

# The Difference of Cognitive Bias and Emotional Bias (Study Literature in Management Science)

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**Abstract.** Behavioral bias is a tendency of prediction error. Behavioral bias consists of cognitive and emotional factors from within each individual that can influence it in making investment decisions. Infact in previous studies where cognitive bias and individual personality are interrelated. The purpose of this study is to see the difference between cognitive bias and emotional bias. Qualitative research method with library research design. The data collection technique used is dealing directly with the text and not from the field or eyewitnesses. The results showed that there was a difference between cognitive bias and emotional bias. Understanding Cognitive bias or cognitive bias is a systematic bias in decision making that arises from how to obtain information. Emotional bias, an impulse is more than a reasonable calculation to act that involves deep activities and changes and is accompanied by strong feelings.

**Keywords:** Cognitive bias; Emotional bias; Behavioral Finance

## 1 Introduction

Rapid technological developments affect the economy in Indonesia, and have an impact on the industrial sector where more and more products are produced and offered. Currently, buyers do not have to go to the store that supplies the product, but can buy the product online easily and quickly. This results in unlimited human needs and wants. Increased needs and wants cause fixed income is not enough to cover expenses. To overcome this insufficiency, it is important for a person to manage finances well. Investing is one of the efforts that can be made to fulfill needs and desires other than fixed income [1].

According to [2], biases are divided into two parts, namely cognitive biases and emotional biases. Cognitive biases are deviations in the process of understanding, processing, and making decisions on information or facts. In cognitive biases, there are three kinds of behavioral biases including (1) Overconfidence bias, namely feeling too confident in your abilities or knowledge in making investment decisions [3]. (2) Cognitive dissonance bias is a situation where people are uncomfortable with new information received so that it can raise doubts on the initial understanding that has been understood. (3) Representativeness bias, namely decision making based on stereotypical thinking or analogies and will cause investors to make wrong financial decisions, namely financial decisions that do not increase yields [4].

Emotional biases are deviations in that they emphasize feelings and spontaneity rather than facts. In emotional biases, there are three kinds of behavioral biases, including (1) Regret aversion bias, namely the decision to act to avoid the same decision explicitly because there is

a feeling of fear (2) Herding bias, namely as a tendency for investors' financial behavior to follow the actions of other investors (3) Loss aversion bias is a very strong feeling of urge to avoid loss rather than gain [5].

According to [6], conducted a study on the relationship between individual traits, psychological bias and financial risk tolerance. They found that each individual experiences various biases and each person has a different risk tolerance. There is a relationship between individual traits and psychological bias and personality traits of investors affect their financial risk tolerance. Investors included in this study have a low financial risk tolerance and tend to be the most representative of the heuristics. The personality traits of people who often face psychological bias are mostly agreeableness people and those who face the least psychological bias are neurotic people. Based on the above studies, there is a psychological bias either in the form of cognitive bias or behavioral bias that affects a person's investment decisions.

Behavioral bias is the tendency of prediction error. Behavioral bias consists of cognitive and emotional factors from within each individual that can influence it in making investment decisions. Pradhana explained that bias is divided into two categories, namely cognitive bias and emotional bias. Cognitive bias is a deviation in the process of understanding, processing, and making decisions on an information or fact. While emotional bias is a deviation because it focuses on feelings and spontaneity rather than facts [7].

In fact, in previous studies where cognitive bias and individual personality were interrelated, the results in his research showed that each individual has his own thoughts which are certainly very different from one another, this is evident in the case of young investors in Surabaya. Each investor has different behavioral characteristics. There are investors who behave normally, some are biased or distorted [8].

Based on the facts in the field of management science, there are still many discussions related to cognitive bias and emotional bias that affect investors in investing, as well as young entrepreneurs in starting their businesses or developing their businesses. However, no specific discussion has been found regarding the difference between the two biases, so researchers are interested in examining this theme.

