

RATE OF USE OF THE ANCHORING EFFECT IN ENTERPRISES WITH 100+ EMPLOYEES

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Abstract:

The paper deals with behavioral economics. More precisely, the paper focuses on the degree of the anchoring effect, ie the degree of the use of the instruments for influencing and persuasion, that managers apply to manage their employees. Authors used the questionnaire to identify how much the anchoring effect is applied in enterprises with 100+ employees. The main goal of the paper is to find out how is the rate of the application of the anchoring effect by managers of enterprises with 100+ employees. The second goal of the paper is a comparison of the anchoring effect application in employee management in Prague and in Ostrava. Authors set three hypotheses in the beginning and the results confirm or reject them.

The two basic assumptions led the authors of this paper to this research. The authors predicted that the anchoring effect for influencing employees are used much more often than is assumed. The authors also predicted that managers of Prague companies use anchoring methods more often than managers of Ostrava companies. Confirmation or rejection of the above assumptions is discussed.

Key words:

Anchoring effect, instruments for influencing and persuasion, enterprises with 100+ employees, influencing of judgment.

JEL: D01, D19, D91

1 Introduction: Behavioral management and the manipulation

Manipulation is usually considered an unethical approach to leadership, but manipulation is a more complex phenomenon than just an unethical way of acting in leadership. Our research will demonstrate through an empirical study that there are various types of manipulation through anchoring. The anchoring is one of the basic parameters and aspects of the behavioral economics.

Behavioral economics incorporates ideas from psychology, sociology, and neuroscience to better predict how individuals make long-term decisions. Often the ideas adopted include present or inattention bias, both potentially leading to suboptimal outcomes. (French & Oreopoulos, 2017). Thaler (Thaler, 2016) builds on Nobel-prizewinning psychologist Daniel Kahneman's prospect theory, the idea that people make decisions on the basis of quick judgments rather than a thorough assessment of the probable outcome. (Contestabile, 2015).

Tversky & Kahneman did experiments and found out that people do not act only by logic thinking. Their behavior and decisions are influenced intuitive reaction and mental state (Tversky & Kahneman, 2016). These authors together with Thaler contributed to an establishment of two new fields of study, experimental economics, and behavioural economics. Both of them are on the border of psychology and economics. There are many new hypotheses in the science of behavioural economics and at the same time, the behavioural economics evaluates, how the results of the decision are influenced by decision process and external influences. The current research in this field of study is focused on two areas. In

the first one, the research identifies and segments deviations from the rational choice theory. We can call them systematic failures in individual behaviour based on various mistakes in the decision-making process. The second area then deals with this distortion in practice and in the market environment (Wright & Ginsburg, 2012).

As mentioned above, one of the basic parameters and aspects of the behavioral economics is anchoring. Anchoring is the principle where initial exposure to a number serves as a reference point. This number then influences later judgments about value. This means, once an anchor is set, other judgments are made in reference to the anchor. Once the anchor has been established, we evaluate whether it's high or low and then we adjust our estimate to that amount. This mental process finishes early because we are not sure of the real amount. Therefore, our estimation is not usually far from the anchor. We have a huge tendency to use small pieces of information that we are offered to trigger decisions and estimates. The authors (Strack & Mussweiler, 1997) showed that the strength of the anchor effect depends on the applicability of activated information. Other authors (Furnham & Boo, 2011) review 40 years research on this very robust finding which occurs with many different judgments.

The second goal of the paper is to determine whether managers of Prague companies use anchoring methods more often than managers of Ostrava companies. An important parameter for fulfilment of this second objective is the assumption that knowledge of sophisticated management methods will be higher in an economically more advanced region than in a less developed region. That's what the authors (Isard, Aziz, Drennan, Miller, Saltzman & Thorbecke, 2017) talk about. They describe the expectations of a higher level of managerial skills and knowledge in regions depending on the growth of two factors. The two factors are the size of the gross domestic product (GDP) by region and the number of enterprises with 100+ employees with the registered office in the region. According to the CZSO, the gross domestic product was in Prague in 2019 approximately CZK 1,437,000 million (GDP per capita was in Prague in 2019 approximately CZK 1,104 thousand). The gross domestic product was in Ostrava in 2019 approximately CZK 516,000 million (GDP per capita was in Ostrava in 2019 approximately CZK 428 thousand). Based on the study of the same source, it can be stated that the number of Enterprises with 100+ employees was in 2019 about 240 in Prague and about 135 in Ostrava. There were about 230 such enterprises in the whole Moravian-Silesian Region in 2019.

