

נוסחאות:

$$P(A|B) = \frac{P(A \cap B)}{P(B)}$$

הסתברות מותנית

$$P(A) = \sum_{j=1}^n P(A|B_j)P(B_j) \quad (\text{נוסחת ההסתברות השלמה } B_j \text{ מהווים חלוקה של המרחב})$$

$$P(B|A) = \frac{P(A|B)P(B)}{P(A)} = \frac{P(A|B)P(B)}{\sum_{j=1}^n P(A|B_j)P(B_j)} \quad \text{חוק בייס}$$

Weak monotonicity: if candidate w wins for the current votes, we then improve the position of w in some of the votes and leave everything else the same, then w should still win.

Strong monotonicity: if candidate w wins for the current votes, we then change the votes in such a way that for each vote, if a candidate c was ranked below w originally, c is still ranked below w in the new vote, then w should still win.

Weak Pareto efficiency: If all agents prefer a to b , the voting rule will never choose b to be the winner.

Pareto efficiency: if all votes rank a above b , then the voting rule should rank a above b .

Independence of irrelevant alternatives: result between a and b only depends on the agent's preferences between a and b .