

AGILE NUDGE UNIVERSITY

TOOLKIT

NUDGE



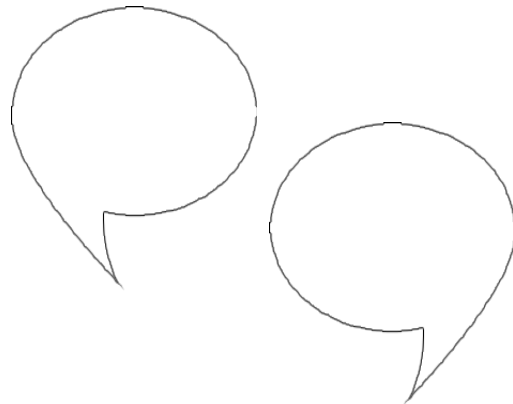
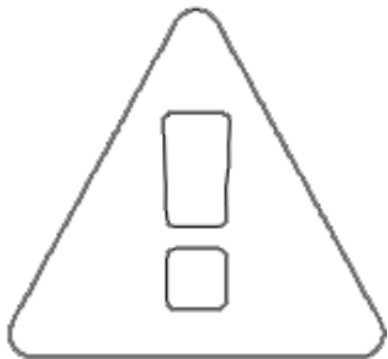
What is NUDGE?