Will the above assumptions, which the authors (Isard, Aziz, Drennan, Miller, Saltzman & Thorbecke, 2017) stated, be confirmed in the case of the comparison between Prague and Ostrava too? So will the assumption of the authors of this paper, which is based on the scientific outputs of Isard, Aziz, Drennan, Miller, Saltzman & Thorbecke, be fulfilled?

In order to these preconditions to be met, the rate of use of anchoring methods in Prague would have to be higher than in Ostrava.

This paper therefore deals with exerting influence in leadership, namely manipulation and anchoring.

This article makes a contribution to the literature on manipulation through leadership storytelling, offering a more systematic empirical analysis and a more nuanced view of the topic than previously existed by outlining how managers engage in manipulative storytelling and what kind of ethics they link to their manipulation in leadership.

2 Methods

The work is based on quantitative research using a questionnaire survey.

First, the goals and hypotheses of the research will be presented. Then the individual methods applied in this article will be described, ie the anchoring effect and the questionnaire survey.

2.1 The goal and the hypotheses

The main goal of the paper is to find out how much the managers of enterprises with 100+ employees use the anchoring effect to anchor their employees. The second goal of the paper is to determine whether managers of Prague companies use anchoring methods more often than managers of Ostrava companies. Authors set the following hypotheses:

H1: More than 50 % of managers use the anchoring effect on average at least once a month.

H2: More than 10 % of managers use the anchoring effect on average at least twice a month.

H3: Managers of Prague enterprises with 100+ employees use anchoring effect 25 % more often than managers of Ostrava enterprises with 100+ employees.

2.2 Anchoring effect

By definition, the anchoring effect is a heuristic where initial exposure to a number serves as a reference point. This number then influences later judgments about value. Simply stated, once an anchor is set, other judgments are made in reference to the anchor. Once the anchor has been established, we evaluate whether it's high or low and then we adjust our estimate to that amount. This mental process finishes early because we are not sure of the real amount. Therefore, our estimation is not usually far from the anchor. We have a huge tendency to use small pieces of information that we are offered to trigger decisions and estimates. The authors (Strack & Mussweiler, 1997) showed that the strength of the anchor effect depends on the applicability of activated information. Other authors (Furnham & Boo, 2011) review 40 years research on this very robust finding which occurs with many different judgments.

Basic anchoring occurs if people pay sufficient attention to the anchor value. Knowledgeable people are less susceptible to basic anchoring effects. Anchoring appears to operate unintentionally and nonconsciously in that it is difficult to avoid.

Anchoring effect has widespread influence, including on professionals who are well-educated on the related topic (like real estate agents evaluating the value of houses).

2.3 Questionnaire

Data for the research was obtained through an online anonymous questionnaire survey that was realized during January this year. The questionnaire was sent to 196 enterprises with 100+ employees in Prague and to 149 enterprises with 100+ employees in Ostrava and its surroundings. The questionnaire was sent to the responsible management of the selected enterprises. The authors wanted to achieve a high rate of return, so the questionnaire was created to take only about two minutes to complete.

3 Paper results

As mentioned above, the questionnaire was sent to 196 enterprises with 100+ employees in Prague and to 149 enterprises with 100+ employees in Ostrava and its surroundings. The completed questionnaire sent back 48 managers from Prague. Thus, the rate of return was approximately 24.5%. The completed questionnaire sent back 39 managers from Ostrava. Thus, the rate of return was approximately 26.2%. The total completed questionnaires were 87. Thus, the total rate of return was approximately 25.35%.

The questionnaire survey also included a brief explanation of the anchoring effect.

3.1 The significant choice of the respondents

The most important results, which confirmed or refuted the established hypotheses, related to the knowledge of the anchoring effect and to the intensity of use of the anchoring effect. Managers who knew the anchoring effect had four choices. The first was that they did not use the anchoring effect to influence their employees. The second option was that they used an anchoring effect sometimes, but they used it very rarely and irregularly. The third option was that they use the anchoring effect on average once a month. The fourth option was that they use the anchoring effect on average at least twice a month.

