**A VOTERS’ PROFILE**

**The Scenario**

Imagine a debate in which 12 persons – Messrs. *i, j, k* … – a debate an issue in which there are five options: ***A, B, C, D*** and ***E***. And imagine too that they have the following preferences.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Messrs: | | | | | | | |
|  | | *i* and *j* | *k* and *l* | *m* | *n* | *p* | *q* and *r* | *s* | *t* and *u* |
| No of voters: | | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 2 |
| O  P  T  I  O  N |  |  |  |  |  |  |  |  |  |
| ***A*** | 1st | 1st | 5th | 4th | 5th | 5th | 5th | 5th |
| ***B*** | 2nd | 3rd | 1st | 3rd | 2nd | 2nd | 2nd | 3rd |
| ***C*** | 3rd | 5th | 2nd | 1st | 1st | 3rd | 4th | 4th |
| ***D*** | 5th | 2nd | 3rd | 2nd | 4th | 1st | 3rd | 2nd |
| ***E*** | 4th | 4th | 4th | 5th | 3rd | 4th | 1st | 1st |

**The Social Choice**

Even a cursory glance would suggest that the option which best represents everyone would be option ***B.*** If, however, the voting methodology is (i) plurality voting; (ii) a Borda count; (iii) av or stv; (iv) the Condorcet rule; (v) two-round voting or (vi) approval voting, we get the following results:

|  |  |  |
| --- | --- | --- |
| VOTING  PROCEDURE | | THE OUTCOME |
| i | Plurality voting | ***A*** |
| ii | Borda count (bc) or Modified Borda Count (mbc) | ***B*** |
| iii | av or stv | ***D*** |
| iv | The Condorcet rule | ***C*** |
| v | Two-round voting | ***E*** |
| vi | 1st preferences only  Approval voting\* 1st and 2nd preferences  1st/2nd/3rd or 1st/2nd/3rd/4th | ***A*** or  ***B= D=*** or  ***B*** |

In other words, the “democratic decision” can be anything at all; with this particular profile, (and in many other circumstances), the outcome depends upon the voting procedure used. Given this disparity, can all five voting methodologies really be called “democratic”?

**The Social Ranking**

The social rankings from the different methodologies are as follows:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| VOTING  PROCEDURE | | SOCIAL RANKING | | | | |
| 1st | 2nd | 3rd | 4th | 5th |
| i | Plurality voting | ***A*** | ***E*** | ***C=*** | ***D=*** | ***B*** |
| ii | bc or mbc | ***B*** | ***D*** | ***C*** | ***E*** | ***A*** |
| iii | av or stv | ***C*** | ***A*** | ***-*** | ***-*** | ***-*** |
| iv | The Condorcet rule | ***D*** | ***B*** | ***C*** | ***E*** | ***A*** |
| v | Two-round voting | ***E*** | ***A*** | ***-*** | ***-*** | ***-*** |
| vi | 1st preferences only  Approval 1st /2nd preferences  voting\* 1st/2nd/3rd  1st/2nd/3rd/4th | ***A***  ***B=***  ***B***  ***B*** | ***E***  ***D=***  ***D***  ***E*** | ***C=***  ***A***  ***C***  ***C=*** | ***D=***  ***C=***  ***A=***  ***D=*** | ***B***  ***D=***  ***E=***  ***A*** |

Borda (bc/mbc ) and Condorcet are the only methodologies which take all cast preferences into account, so it is hardly surprising that they are the most accurate. And in many instances – i.e., with many voters’ profiles – and even when some of the voters submit only partial ballots (casting preferences for some but not all the options), the mbc and Condorcet social choices will be the same, if not too their social rankings.

\* In approval voting, the outcome depends on how many ‘preferences’ (or approvals) are counted. In the above profile, counting all the 1st preferences gives ***A***; all the 1st and 2nd preferences gives a tie between ***B*** and ***D***; all 1st, 2nd and 3rd preferences gives ***B***, as do all 1st, 2nd, 3rd and 4th preferences.