Architecting the

Social, Physical, and Digital Environment

to facilitate certain behaviors **WITHOUT forbidding choice.**

- Nudge, Thayer and Sunstein, 2008



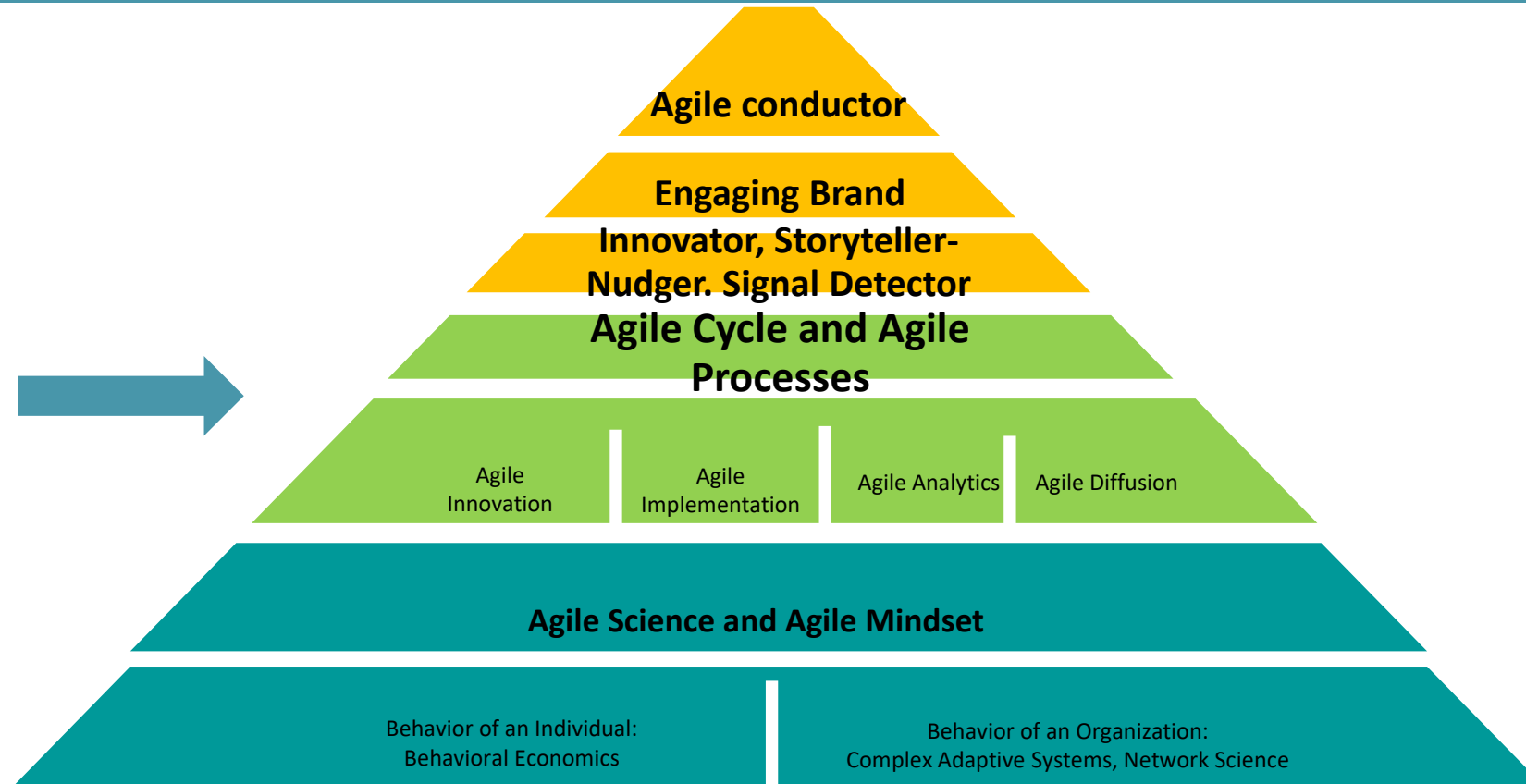


Definition: Agile science is a **rapidly evolving and adaptive process** for knowledge discovery and acquisition