It was offered to give respondents more options for answering. Finally, the authors decided to give respondents only four options for answering because:

- the solved problem is still relatively unknown;
- the authors wanted to achieve a high rate of return.

3.2 The results of the enterprises with 100+ employees from Prague

1. The knowledge of the anchoring effect:
 - the 43 managers know the anchoring effect (out of 48 managers).
2. The application of the anchoring effect:
 - the first option (did not use the anchoring effect to influence their employees) = the 16 managers;
 - the second option (used an anchoring effect sometimes, but they used it very rarely and irregularly) = the 12 managers;
 - the third choice (use the anchoring effect on average once a month) = the 9 managers;
 - the fourth option (use the anchoring effect on average at least twice a month) = the 6 managers.

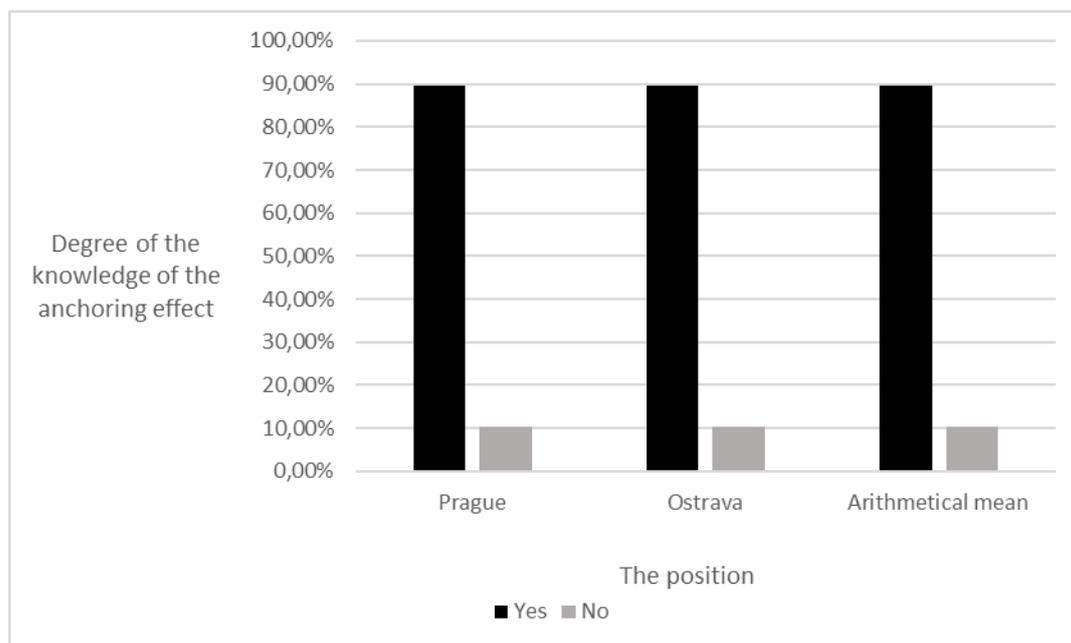
3.3 The results of the enterprises with 100+ employees from Ostrava

1. The knowledge of the anchoring effect:
 - the 35 managers know the anchoring effect (out of 39 managers).
2. The application of the anchoring effect:
 - the first option (did not use the anchoring effect to influence their employees) = the 15 managers;
 - the second option (used an anchoring effect sometimes, but they used it very rarely and irregularly) = the 11 managers;
 - the third choice (use the anchoring effect on average once a month) = the 5 managers;
 - the fourth option (use the anchoring effect on average at least twice a month) = the 4 managers.

Table 1: The knowledge of the anchoring effect

The knowledge of the anchoring effect	Values	
	Yes	No
Prague	89,6 %	10,4 %
Ostrava	89,7 %	10,3 %
Arithmetical mean	89,65 %	10,35 %

Figure 1: The knowledge of the anchoring effect



3.4 The evaluation of the results

The authors evaluated a lot of context. Only those contexts that are decisive in relation to research hypotheses will be presented.

