the type of investor willing to take risks and has high optimism in making investor shifting decisions. In completing this research, it is advisable to research the investor type by linking it to a project because the pandemic era is rare and causes high uncertainty and a massive decline in the stock market.

## References

- Ahmad, F. (2020). Personality traits as a predictor of cognitive biases: the moderating role of risk-attitude. *Qualitative Research in Financial Markets*, 12(4), 465-484, <https://doi.org/10.1108/QRFM-10-2019-0123>
- Anh, D.L.T., & Gan, C. (2020). The impact of the COVID-19 lockdown on stock market performance: evidence from Vietnam. *Journal of Economic Studies*, 48(4). <https://doi.org/10.1108/JES-06-2020-0312>
- Aryantini, S., and Jumono, S. (2021). Profitability and value of firm: An evidence from manufacturing industry in Indonesia. *Accounting*, 7(4), 735–746, doi: 10.5267/j.ac.2021.2.011
- Birz, G. (2017). Stale economic news, media, and the stock market. *Journal of Economic Psychology*, 61, 87-102.
- Charpentier, C.J., De Neve, J.E., Li, X., Roiser, J.P. & Sharot, T. (2016). Models of effective decision making: how do feelings predict choice? *Psychological Science*, 27(6), 763-775.
- Chaudary, S. (2018). Does salience matter in investment decisions?: Differences between individual and professional investors. *Kybernetes*, 48(8). <http://doi.org/10.1108/K-09-2018-0490>
- Chia, R.C.J., Liew, V.K.S., & Rowland, R. (2020). Daily new covid-19 cases, the movement control order, and Malaysian stock market returns. *International Journal of Business and Society*, 21(2), 553-568
- Dang, T.T.H., Nguyen, T.T.L., Le, K.N., Nguyen, T.H.T., and Pham, T.B.C. (2020). The information gap in corporate annual reports: Evidence from Vietnam. *Accounting*, 6(5), 899–912, doi: 10.5267/j.ac.2020.5.004.
- De Vries, A., Erasmus, PD, & Gerber, C. (2017). The familiar versus the unfamiliar: familiarity bias amongst individual investors. *Acta Comercii*, 17(1), 1-10.
- Fischbacher, U., Hoffmann, G., & Schudy, S. (2017). The causal effect of stop-loss and take-gain orders on the disposition effect. *The Review of Financial Studies*, 30(6), 2110-2129.
- Jaiyeoba, HB, & Haron, R. (2016). A qualitative inquiry into the investment decision behavior of the Malaysian stock market investors. *Qualitative Research in Financial Markets*, 8(3), 246-267.
- Kim, K.S., Park, J., & Park, Y.W. (2017). Differential informativeness of analyst reports by investor types: Evidence from the Korean stock market. *Managerial Finance*, 43(5), 567-594, DOI 10.1108/MF-06-2016-0166
- Kourtidis, D., Šević, Ž., & Chatzoglou, P. (2011). Investors' trading activity: A behavioral perspective and empirical results. *The Journal of Socio-Economics*, 40(5), 548-557. DOI:10.1016/j.soc.2011.04.008
- Kumar, S., & Goyal, N. (2015). Behavioral biases in investment decision making: a systematic literature review. *Qualitative Research in Financial Markets*, 7(1), 88-108, <http://doi.org/10.1108/QRFM-07-2014-0022>
- Lee, KY-M., Jais, M., & Chan, C.W., (2020). Impact of covid-19: evidence from the Malaysian stock market. *International Journal of Business and Society*, 21(2), 607-628
- Makoni, P. L. & Marozva, G., (2018). The nexus between foreign portfolio investment and financial market development: evidence from mauritius, *Academy of Strategic Management Journal*, 17(5), <https://www.abacademies.org/articles>
- Mittal, M., & Vyas, R.K. (2008). Personality type and investment choice an empirical study, *The ICAFI Journal of Behavioural Finance*, 5(3), 6-22.
- Nagpal, S. & Bodla, B.S. (2009). Impact of investors' lifestyle on their investment pattern: an empirical study. *The ICAFI Journal of Behavioral Finance*, 6(2), 28-51.
- Nia, V.M. (2020). The effect of the corona outbreak on the Indonesian stock market. *American Journal of Humanities and Social Sciences Research*, 4(3), 358-370.
- Park, J., & Hoorn, H. (2012). Financial Crisis, SWF Investing, and Implications for Financial Stability. *Global Policy*, 3(2), 211-221. DOI:10.1111/j.1758-5899.2011.00151.x
- Phuong, L.C.M. (2020). Investor sentiment by psychological line index and stock return. *Accounting*, 6(7), 1259–1264, doi: 10.5267/j.ac.2020.8.026.
- Sahi, S.K., & Arora, AP (2012). Individual investor biases: a segmentation analysis. *Qualitative Research in Financial Markets*, 4(1), 6-25. DOI 10.1108/17554171211213522
- Saravanan, S. & Satish, R. (2020). An exploration into the Determinants of Retail Investors Investment Behaviour about Initial Public Offers in Indian Scenario, *Academy of Strategic Management Journal*, 17(5). <https://www.abacademies.org/articles>
- Suresh, A. (2013). Understanding behavioral finance through biases and traits of trader vis-à-vis investor. *Journal of Finance, Accounting, and Management*, 4(2), 11-25. DOI:10.1111/j.1758-5899.2011.00151.x
- Svedsater, H., Karlsson, N., & Garling, T. (2009). Momentum trading, disposition effects, and prediction of future share prices: an experimental study of multiple reference points in responses to short- and long-run return trends. *Applied Financial Economics*, 19(8), 595-610. DOI:10.1080/09603100801982620
- Tarigan, Z.J.H., Jiputra, J.A., & Siagian, H. (2021). The effect of supply chain practices on retailer performance with information technology as moderating variable. *International Journal of Data and Network Science*, 5(1), 47–54, DOI: 10.5267/j.ijdns.2020.11.003
- Tarigan, Z.J.H, Siagian, H., & Jie, F. (2020). The role of top management commitment to enhancing the competitive advantage through ERP integration and purchasing strategy. *International Journal of Enterprise Information Systems*, 16(1), 53-68, DOI: 10.4018/IJEIS.2020010103