## **2 Research Methods**

This study uses qualitative research methods with library research design, by collecting and analyzing data sources to be processed and presented in the form of library research reports [9].

The data collection technique used is dealing directly with the text and not from the field or eyewitnesses. Library data is ready to use by dealing directly with source materials that are already available in the library. Library data are generally in the form of secondary sources, then the condition of library data is not limited by space and time, because researchers are dealing with static and fixed information [10].

## 3 Results and Discussion

### 3.1. Cognitive Bias

#### 3.1.1 Definition of Cognitive Bias Cognitive bias

(Cognitive bias) is an error in the way of thinking that makes us wrong in making decisions. As the scientist said "Don't fool yourself and you are the easiest person to fool" - Richard Feynman [11].

Another definition that cognitive bias is like doing something is one thing, making decisions as to which thing to do is also another thing. We need to reduce the mistakes in making decisions, to get closer to the results we want. Yep what I wrote was to reduce, because we don't know which decision is 100% right [12].

Understanding Cognitive bias or cognitive bias is a systematic bias in decision making that arises from how to obtain information. because certain problems or events are easier to understand than others, individuals tend to use these events as benchmarks for decision making [13].

A simple understanding of cognitive bias is a deviation of reasoning, while a more complex understanding is an error in thinking, judging, remembering and other cognitive processes that often arise as a result of a firm choice of preferences or preferences and beliefs to the exclusion of conflicting or different information [14].

#### 3.1.2 The Cause of the Cognitive Bias

First is the first information, People tend to believe the first information they receive. Therefore we will question the second and third information when it differs from the first, otherwise we are not critical of the first information.

For example, when there is information about "flat earth" we start to be interested in digging up information and criticizing it, even though we have not proven information about "spherical earth" (calm down, I'm not a flat earther), but because we've been hearing things for a long time First, eventually new things will get weird. When someone starts a new movement, or you want to make something different from the others, negative voices will appear against it, because this is foreign information (different from the previous one) [15].

The second is that we have already invested, taking the previous example, when the flat earth issue was excited, we were excited to find this information, after a day of consuming it, we finally tend to agree and make the decision "the earth is flat". Yet we have never seriously explored whether "the earth is round" as seriously as a flat earth. But because we have already invested in one piece of information, we no longer want to accept that the other information is true.

At the same time because we already have an opinion, we will avoid looking for the negative side of the opinion we have. When you agree "the earth is flat", you will not look for weaknesses/errors in the argument here, the "google search" you will do will only support the previous opinion [16]

The third is not looking for other information, a little similar to the previous one, the difference is that this is a more passive version. New parents will feel their baby is the cutest, she will share almost all photos of her baby behavior. Everyone thinks the same. Individuals feel your biggest problem. Individuals feel your idea is the best. Since we are not looking for other information, looking at it from a different perspective, we will only argue that our knowledge is correct.

The fourth is a minority incident. When an event is over and entering a question and answer session, the number of people who don't raise their hands is more because there are magnets, almost all of them don't dare to start raising their hands. It was different when slowly there were one or two people who dared, finally the others started to follow. Individuals will be dominant in the majority opinion. What other people, television, social media and other people say we will assume is true, without confirming whether this is really the right thing or not.

Fifth is momentary emotion, This also often happens, because there is a feeling of emotion that peaks, we immediately decide something. Even though it could be that if we give time the feelings go away, we can be more rational [16].

Sixth is The previous event, When we roll the dice three times and always the number "3" comes up, we will believe that the roll of the 4th dice will result in the number "3" again, even though the probability is the same from the start, always 1:6. When we do something several times successfully, the next part we will be complacent and no longer careful because we will feel that it will also work.

Last is seduced instant results, choice for eat fast food or not, if we choose based on instant results, we will look for which is delicious, even though rationally, of course, healthy food should be chosen, but this will only be seen in the long term, when there is a peaking "lust" . We end up making the wrong decision [17].