- Approximately 89,7% of managers know the concept of anchoring effect (78 out of 87).
- Approximately 62,8 % of the managers of the enterprises with 100+ employees in Prague have ever tried the anchoring effect or use it regularly (27 out of 43).
- Approximately 57,1% of the managers of the enterprises with 100+ employees in Ostrava have ever tried the anchoring effect or use it regularly (20 out of 35).
- Approximately 60,3 % of the managers of the enterprises with 100+ employees in Prague and in Ostrava have ever tried the anchoring effect or use it regularly (47 out of 78).
- Approximately 34,9 % of the managers of the enterprises with 100+ employees in Prague use the anchoring effect on average at least once a month (15 out of 43).
- Approximately 25,7 % of the managers of the enterprises with 100+ employees in Ostrava use the anchoring effect on average at least once a month (9 out of 35).

The first hypothesis was: more than 50% of managers use the anchoring effect on average at least once a month. Approximately 30,8 % of the managers of the enterprises with 100+ employees in Prague and in Ostrava use the anchoring effect on average at least once a month (24 out of 78).

The first hypothesis was rejected.

- Approximately 14 % of the managers of the enterprises with 100+ employees in Prague use the anchoring effect on average at least twice a month (6 out of 43).
- Approximately 11,4 % of the managers of the enterprises with 100+ employees in Ostrava use the anchoring effect on average at least twice a month (4 out of 35).

The second hypothesis was: more than 10 % of managers use the anchoring effect on average at least twice a month. Approximately 12,8 % of the managers of the enterprises with 100+ employees in Prague and in Ostrava use the anchoring effect on average at least twice a month (10 out of 78).

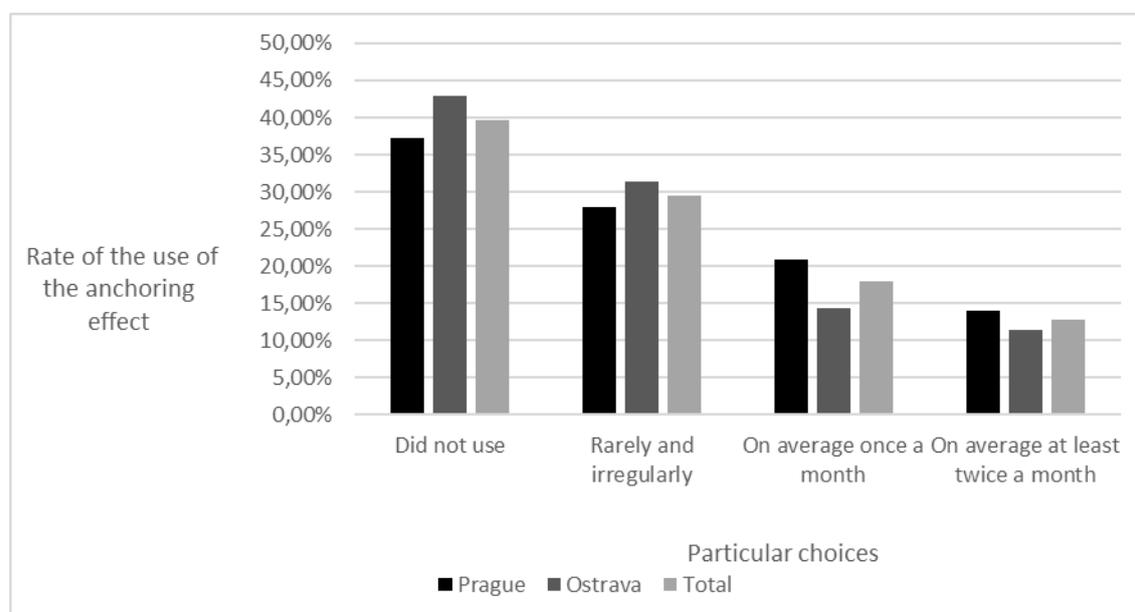
The second hypothesis was confirmed.

The third hypothesis was: Managers of Prague enterprises with 100+ employees use anchoring effect 25 % more often than managers of Ostrava enterprises with 100+ employees. The difference in use of the anchoring effect between Prague and Ostrava is only 9.7 %.

