

Research on Anchoring Effect

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Abstract: A psychological phenomena is the anchoring effect. It alludes to the idea of a person's judgment or choice being influenced by an otherwise unrelated reference point or "anchor." Once the anchor's value is determined in numerical anchoring, the person's following arguments, estimates, etc., may differ from what they would have been without the anchor. Traditional economics holds that people make rational decisions and are not distracted by meaningless numbers. The "anchoring effect" discovered by Daniel-Kahneman-and-Amos-Tversky is a very typical psychological bias, and it is a rejection of the assumption of a "rational person." The anchoring effect refers to the fact that when people need to evaluate an event, they will use some specific value as an initial reference value, and this initial reference value is like an anchor that restricts the evaluation result.

Keywords: anchoring effect, judgement, influence

1. Introduction

The first thing to introduce is the definition of the anchoring effect: People start with an initial figure and then alter it to get the final result when making estimates. The beginning value, often known as the starting point, may be indicated by how the problem is phrased or it may be the outcome of a partial computation [1]. Adjustments are often insufficient in both scenarios. To put it another way, different starting points result in various estimations that are skewed toward the initial values. This occurrence fits the definition of anchoring [2]. Science, 1974; Tversky and Kahneman. This historical research illustration serves as a model for future anchoring effect research and contributes to a deeper comprehension of the phenomenon.

2. Analysis of Anchoring Effects

Here are some examples of anchoring effects:

This paper focuses on the anchoring effect and its effects.

First of all, Amos Tversky and Daniel Kahneman were the ones who first notice and theorize the anchoring effect. In 2002, he was awarded the Economics Nobel Prize. In five seconds, participants were required to calculate $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8$ and $8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$. Participants attempted to approximate the answers because they didn't have enough time to perform calculations. This is a pretty clear and straightforward illustration of the anchoring effect. Participants estimated 512 starting with small numbers (1 to 8); starting with large numbers (8 to 1), participants guessed 2250. The right response is 40,320. Other "estimation" have shown the same phenomenon. In 1973, Kahneman and Tversky demonstrated that people frequently give salient and memorable information

undue weight in their assessments, even distorting their perceptions as a result. For instance, doctors frequently consider the possibility of the patient's suicide when determining the risk that a patient may harm themselves out of profound disappointment. The anchor effect, which affects people's judgements at this moment, may cause the risk that the patient would attempt suicide if they are highly dissatisfied to be overestimated if a representative economic judgment is made.

The sinking anchor effect was further demonstrated in tests by Kahneman and Tversky in 1974. The experimenters were tasked with calculating the proportion of seats held by African nations in the UN. The experimenter is actually asked to estimate the numerator because the denominator is 100. To begin, participants were instructed to turn a compass that was in front of them and select a number at random between 0 and 100. The outcome of the experimenter's choice was then revealed, indicating whether it was greater or smaller than it actually was. The next step was for the scientist to calculate the molecular value by changing to randomly chosen numbers, either up or down. Through this experiment, Kahneman and Tversky discovered that separate groups' differently generated random numbers had a significant impact on subsequent estimates [3]. For instance, the average estimates for two groups with randomly chosen beginning points of 10 and 65 were 25 and 45, respectively. As a result, the experimenters anchored their estimations of the molecular value within a range of the randomly chosen number, even after adjusting for it. Thus, even though the wheel's number is chosen at random, it still provides participants with a reference point. Such an anchor point may also affect people's final answers, per the anchoring effect. In line with this result, Harvard Business School conducted the subsequent experiment.

Professor John Sen Manton asked participants with no background knowledge to answer two sets of questions: Is the population of Turkey greater than 35 million? What do you think the population of Turkey is?

Is the population of Turkey greater than 100 million? What do you think the population of Turkey is?

The experimental results showed that when the number of people asked in the first question increased, the subjects without exception increased the estimated number of people when answering the second question, which indicated that the first question set an "anchor" for the subjects. There are also plenty of examples in our lives to prove that we are easily influenced by various kinds of "anchoring" thinking and judgment, in different forms. For example, casual comments from colleagues, morning newspaper figures, people's clothes, etc. These anchors can influence our thinking and judgment on a certain problem without our awareness.

Third, in 1999, psychologists Strack and Musweller did an experiment that consisted of two questions. The first group had to answer the first question: Did the great Mahatma Gandhi die before or after the age of nine? And when they do, then the psychologist will ask you to guess how old Gandhi was. The second group also had to answer two questions below: 1. The first question the second group had to answer was did the great man Gandhi die before he was 140 or after he was 140? 2. When the second group of subjects answered, the same psychologist asked them, how old would you guess Gandhi lived? If we know anything about Gandhi, we know that he must have lived longer than nine years, and he could not have lived longer than 140 years, since the world's oldest man was 122 years old. So the first question on this test seems pretty boring, and everyone can answer it correctly, but it turns out that the first question significantly affects how people answer the second question. When asked how many years Gandhi lived, the average answer given by the first group was 50, while the average answer given by the second group was 67. So why was the first group's guess average 17 years lower? Because the first piece of information that the first group received was "Did Gandhi lose before or after the age of nine?" This information influenced the participants' judgment at the age of nine, so experimental psychologists came to the conclusion that people are more likely to be influenced by the information they receive first when making a judgment about something.