within the dynamic, constantly changing and evolving **real-world**.

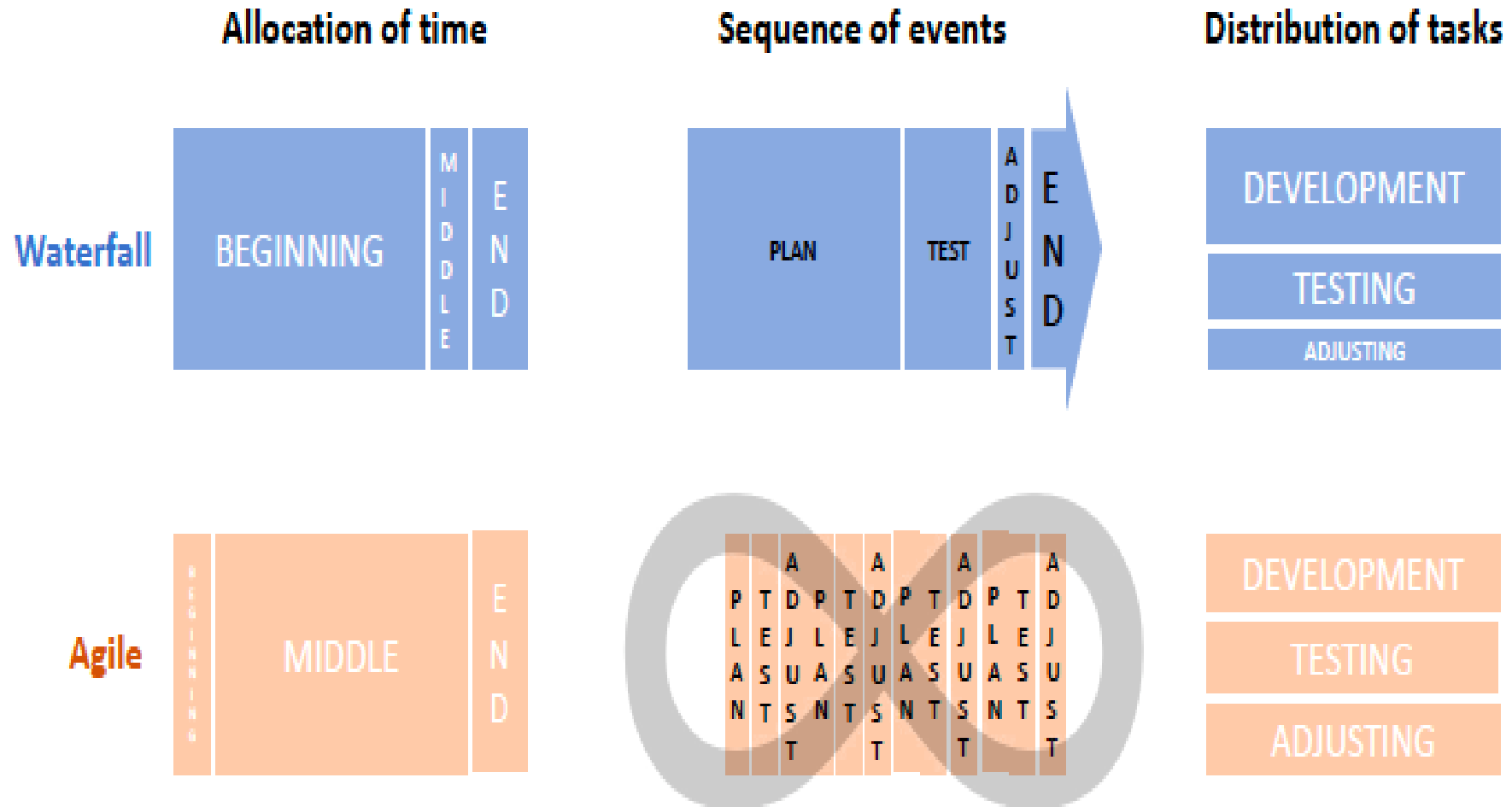
Purpose: Agile science integrates insights from behavioral economics, complexity science, and network science to understand, predict, and steer the behaviors of both an individual human and a social organization.

