How to Minimize Biases and Increase Objective Decision Making

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There are many biases and heuristic errors that can impact the outcome of the data analysis. Objective data analysis is vital to ensure quality decision making based on data analysis. This paper seeks to identify three forms of biases that can impact the outcome of data analysis and highlight the reasons for their existence and will further analyze the ways these biases can be reduced.

The first bias that can impact is confirmation bias. This type of biases occurs when only that new information is accepted which confirms the previously held ideas. In this form of biases already existing hypothesis is accepted and therefore only that data is considered which may lead that way (Blumenthal-Barby, 2016). Only that idea is accepted or considered as true which one believes to be true. Confirmation bias acts to skew results and the data obtained doesn’t present the full picture of the data. This sort of bias occurs due to the wishful thinking and one stops gathering new information or any other piece of information because the evidence gathered so far confirms the hypothesis developed. Once a view is formed by humans, they only accept information that confirms that specific viewpoint and tends to deny or ignore the facts that contradict that viewpoint or casts any doubt on it. Humans are the prisoners of their own assumptions.

One example of confirmation bias occurred us during the presidential election of 2016 in the US. The negative of this bias is that the conclusion remains unchecked and one develops false assumptions and it results in false decision making based on false and incomplete information. In order to avoid confirmation bias, one has to be aware of the occurrence of bias while reviewing data so as to avoid reaching any conclusion based on limited information. In addition, while doing data analysis, one has to be curious to discover all the underlying factors that can impact decision making. In addition, one must seek out evidence that can reject or deny hypothesis, to perform better data analysis and quality decision making.

Next biases that occur in data analysis is selection bias, in which data on which the analysis is being performed to make an informed decision is selected subjectively. The subjective collection of data means that the sample collected is not the true reflection of the whole population and its results cannot be generalized for a large number of population. This type of error most of the times in data collection when the data analyst doesn't carefully select the sample based on the fact it is the true representative of the people on the whole. For instance, in a customer survey, the data is either collected from just the existing users without considering the ex-users or the fans and prospect users. As a result, the results of the survey are either overestimated or underestimated. The section bias also reduced the quality of decision that is developed on incomplete or incompetent data.

This type of error sometimes occurs intentionally or deliberately and sometimes due to the need for quick decisions. To overcome this type of bias it is better to ask a question what type of sample is most suitable for data collection. The researcher must avoid false extrapolation about the sample of the study so that the results obtained from the study can be applied to a large population. It is also important to evaluate the sample collected in order to make sure that it is the true representative of the whole population. Selection bias can be avoided by paying attention to the clear definition of the study population and ensuring that the sample collected is equivalent to the population in its majority of characteristics.

The last type of biases identified from those which can occur in data analysis is availability bias. This is the most dangerous type of error as in this heuristic error because the decision is based on the information that is readily available and the decision maker or data analyst does not dig into the further detailed information for quality decision making (Gimpel, 2007). Most of the people fell prey to availability bias when they do not get an insight into the full picture and just think that the overview of information is enough to make a decision. This type of bias occurs when the decision makers are in a hurry to make a decision or solve issues. It is often liked with urgent decisions and quick solutions to the problems. Availability bias also neglects the most important factors that can impact decision and its outcomes. It is very easy to reduce and eliminate availability bias by just digging into deeper information and not relying on a few facts for decision making. Obtaining data by doing extensive research and from a variety of sources by spending ample time on data collection and using a variety of sources can increase the quality of data analysis before reaching a decision. In addition, it can reduce the negative impacts of poor quality decisions.

To sum up, data collection and analysis are time and resource consuming activities. It is vital to reduce biases in data collection and analysis to improve the quality of decisions. Confirmation bias, availability bias, and selection bias can impact the quality of decisions and it is crucial to avoid these and any other biases to ensure objective decision making.

# References

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