Table 2: The application of the anchoring effect

The application of the anchoring effect	Values			
	Did not use	Rarely and irregularly	On average once a month	On average at least twice a month
Prague	37,2 %	27,9 %	20,9 %	14 %
Ostrava	42,9 %	31,4 %	14,3 %	11,4 %
Total	39,7 %	29,5 %	17,9 %	12,8 %

Figure 2: The application of the anchoring effect



3.5 Statistical test: test of fit

There is important to realize the statistical test in order to claim whether there exist statistically significant differences. In other words, it is necessary to find out the existence of the dependence of the surveyed quantities, ie the use of the investigated methods in Prague and in Ostrava.

First, it is necessary to set a null hypothesis. The third hypothesis deals with the dependence of location and frequency of use of anchoring methods, ie the relationship between location and degree of use of anchoring methods.¹ The null hypothesis is: the location (Prague or Ostrava) does not affect the rate of use of anchoring methods.

¹ Managers of Prague enterprises with 100+ employees use anchoring effect 25 % more often than managers of Ostrava enterprises with 100+ employees.

Table 3: Observed frequencies (n_{ij})

The application of the anchoring effect	Values				summaries n_j
	Did not use	Rarely and irregularly	On average once a month	On average at least twice a month	
Prague	16	12	9	6	43
Ostrava	15	11	5	4	35
summaries n_i	31	23	14	10	78 (n)

Table 4: Expected frequencies (e_{ij})

The application of the anchoring effect	Values			
	Did not use	Rarely and irregularly	On average once a month	On average at least twice a month
Prague	17,08974	12,67948	7,71794	5,51282
Ostrava	13,91025	10,32051	6,28205	4,48717

Expected frequencies are calculated according to the formula $e_{ij} = \frac{(n_i * n_j)}{n}$.

Table 5: Test criterion (K_{ij})

The application of the anchoring effect	Values			
	Did not use	Rarely and irregularly	On average once a month	On average at least twice a month
Prague	0,06948	0,03641	0,21296	0,04305
Ostrava	0,08537	0,04473	0,26164	0,05289

The test criterion was calculated according to the formula $K_{ij} = \frac{(n_{ij} - e_{ij})^2}{e_{ij}}$.

It is necessary to calculate the chi-square value from the test criterion. It is calculated as the sum of all K_{ij} . Thus, the chi-square value is 0,80653.

Furthermore, it is necessary to evaluate the probability that a given chi-square value would occur only due to many random factors. The function in Microsoft Excel CHIDIST ("chi-square value"; "number of degrees of freedom") was used for this. The number of degrees of freedom is the number of variants minus 1, so $4-1 = 3$. Based on the application of the above function, the above probability is determined. P-value = 0,847905.

The result of the test of fit (P-value = 0.848) is such that the examined quantities are independent of each other, because the result is greater than 0.05, which means that the difference of the examined location does not affect the result. So the null hypothesis was confirmed: the location does not affect the rate of use of anchoring methods. **The third hypothesis was rejected.**

4 Discussion and conclusions

The main goal of the paper was to find out how much the managers of enterprises with 100+ employees use the anchoring effect to anchor their employees. The authors predicted that anchoring effect for influencing employees are used much more often than is assumed. Authors set three hypotheses in the beginning and the results say that the first hypothesis was rejected, the second one was confirmed and the third one was rejected.

The results of the research provide further support for the understanding the anchoring effect, in particular in the awareness of the anchoring effect and its intensity of use. The first hypothesis assumed that more than 50 % of managers use the anchoring effect on average at least once a month. Approximately 31 % of the managers of the enterprises with 100+ employees in Prague and in Ostrava use the anchoring effect on average at least once a month. This fact means that the first hypothesis was rejected. However, the fact that the first hypothesis was rejected shows that the managers still do not use the anchoring effect too often.

The second hypothesis assumed that more than 10 % of managers use the anchoring effect on average at least twice a month. Approximately 13 % of the managers of the enterprises with 100+ employees in Prague and in Ostrava use the anchoring effect on average at least twice a month. This fact means that the second hypothesis was confirmed. Thus, the results show that if managers know and use the anchoring effect, they use it relatively often.