Outcome: Agile science provides insights to design scalable and effective human-centered strategies, processes, and tools, implement them into routine care and subsequently diffuse them across various social networks.

The Agile Pyramid



Waterfall vs. Agile Project Management



The Agile Cycle

Plan,
Reflect &
Adjust
10%



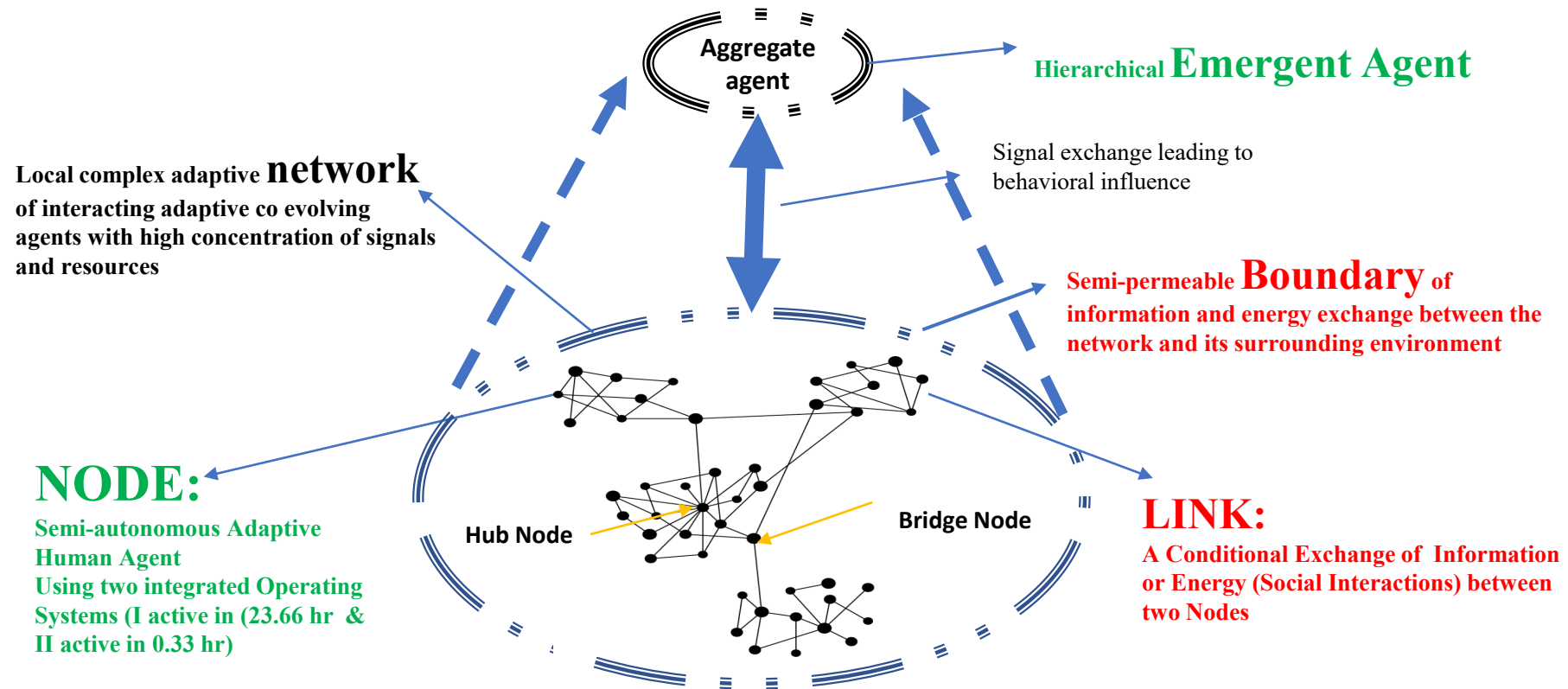
Sprint 90%



Demand

Agile Science

The COMPLEX ADAPTIVE Human NETWORK



The Agile Mindset and its Principles

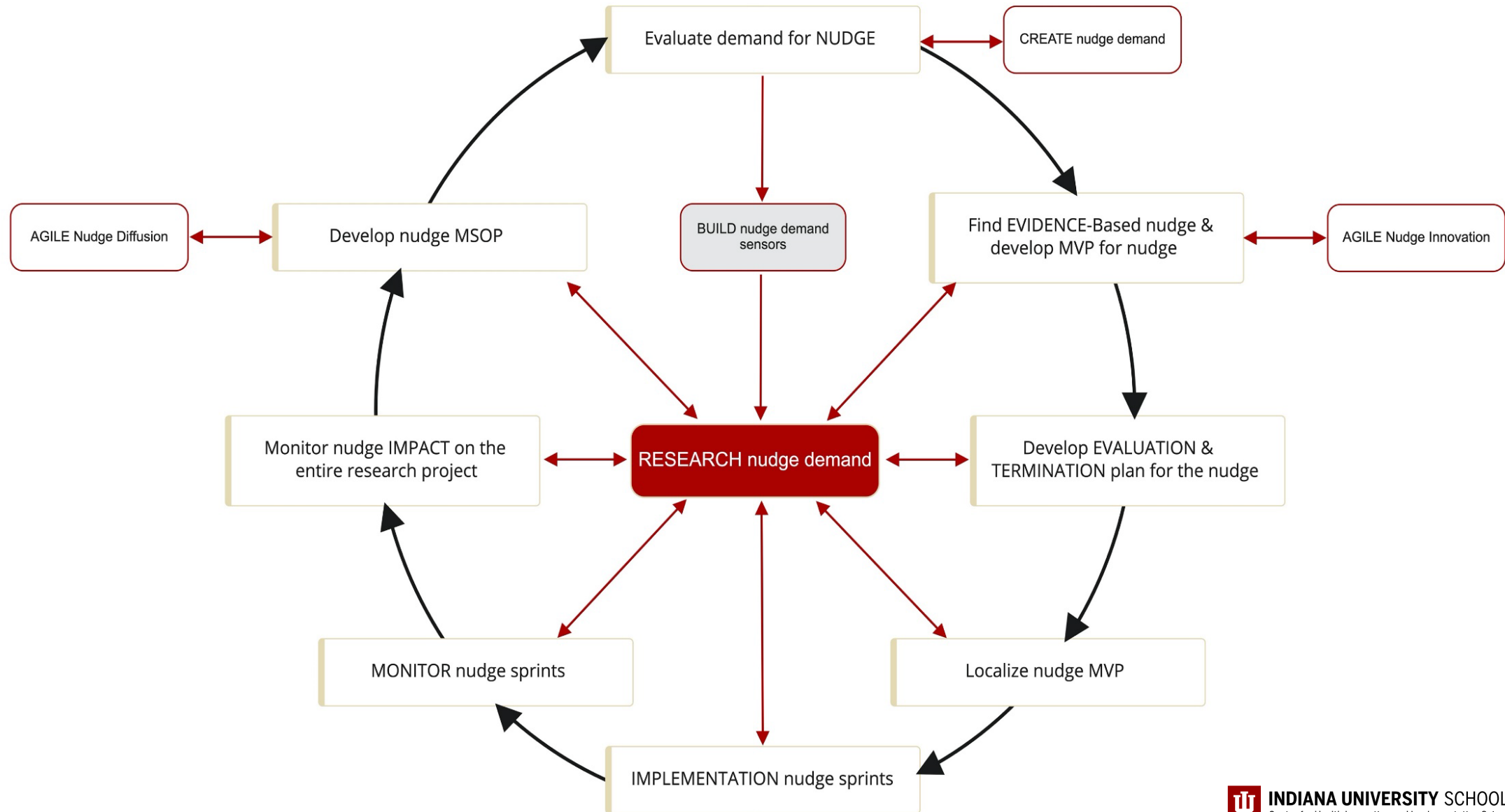
- **Safe Culture**
- **Feedback**
- **Sprints of Minimally viable prototypes**



