

Effectuation Theory in Business & Cybersecurity



Kevin A. McGrail
Cloud Fellow @ Dito



ISSA

Information Systems Security Association

ISSA-NOVA | Northern Virginia Chapter



Kevin A. McGrail

Cloud Fellow @ Dito



Member, Apache Software Foundation & Apache SpamAssassin PMC Chair Emeritus

Google Workspace Top Contributor, Developer Expert & Ambassador

Member, U.S. Marine Corps Cyber Auxiliary

Distinguished Senior Fellow in Cyber Security at Thomas University's Armed Services Institute in the Center for Military Life



What is Effectuation Theory?

Proposed by Dr. Saras Sarasvathy in the early 2000s

The opposite of Causation

Plug and Play Tech Center Story

Effectuation vs. Causation

Causation

Start with a goal and then linearly acquire the resources needed to achieve the goal.

Effectuation

Evaluate the resources that are available to you today and then derive achievable goals from those resources.

Effectuation vs. Causation in Cooking

Causation Model

A chef using a causation model decides on a particular recipe and then gathers the requisite ingredients to do so.

Effectuation Model

A chef using an effectuation model looks in the fridge/pantry to see what ingredients are available, then devises the best meal using what is ready.

“You need not limit drinking, but do not drink to the point of confusion” - Confucius

Keys to Effectuation



Floating goals



Timeboxing and
Resources Guide
Responses & Strategy



Pick targets that meet
resources rather than
having to resource to
meet requests

What if you selected your target market based on your company's strengths?

5 Core Principles from Effectuation Theory

Principle #01

Bird in the hand Principle

“A bird in the hand beats two in the bush—This refers to maximizing the use of what an entrepreneur knows (i.e., their background and experience), who they know (e.g., friends, family and others around them), and aligning options based on who they are (i.e., what are the entrepreneur’s abilities).”

5 Core Principles from Effectuation Theory

Principle #02

Affordable Loss Principle

“Only take on affordable losses—Don’t obsess about windfall profits, but do try to minimize potential losses. This involves taking low probability bets, but only with a small investment of resources lost with each failure.”

5 Core Principles from Effectuation Theory

Principle #03

Crazy Quilts Principle

“Make crazy quilts—Weave potential deals with potential partners until something sticks. Many iterations are often required.”

5 Core Principles from Effectuation Theory

Principle #04

Lemonade Principle

“Make lemonade means to see potential in depressed or under-utilized resources. This is similar to the alertness principle.”

5 Core Principles from Effectuation Theory

Principle #05

Pilot in the Plane Principle

“Focus on today, not next year.” You cannot control the future but you ARE in control of some of the factors.

Do VC's and Investors like Effectuation Theory?

How We Use this Beyond just Business

A

Forming a project,
incident or tiger team

B

Agile: What did we do
last period, what are
we doing this period,
what are our blockers?

C

Using Sprints even 1
hour Sprints based on
Resources

Scientific Method aka Hypothetico deductive reasoning model

Steps in the Scientific Method

- 1 Make observations
- 2 Construct a Hypothesis
- 3 Test
- 4 Draw a conclusion
- 5 Either re-enter from step 2 or leave the cycle

Pomodoro Method

1 Decide on the task to be done.

2 Set the pomodoro timer (traditionally 25 minutes).

3 Work on the task.

4 End work when the timer rings and put a checkmark on a piece of paper.

5 If you have fewer than four checkmarks, take a short break (3–5 minutes) and then return to step 2; otherwise continue to step 6.

6 After four pomodoros, take a longer break (15–30 minutes), reset your checkmark count to zero, then go to step 1.

Timeboxing

Key point: When is something “done”?

A

Set expectations

B

Prioritize the To-Do's by
Impact

C

Small successes lead
to positive feedback
and continued success

Solutions to issues like writers' block to get into a zone

Scrum in 2 Minutes



Sprints



Is Cyber Ever Done?

Do you ever get all the resources
and budget you need?

Closing Thoughts

Target vertical/sectors/customer leads/trade shows with effectuation rather than causation modeling. Perhaps combine current (effectuation) and future goal planning (causation) models...

Weave Crazy Quilts for Proposals focusing on three resource constraints you will almost always encounter: **Budget, Timeline, & Goals.**

“Causation logic is rational and may be best employed in situations that do not involve too much uncertainty. By contrast, **effectuation logic is useful when there is uncertainty about the goals.**”

Much of my work involves uncertainty with constantly shifting requirements and dealing with evolving adversaries (or customers who do not know their goals).

Understanding Effectuation Model is a Great Tool in your Business and Cyber kit!

#1 Goal of CyberSecurity

Improving Communication with Leadership & Customers

Time Permitting:

https://docs.google.com/presentation/d/1g5Dcc9CKvtS_61y-PssvjZW1MfOXDKbRT_40phzXRqI/edit

“Revenue is Vanity.

Profit is Sanity.

Cash is King.”

by Alan Miltz from Scaling Up by Verne Harnishe

Thanks to:

Dr. Saras Sarasvathy for her work on defining Effectuation Theory and Andres Diaz Martinez for introducing me to it!
C. Michael Fields for his help on Timeboxing presentations.
SCRUMstudy for their amazing SCRUM in 2 Minutes Video
Amanda Kopp for her insights and edits.
Ben George for his artistic skills.

Sources:

<https://entrepreneurshiptheories.blogspot.com/2017/08/sarasvathy-effectuation-theory.html>

http://entrepreneurscommunicate.pbworks.com/f/2001_Sarasvathy_Causation+adn+effectuation.pdf

https://www.youtube.com/watch?v=Ruvb_kGAMY

Resources:

https://en.wikipedia.org/wiki/Scientific_method

Zero Days: https://www.rottentomatoes.com/m/zero_days

Kim Zetter's book: <https://www.amazon.com/Countdown-Zero-Day-Stuxnet-Digital/>

Project Aurora: <https://www.youtube.com/watch?v=fJyWngDco3g>