The third hypothesis assumed that managers of Prague enterprises with 100+ employees use anchoring effect 25 % more often than managers of Ostrava enterprises with 100+ employees. The difference in use of the anchoring effect between Prague and Ostrava is only 9.7 %. This fact means that the third hypothesis was rejected. The fact that the third hypothesis was rejected shows that the difference in the use of anchoring effect between Prague and Ostrava is not very significant. But we can say that the all results clearly show that the level of the application of the anchoring effect is higher in Prague than in Ostrava. The assumptions, which the Isard, Aziz, Drennan, Miller, Saltzman & Thorbecke stated, was confirmed in the case of the comparison between Prague and Ostrava too.

According to the authors of this paper, the research was limited by the following two parameters:

- the surveyed companies were not only from Ostrava but also from its surroundings (there are not so many enterprises with 100+ employees in Ostrava as in Prague);
- a huge part of enterprises with 100+ employees in the Czech Republic have foreign owners.

Authors believe that this simple research will help initiate further research in this interesting field of behavior economics by using more specific questionnaire. In the future, it is possible to carry out similar research in other cities of the Czech Republic or abroad. It would be the survey of how much the managers of enterprises with 100+ employees use the anchoring effect to anchor their employees in another large city in the Czech Republic. This city is Brno. The following results could again be compared with the results achieved in Prague and Ostrava.

This research could continue in the coming years as follows:

- survey of the situation in the Czech Republic in general;
- survey of the situation in countries that are geographically, historically, culturally and mentally similar to the Czech Republic (Slovakia and Poland);
- survey of the situation in countries that are geographically similar to the Czech Republic, but culturally and mentally different from the Czech Republic (Germany and Austria);
- survey of the situation in other European countries;
- survey of selected countries in the world (important countries).

All obtained results would be compared in detail.

Finally, a consideration is offered (this consideration is only speculative in nature, which results from the research results) concerning the two most important research results. These results are the following two facts:

1. The managers still do not use the anchoring effect too often, but if managers know and use the anchoring effect, they use it relatively often.
2. The level of the application of the anchoring effect is higher in Prague than in Ostrava, but the difference in the use of anchoring effect between Prague and Ostrava is not very significant.

These two facts are the consequences of many interesting contexts.

Based on the above research results, it can be stated that the enterprises with 100+ employees in the Czech Republic still do not know the anchoring methods and the anchoring effect very well. A large number of this Czech enterprises have heard about this effect and these methods, but only marginally. A small number of this Czech enterprises met anchoring effect and anchoring methods in person. An even smaller number of the enterprises with 100+ employees in the Czech Republic have practical experience with these methods.

However, the results of the research show a trend that if the enterprises with 100+ employees in the Czech Republic get to know more with the anchoring effect and its methods, this enterprises will start using this effect and these methods relatively often. It can be estimated that the reason for this fact is the substantiality that the managers of the enterprises with 100+ employees in the Czech Republic will recognize the real advantages and strengths of the anchoring effect and anchoring methods only when they become more familiar with this effect and these methods. Thus, it is highly probable that the cause of the overall low application level of the anchoring effect and anchoring methods is innocence of this effect and innocence of its advantages and benefits.

The results of the research further show that expectations in the form of a comparison between Prague and Ostrava have been met. The anchoring effect and the anchoring methods are actually used more often in Prague than in Ostrava. The reason for this is most likely the fact that the anchoring effect is still a young and innovative approach. For this reason, the knowledge of this approach is conditioned by a high level of managerial skills and managerial overview. In the definition of the current estate (at the introduction of this paper), the assumption from the authors (Isard, Aziz, Drennan, Miller, Saltzman & Thorbecke, 2017) was clearly described. According to these authors, the level of managerial skills increases with the increasing size of the gross domestic product (GDP) by the region and the number of the enterprises with 100+ employees with the registered office in the region. In both of these factors, Prague has higher values than Ostrava. If the claims of the authors (Isard, Aziz, Drennan, Miller, Saltzman & Thorbecke, 2017) are taken to be true, a higher rate of use of the anchoring effect and anchoring methods is a logical result.

However, the results show that the differences between Prague and Ostrava are smaller than expected. There can be many reasons for this fact. One of the main reasons will be the fact that the owners of the enterprises with 100+ employees located in the Moravian-Silesian region, which was the subject of the survey, are mostly from abroad. For this reason, knowledge of modern approaches and innovative methods is not in these companies as low as might be expected.

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