AGILE NUDGE IMPLEMENTATION



Agile Nudge Implementation

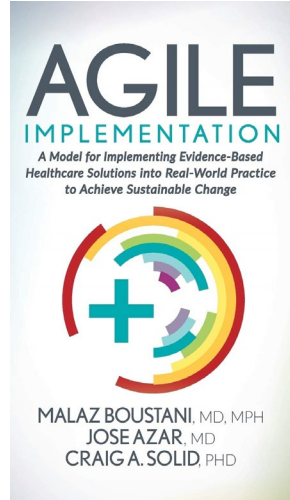


Planning

- 1 Identify and confirm **demand**
- 2 Identify **evidence-based nudges**
- 3 Develop **evaluation and termination plans**
- 4 Localize the **minimally viable solution (MVS)**

Executing

- 5 Perform **Implementation Sprints**
- 6 Monitor **implementation performance**
- 7 Monitor **system performance**
- 8 Develop **minimal standardized operating procedure (MSOP)**



AGILE NUDGE INNOVATION



What is Agile Nudge Innovation?

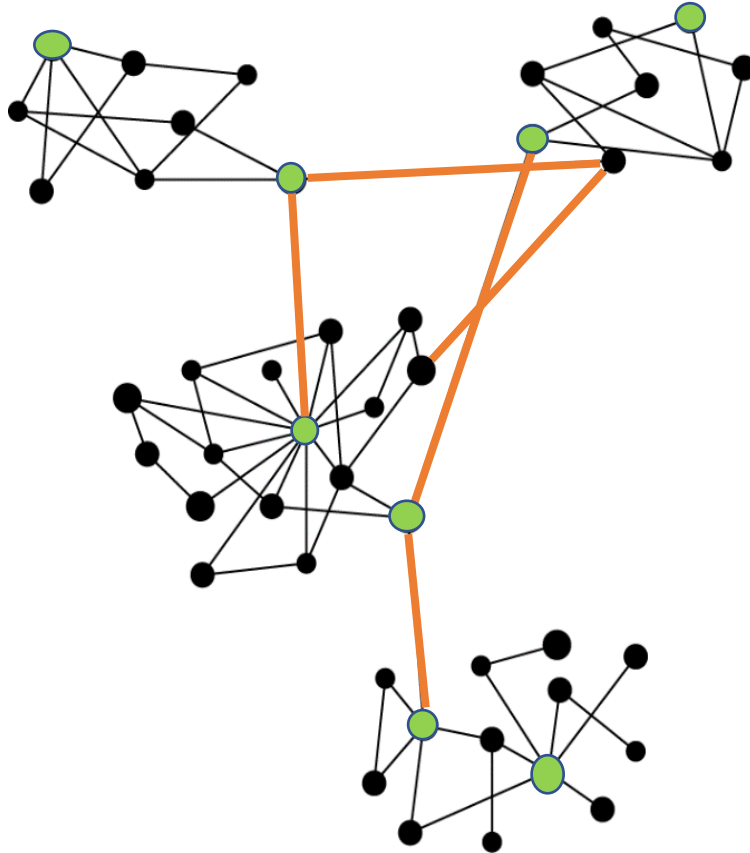


AGILE NUDGE DIFFUSION



NETWORK SCIENCE

Help you understand, predict, and change the behavior of an organization



Nodes: individuals attached to a network, capable of creating, receiving, or transmitting information over a communication channel

Hubs: high-degree nodes, or those that are the most connected in the network.

Cliques: a set or community of local nodes where each node is connected to every other node.

Links: the route by which two nodes are connected.

Bridges: any link that if cut, disconnects the network.



Agile Nudge Diffusion

- 1** Get to know the Complex Adaptive Network deeply where the evidence-based nudge is targeted for diffusion.
- 2** Develop agile feedback loops within the Complex Adaptive Network to constantly record and measure the network's problem and challenges within various communities and hubs.
- 3** Constantly profile the various messengers within the Complex Adaptive Network at the individual, community, and hub levels by specifying their profile, emotion, audience, and communication channel.
- 4** Create a minimally viable story of the evidence-based nudge by identifying the minimal standard processes and converting them into the essential components of the story. And effective story will clearly describe the villain (the problem), the hero (the evidence-based nudge), the struggle or drama, and the resolution.
- 5** Start various experiments and sprints to test the story to identify what works within each community, hub, and the entire network.



THE BOTTOM LINE

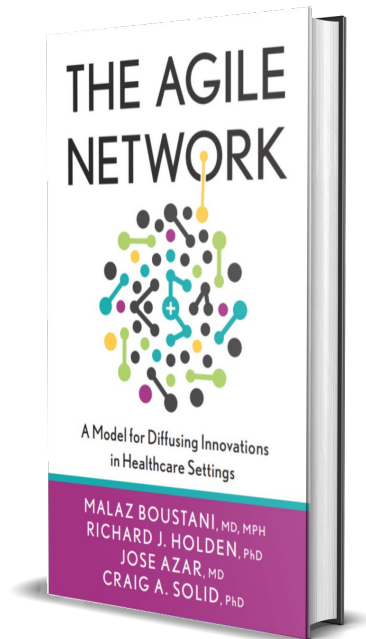
AGILE NUDGE DIFFUSION PROCESS

1.0 (Minimally Viable STORY)

The Story Teller
Information

2.0 (Minimally Viable NUDGE)

The Choice Engineer
Behaviors



Malaz Boustani, MD, MPH

Richard M Fairbanks Professor of Aging Research
Center for Health Innovation & Implementation Science

AGILE NUDGE CYCLE TOOL



Confirm Demand

(A score of 10 plus confirms demand or create nudge demand)

