


# Computer-Aided Consensus™

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## Brainstorming


- Goal: generate ideas to solve problem
- Separate ideation from analysis
  - ❑ 2 phases: find/create ideas then organize
- Ideation
  - ❑ Set numerical goal (e.g., "100 ideas on how to...")
  - ❑ No critical (negative or positive) responses
  - ❑ Write every idea down on large paper
    - ✓ Including silly ones
    - ✓ Post sheets on walls
- 100, now let's find 10 more!"



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## Brainstorming (cont'd)

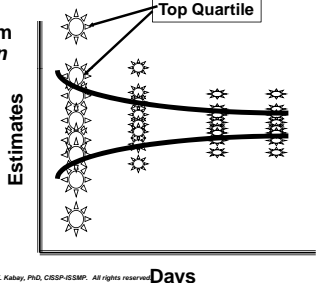
- Facilitator encourages ideation
- Scribe writes everything down
- Participants
  - ❑ Should have means for making notes – avoid losing new ideas
  - ❑ Should not go into any detail
  - ❑ Cryptic suggestions are good
- Hitchhiking
  - ❑ When an idea sparks a new one, use hand signal to indicate priority (to avoid forgetting)



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## Delphi Technique

- RAND Corporation, 2<sup>nd</sup> World War
- Develop quantitative estimates using expert opinion
- Ask top and bottom quartiles to explain reasons
- Share reasons
- Estimate again
- Iterate to stability



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## Computer-Aided Consensus

- Real-time Delphi Technique
- Need a spreadsheet & printer or network
- 1<sup>st</sup>, determine operational scale of importance
  - ❑ How much time?
  - ❑ How much money?
  - ❑ When to start?
- Agree on simple scale; e.g.,
 

❑ 1 = start this week	OR	spend \$0
❑ 2 = this month		\$1,000
❑ 3 = this quarter		\$10,000
❑ 4 = this year		\$100,000
❑ 5 = never		\$1,000,000

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## Computer-Aided Consensus (cont'd)

- Lay out results of brainstorming or other list
  - ❑ Use spreadsheet
  - ❑ 1 idea/proposal per row
- Define 1 column per participant
- Enter each participant's estimate of importance / priority / value in column beside ideas / proposals
- Can collect scores using printouts or using networked computers to fill in spreadsheets

Idea	Bob	Jane	Karim	Robbie
Javelin	2	4	3	1
Halberd	3	3	3	1
Morningstar	2	5	3	4
Broadsword	5	2	3	2
Pike	1	3	2	5
Ballista	2	2	2	2
Retarius	1	5	3	4
Bombard	4	3	3	3

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### Computer-Aided Consensus (cont'd)

- Calculate average and variance
- Sort descending by priority / importance

Idea	Bob	Jane	Karim	Robbie	avg	var
Morningstar	2	5	3	4	3.5	1.7
Halberd	3	6	4	1	3.3	2.9
Broadsword	5	3	4	3	3.0	2.0
Ballista	2	2	2	2	3.0	0.7
Pike	1	5	3	5	2.8	2.9
Bombard	4	1	2	1	2.0	2.0
Retarius	1	3	2	2	2.0	0.7
Javelin	2	1	1	1	1.3	0.3

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### Computer-Aided Consensus (cont'd)

- Group *roughly* by class of priority / importance
- Sort downward by *variance* within subgroup
- Discuss *reasons* for greatest variation in estimated priority / importance among *most important proposals / ideas*

Idea	Bob	Jane	Karim	Robbie	avg	var
Halberd	3	6	4	1	3.3	2.9
Broadsword	5	3	4	3	3.0	2.0
Morningstar	2	5	3	4	3.5	1.7
Ballista	2	2	2	2	3.0	0.7
Pike	1	5	3	5	2.8	2.9
Bombard	4	1	2	1	2.0	2.0
Retarius	1	3	2	2	2.0	0.7
Javelin	2	1	1	1	1.3	0.3

Why so much disagreement?  
Arbitrarily defined top (most important) group

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### Computer-Aided Consensus (cont'd)

- Spend *most time* on *important* issues where people *disagree*
- Discussing differences reveals new information about why people diverge:
  - different assumptions
  - divergent priorities
  - unshared or contradictory information
  - different reasoning
  - errors
- Sharing info and resolving differences on important issues speeds consensus

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### Computer-Aided Consensus (cont'd)

- Extremely important not to generate hostility
- Best if spreadsheet visible for everyone
  - Projector
  - Network with net-meeting software
- Keep track of explanations for divergences
  - Use brainstorming techniques
- Make process as dynamic as you can
  - Change priorities in spreadsheet as often as needed
  - Recalculate and sort again

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# Now go try it out!

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