- Tenberge, M. (2009). Can Regret and Pride Explain the Disposition Effect? *Konstanzer- Online Publication System*, 1-31, available at <http://nbn-resolving.de/urn:nbn:de:bsz:352-opus-122897>
- Thuan, P. Q., Thuy, H.X., Quyen, P.T.H., Truc, T.T.T., & Hien, N.T.D. (2020). Impact the Internal control of the credit operations on the credit effectiveness of commercial banks: A case of HCMC and Dong Nai Province, *Academy of Strategic Management Journal*, 19(6), <https://www.abacademies.org/articles>
- Wang, M., Keller, C., & Siegrist, M. (2011). The less you know, the more you are afraid of-a survey on risk perceptions of investment products. *Journal of Behavioral Finance*, 12(1), 9-19.
- Wang, Y., Wang, J., & Wang, X. (2020). COVID-19, supply chain disruption, and China's hog market: a dynamic analysis. *China Agricultural Economic Review*, 12(3), 427-443.
- Yalcin, KC, Tatoglu, E., & Zaim, S. (2016). Developing an instrument for measuring the effects of heuristics on investment decisions. *Kybernetes*, 45(7), 1052–1071. DOI:10.1108/k-05-2015-0130
- Yaseen, H., & Omet, G. (2021). The Jordanian capital market: Liquidity cost during COVID19 pandemic infection. *Accounting*, 7(5) 1025–1032, doi: 10.5267/j.ac.2021.3.006
- Zahera, SA, & Bansal, R. (2019). A study of prominence for disposition effect: a systematic review. *Qualitative Research in Financial Markets*, 11(1), 2-21, DOI 10.1108/QRFM-07-2018-0081



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