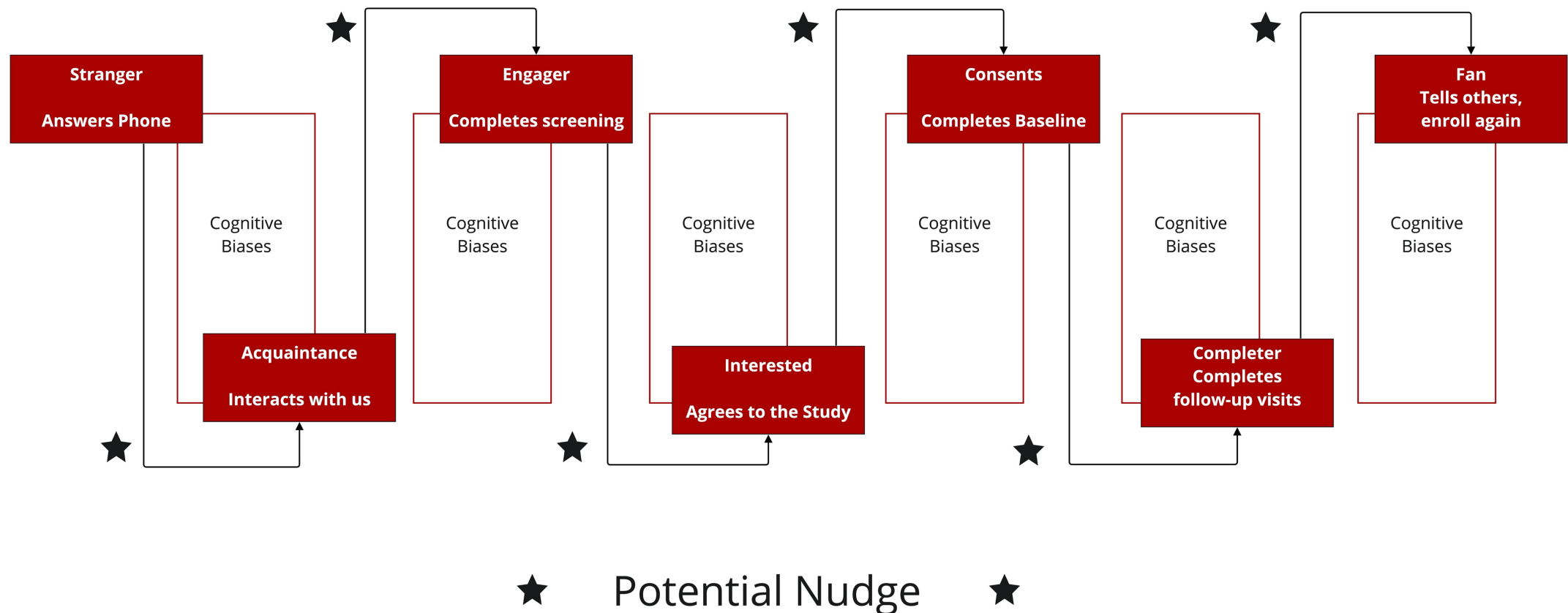
Use this list to know if your project really has demand. Not every problem needs to be solved. If there is no demand, then you must create demand

- The project comes as a directive from leadership
- The end user want to solve the problem
- You created buy-in formal all stakeholders
- You know how to create demand
- You confirmed that a problem exists
- You used data to confirm the problem
- The data used to was valid
- You can collect valid data
- You understand the stakeholders in the complex adaptive system
- You understand how the problem affects clinicians
- You understand how the problem affects front-line staff
- You have created a document that defines the current and future state

Map the **digital**, **physical**, and **social environment** surrounding people who are targeted for behavioral changes by answering four questions:

- 1. Who is the person targeted, what is their current behavior that needs to be changed?**
- 2. Who are the people interacting with the targeted person, do they have any current behavior that is contributing to the target person's current behavior?**
- 3. Is there any existing messenger that could be used as a nudge carrier or a nudge?**
- 4. Are there any existing digital, physical and social artifacts (or nudges) that are contributing to the current behavior of the targeted person?**


De-Nudge any existing nudges in the **current behavior**. Remember that nudges can exist at any point in a process. See the table below for an example:



Search the **cognitive bias library** to identify the cognitive bias that might be leveraged to design a **Minimally Viable Nudge** to accomplish the **target** behavior.