People always take the first received information as a reference, and make corresponding judgments and decisions under the anchor of the newly received information. This psychological phenomenon eventually became known as the anchoring effect. The simple understanding of the anchoring effect is that we are easily influenced by the initial information when making decisions, and we do not consciously take the initial information as a reference. Why does the first piece of information we receive affect our judgment? Our brains need a reference, in the absence of which we will feel uneasy. That is difficult to judge. When A reference appears, even if the reference is unreliable, our brain will think this is a lifeline, and as the criterion, let us make a reassuring decision! Anchoring is also widely used in marketing. For example, Procter & Gamble will put a suggested retail price of 9.9 yuan on each bottle of Rejoice shampoo, but the actual retail price is 8.5 yuan! Why would you do that? Because the first thing consumers see is 9.9 yuan, they have taken 9.9 yuan as the reference in their hearts, and the actual price is only 8.5 yuan at this time. This difference between the suggested price and the selling price makes customers feel that it is very affordable. At this time, consumers still feel offended, so they will be happy to pay [4].

Fourth, in an article for the New York Times on March 31, 2010, technology critic David Pogue wrote, "In 10 years of writing technology reviews for The New York Times, I have never seen a product as sharply divided as Apple's iPad." According to Pogue, the consensus on Apple's new product announcement has been divided between "this is truly an incredible revolution" and "this is laughing your head off." Otherwise, there was hardly any sound between the two. That means launching the iPad is a decidedly risky venture, one that could cost a lot of money if it doesn't work, and one that many see as unnecessary and unmarketable. At that time, people's minds were only fixed on either computers or mobile phones, and they didn't think it was necessary to make such a product. Portability was not as good as a mobile phone, and performance was not as good as a computer. Instead, Apple managed to sell 7.5 million iPads within six months, generating \$5 billion in revenue. Ten years later, Apple has sold more than 400 million iPads. Apple earns \$200 billion in revenue directly from these 400 million iPads. The success of the iPad must be inseparable from the product itself. Any successful product must be superior in itself. But, Mr. Jobs's launch was also crucial in persuading people to try the new product. When introducing the iPad's pricing, Jobs started by talking about market rumors and what people were speculating or saying about the new product. Then, on the screen behind Jobs, the word "999" appeared, in bold type. At this point, the reader must have assumed that 999 dollars was the price of the new product and would keep watching.

The next minute, Jobs was still introducing new products. All the while, the big \$999 character behind him remained on the screen. But when it came to pricing, Jobs said, "I'm excited to announce that our iPad will start not at \$999, but at \$499." So, because of the stereotype of \$999, it's \$499, and people think it's amazing that it's twice as cheap, and it's worth it in the back of their minds.

But if we think about it, if Jobs had offered \$499 in the first place, people wouldn't have thought it was a bargain. Now, the reason people think it's cheap is because they already have the preconceived idea that it's \$999. This is the psychological anchoring effect. To put it in a nutshell, people like to feel cheap. If the lowest price is listed at the beginning, people will not think it is cheap; it is just a normal price [5].

Fifth, an experiment in 2003 Ariely, a professor at the Massachusetts Institute of Technology, asked graduates to make a connection between their Social Security number and the price of chocolate. He asked students to write down the last two digits of their social security card number on a piece of paper. They were then asked to rate the value of some of their most frequent purchases, such as chocolate or wine. The reason for this is that once the subjects have written down two numbers, they form an anchor point in their minds to decide how much to bid on a hard-to-price item. Therefore, the higher the two-digit number, the higher the price.

Anchoring effects can occur in all aspects of life, such as economic activity. Merchants often use the anchoring effect in marketing to gain more profits.

3. Conclusion

Some studies and related literature show that the anchoring effect, as a psychological effect, has a significant impact on many aspects of economics. Therefore, anchoring effects are very common in daily life, but different “anchors” have different effects, and different “anchor” objects have different results, which is dynamic to a certain extent. In recent years, scientists have believed that the origin of anchoring is mainly the reference function of the first stage, the information acquisition stage [6]. References bring more attention to similar information, and people even use the reference itself as a reference factor, which affects the final answer. The theory, supported by other experiments, is that understanding things starts with accepting a given conclusion and then weeding out false information. Choosing the information used to compare anchor and target points is more important in predicting the outcome. The theory states that information affects the outcome only if it is relevant to the goal. Given the lack of actual experiments on anchoring effects, none of these examples are vivid enough.

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