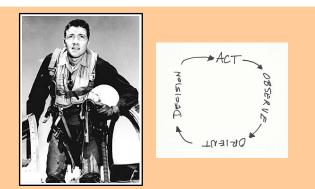
Systems, Models, and Tools By and For Smart People

Courtesy of Global Energy Labs

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Colonel John Boyd's OODA Loop

Originally used to describe a fighter pilot's decision making process in combat during the Korean War, this loop can be used for business, tactical situations, and every day life.

O = **Observe** - Sense yourself and the world around you **O** = **Orient** - Filter the observations through experience and knowledge

D = **Decision** - Review alternate courses of action **A** = **Act** - Implement the decision

Then, loop back through to see what changes your action had on the system. Keep looping until you reach your desired end state.



SCAMPER Brainstorming

SCAMPER helps you brainstorm for ideas, or improvements by asking a series of questions. **Procedure:**

1. Identify the subject or problem that you want to solve.

- 2. Ask SCAMPER questions for each letter.
- S = Substitute?
- C = Combine?
- A = Adapt?
- M = Modify?
- P = Put to other uses?
- E = Eliminate?
- R = Reverse or Rearrange?

Example: A manufacturer of pencils is looking to improve his product. He can use SCAMPER to brainstorm:

- S = Substitute grease for graphite to make waterproof marks
- C = Combine the pencil with a pen in a package
- A = Adapt the pencil lead to permanently mark plastic
- M = Modify the shape of the pencil to fit small hands
- P = Put the plant to other uses making small dowels for furniture
- E = Eliminate the eraser (golf score card pencil)
- R = Rearrange the eraser position onto a cap



PROS	CONS
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Benjamin Franklin's Decision Making Method

Use this method for deciding between alternates

Procedure:

1. Divide a sheet of paper in half with a line, call one column "Pros" and one "Cons"

2. Brainstorm pros and cons under the headings. Franklin indicates that he did this over the course of 3 or 4 days

3. When you have thought of all the pros and cons, then cross out a pro and con that have roughly the same "weight"

4. Some pros and cons carry more weight, so you may strike 2 pros for 1 con, 3 cons for 2 pros, etc.

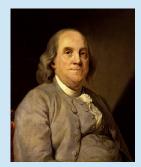
5. Whichever column wins is your decision (as scientific and objective as is possible)

From a Benjamin Franklin letter, describing the process:

"When these difficult Cases occur, they are difficult chiefly because while we have them under Consideration all the Reasons pro and con are not present to the Mind at the same time; but sometimes one Set present themselves, and at other times another, the first being out of Sight."

"To get over this, my Way is, to divide half a Sheet of Paper by a Line into two Columns, writing over the one Pro, and over the other Con. Then during three or four Days Consideration I put down under the different Heads short Hints of the different Motives that at different Times occur to me for or against the Measure. When I have thus got them all together in one View, I endeavour to estimate their respective Weights; and where I find two, one on each side, that seem equal, I strike them both out: If I find a Reason pro equal to some two Reasons con, I strike out the three. If I judge some two Reasons con equal to some three Reasons pro, I strike out the five; and thus proceeding I find at length where the Ballance lies; and if after a Day or two of farther Consideration nothing new that is of Importance occurs on either side, I come to a Determination accordingly."

"What is elementary, worldly wisdom? Well, the first rule is that you can't really know anything if you just remember isolated facts and try and bang 'em back. If the facts don't hang together on a latticework of theory, you don't have them in a usable form. You've got to have models in your head. And you've got to array your experience — both vicarious and direct — on this latticework of models." **Charlie Munger,** Vice Chairman of Berkshire Hathaway



Benjamin Franklin's 13 Subjects

Benjamin Franklin would select a subject each week to work on and better himself. Then, the next week he would move to the next subject. In 13 weeks, he would complete 1 "course," and then repeat the process to perform 4 courses per year.

1. Temperance - Eat not to dullness; drink not to elevation

2. Silence - Speak not but what may benefit others or yourself; avoid trifling conversation

3. Order - Let all your things have their places; let each part of your business have its time

4. Resolution - Resolve to perform what you ought; perform without fail what you resolve

5. Frugality - Make no expense but to do good to others or yourself; ie waste nothing

6. Industry - Lose not time; be always employed in something useful; cut off all unnecessary actions

7. Sincerity - Use no hurtful deceit; think innocently and justly, and, if you speak, speak accordingly

8. Justice - Wrong none by doing injuries, or omitting the benefits that are your duty

9. Moderation - Avoid extremes; forbear resenting injuries so much as you think they deserve

10. Cleanliness - Tolerate no uncleanliness in body, clothes, or habitation

11. Tranquility - Be not disturbed at trifles, or at accidents common or unavoidable

12. Chastity - Rarely use venery but for health or offspring, never to dullness, weakness, or the injury of your own or another's peace or reputation

13. Humility - Imitate Jesus and Socrates

How to Conduct a Critique (also known as Fact Finding or Root Cause Analysis or Post-Mortem)

When to do – conduct these whenever you need to know the causal relationships and root causes (so you can correct them); especially when injuries, accidents, equipment breakage, etc. occurs

Procedure:

- 1. Gather the key people involved
- 2. Have minutes taken during the meeting
- 3. Agree on the initial conditions before the event occurred
- 4. Detail the events that happened in the event

5. Determine the root cause(s) for each unwanted event (may have to trace back several causes to find the root cause)

6. Assign corrective actions so the root causes are eliminated 7. Retain and distribute the minutes and root causes in a

"Lessons Learned" binder, so that others can learn and avoid making the same mistakes.

7 Habits of Highly Effective People

1. Be Proactive - put yourself in control of your life and your success

2. Begin With the End in Mind - write "the program" for your life

3. Put First Things First - organize and execute following the priorities of your life (see Eisenhower's priority grid for more info)

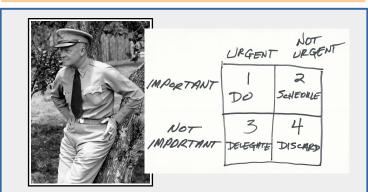
4. Think Win/Win - Seek mutual benefit in all your dealings with other people

5. Seek First to Understand, Then to Be Understood

6. Synergize - the whole is more effective than the sum of the parts; teamwork can accomplish great things

7. Sharpen the Saw – Constant renewal in the 4 dimensions of physical, mental, social/emotional, and spiritual health

Source: "The 7 Habits of Highly Effective People" by Stephen R. Covey



The Eisenhower Box

"What is important is seldom urgent, and what is urgent is seldom important."

- Dwight D. Eisenhower

Procedure:

Organize your tasks into the following quadrants:

1. Urgent and Important - you need to actually perform these tasks now (ie crisis, project deadline)

2. Important but Not Urgent - schedule these tasks to be done at a later time (ie calls to friends and family)

3. Urgent but Not Important - delegate these tasks so they can

be done by others (ie favors, tasks generated from most emails)

4. Not Urgent and Not Important - discard these tasks

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