### **3.1.3 How to Avoid Cognitive Bias**

The more complex the situation, the more opportunities for cognitive bias and distortion to affect decision making. Many studies in various fields have found evidence that cognitive bias can have a negative impact on life. For that, there are various ways to avoid it, among others; First, applying slow thinking means thinking slowly will help individuals make conscious decisions, although this way of thinking will require more mental energy. This system of thinking is active when individuals are faced with major decisions such as choosing a life partner or buying a house [18]

Although individuals are tempted to use quick thinking (heuristics) to make decisions, this can make them more susceptible to cognitive bias. Individuals should not depend on their own opinion to make a decision, but should base that decision on data.

Second, evaluating the source of information means that when concluding the credibility of a sensational news, one should know the time, relevance, source, accuracy, and purpose of the news. Then be sure to take note of any suspicious evidence when faced with information that contradicts one's inner beliefs. Instead, write down the reasons why this evidence might be true, so that the hypothesis will be free from confirmation bias [19]

### **3.1.4 Types of Cognitive Bias**

First Anchoring Bias (Anchoring Effect), meaning Usually people will be very trusting and rely on the information they get the first time. An easy example is when we want to buy a used car/motorcycle. The first thing you see is the number of kilometers you have traveled (the odometer). In fact, the number of kilometers is not the main parameter of a good used car or not. But also look at the engine, whether it is maintained or not [20]

The second is Availability Heuristic, meaning that people usually only believe excessively on information obtained from the surrounding environment. For example, believing that the dark green color can be expelled with Moringa leaves. Even though *kolor ijo* does not necessarily exist. Another example, a smoker who feels that smoking does not interfere with

health. It turned out that the smoker got information that his mother, who was a heavy smoker, had just died at the age of 99 years. Even though it is clear that smoking can damage health.

Third Blind-spot bias Blind-spot bias is a cognitive bias recognizing the impact of bias on the judgment of others, failing to see the impact of the bias on one's own judgment. For example, suppose you do an IQ test, it turns out that your IQ is low. You feel distrustful of the results. Then you do an IQ test again elsewhere and it turns out that your IQ is higher, even though the test is not valid [21]

### **3.2. Emotional Bias**

Prior to that in 1920 before Goleman's existence, EL Thorndike had suggested that the ability to process human relationships, both male and female, was the definition of social intelligence. According to Thorndike, an important requirement for a person's success in various aspects of his life is social intelligence. In this case, using emotions in it [20]

According to Daniel Goleman, emotion refers to a distinctive feeling and thought, a biological and psychological state and a set of tendencies to act. Emotions are basically impulses for action. Usually emotions are reactions to stimuli from outside and within the individual [19].

Regret aversion bias is a decision to act to avoid making the same mistake because there is a feeling of fear. Status quo bias illustrates that someone will prefer to stay in the same condition or avoid change because they feel comfortable. Reliance on expert bias is a perception bias that arises because investors tend to get advice or opinions from experts before investing. And greed bias is the desire to continue to make profits even though they have to exceed the investment capabilities of an investor [13].

## **4 Conclusion**

Understanding Cognitive bias or cognitive bias is a systematic bias in decision making that arises from how to obtain information. Because certain problems or events are easier to understand than others, individuals tend to use these events as benchmarks for decision making.

The causes of cognitive bias are information from the first person, already invested, not looking for other information, minority events, momentary emotions, previous events, finally being tempted by instant results. Then there are several ways to avoid it, first applying slow thinking means thinking slowly will help individuals make conscious decisions, although this way of thinking will require more mental energy. second, evaluating the source of information means that when concluding the credibility of a sensational news, one should know the time, relevance, source, accuracy, and purpose of the news. Furthermore, there are various types of cognitive bias, namely; Anchoring Bias, Availability Heuristic, Blind-spot bias, Confirmation Bias, Survivorship Bias.

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