

Lesson 3 Life Is a Sum of Choices

There's More than One Way to Vote

We make many personal choices in our lives, from who to have lunch with to what career to pursue. However, there are many situations where we must make decisions as a group. Group decision-making is not as simple as our personal choices, as it involves numerous voices with differing opinions. Voting is often used to make group decisions fairer and more efficient, and various voting methods have been developed over time. The following story illustrates how these different voting methods work.

The members of the Greenville High School student council needed to decide how to raise money for children in need. Their three options were an art show, a bake sale, and a charity concert, but there were conflicting opinions. So they decided to put it to a vote.

When they asked for advice from Ms. Akers, the council's advisor, she encouraged them not to use the familiar voting method, but to try something different instead. After doing some research, the council members decided to try three different voting systems: the first-past-the-post method, the alternative vote method, and the Condorcet method. The entire council was curious to find out if the different methods would yield different results.

On the day of the vote, each possible event was given a letter: "art show" was represented by the letter A, the letter B indicated "bake sale," and C stood for "charity concert."

Each of the 20 council members was given a voting slip and instructed to write down the options in order of preference. For example, if the charity concert was their first choice, followed by the bake sale and the art show, they would write CBA.

After every member had voted, the voting slips were counted. The results were as follows:

The First-Past-The-Post Method

The FPTP method is the simplest of the three methods. Voters are given several options, and whichever gets the most first-preference votes wins.

Neither the second nor third preference matters at all, so they are ignored. This method is commonly used in political elections around the world.

The student council quickly determined that the winner would be option C, the charity concert. This was because it received 8 first-preference votes, while option A received 5 and option B received 7.

The FPTP method is uncomplicated and easy to understand, but it has a significant weakness. It is possible to win a vote without the support of the majority. That was the case here. According to the results of the FPTP method, the council's choice was to hold a charity concert. However, only 8 out of 20 council members chose the charity concert as their first preference, which equaled 40% of the total votes.

The Alternative Vote Method

Next, the council members examined the votes using the AV method, and they soon realized that there would be a different result. The AV method can potentially include more than one round of counting.

For an option to win in the first round, it needs to get more than 50% of the first-preference votes. As the charity concert only received 40% of the total votes, a second round of counting was required.

Option A, the art show, received the fewest first-preference votes, with only 5 council members voting for it. Therefore, option A was eliminated, and the 5 council members' votes were redistributed based on their second preferences. As a result, 4 votes for option B and 1 for option C were added to the total. This meant that option B had 11 total votes, while option C had only 9. As a result, the bake sale would be the winner.

Unfortunately, the AV method is not perfect either. It sometimes allows second-preference votes to have a greater influence than first-preference votes. In this case, the bake sale won, but this was mainly due to the second-preference votes it received.

The Condorcet Method

Finally, the student council counted the votes using the Condorcet method. This method involves comparing the voters' preferences between each possible pair of options. In this case, there were three pairs to consider: A vs. B, B vs. C, and A vs. C. Through this method, the student council discovered that its members preferred option A to option B by a count of 11 to 9. In other words, 11 people preferred A to B, voting either ABC, ACB, or CAB. Meanwhile, 9 people preferred B to A by voting BAC, BCA, or CBA. Interestingly, the voters preferred option B to option C by the same count of 11 to 9. They also preferred option A to option C by 11 to 9. As option A, the art show, was preferred to both of the other options, it would be considered the winner. The Condorcet method's weakness is that, along with being complex, it sometimes fails to select a winner. This is especially true in elections that contain numerous options. It is possible that no option will be clearly preferred over the others.

Instead of all methods pointing toward a single option and making the council's choice easier, the winner differed with each method. After a long, intense discussion with Ms. Akers, the student council members decided to choose the Condorcet method, as they liked the idea of directly comparing each option with the others. Everyone agreed that they learned a lot about different voting systems through this experience.

It is obvious that choosing an ideal voting method is a complex and challenging task. No voting system is flawless or clearly superior to another. Whichever we choose will have pros and cons. Some people believe that it is best to keep the process simple by not ranking our choices at all. Others continue to develop and test new ways of voting, arguing that more complex methods deliver more accurate results. All of these efforts are designed not to make decision-making difficult and inefficient, but to help us make better decisions as a society. Ultimately, understanding all of the possible voting methods and weighing their pros and cons allows us to better understand the process of decision-making. When we understand decision-making better, we are more likely to become better decision-makers ourselves.