Four thinking problems faced by human based on 20 cognitive biases of human:

 Too much information

 Need to act fast

 Not enough meaning

 Faulty Memory

Search the **Nudge Library** to identify existing **Minimally Viable Nudge** that are based on the cognitive biases that might be leveraged to design a nudge to accomplish the **target** behavior.

Select the **type of nudge** (digital, physical, social);

Use the **MINDSPACE** checklist to select the category for designing the **Minimally Viable Nudge** and then;

Check the compatibility of your **Minimally Viable Nudge** with the **EAST** checklist.

The MINDSPACE Checklist

This checklist is a quick way to know if your nudge is effective enough to use in a real-world setting.

Each of the items in the next slide, represents a type of nudge or intervention.

- Score each item 1-5 by checking the appropriate score.
- The higher the nudge score the more effective the nudge.
- Score items based on your own judgment.

If your score is **35 or higher**, your nudge is capable of affecting behavioral change.

The MINDSPACE Checklist

Messenger We are heavily influenced by [who delivers information](#).

1	2	3	4	5
---	---	---	---	---

Poor

Mediocre

Great

Incentives We are very [loss adverse](#).

1	2	3	4	5
---	---	---	---	---

Poor

Mediocre

Great

Norms We are strongly impacted by our perception of [what others are doing](#).

1	2	3	4	5
---	---	---	---	---

Poor

Mediocre

Great

Defaults We [go with the flow](#) and tend not to change preset options given.

1	2	3	4	5
---	---	---	---	---

Poor

Mediocre

Great

40-45= Grade A- Good to go!

35-39= Grade B- Proceed, but analyze the key elements that may be weak in MINDSPACE.

30-34= Grade C- Look for ways to improve the score in the areas that are weak in MINDSPACE.

25-29= Grade D- Make significant changes to adjust the MINDSPACE and re-score.

24 or less= Grade F- Make a new plan for the appropriate behavior change.

Salience We are drawn to information perceived to be [novel](#) and [relevant](#).

1	2	3	4	5
---	---	---	---	---

Poor

Mediocre

Great

Priming We are impacted subconsciously by [environmental cues](#).

1	2	3	4	5
---	---	---	---	---

Poor

Mediocre

Great

Affect We go with our [gut feelings](#); [our first](#); [Emotional reaction](#).

1	2	3	4	5
---	---	---	---	---

Poor

Mediocre

Great

Commitments We seek to follow through on our [public promises](#).

1	2	3	4	5
---	---	---	---	---

Poor

Mediocre

Great

Ego We want to [feel good about ourselves](#).

1	2	3	4	5
---	---	---	---	---

Poor

Mediocre

Great

The EAST Checklist

The **EAST** checklist is a way to gauge the potential success of your new nudge prior to testing the new nudge in a series of real-world sprints.

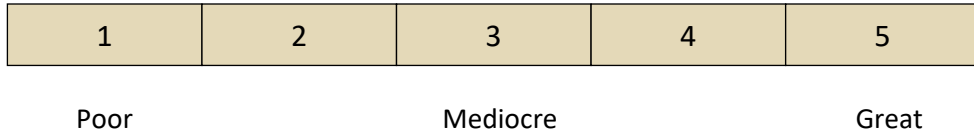
The goal is to make your nudge **Easy, Attractive, Social** and **Timely**.

- For each of the following four items, please use your own judgment to score your nudge compatibility with each item from 1-5.
- Sum the scores.
- The higher the total score, the more likely your nudge will be successful.

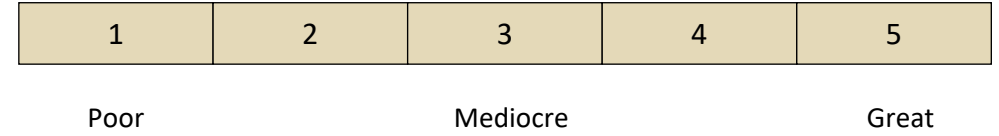
If you score **15 or higher**, your nudge has a good probability of making a behavioral change.

The EAST Checklist

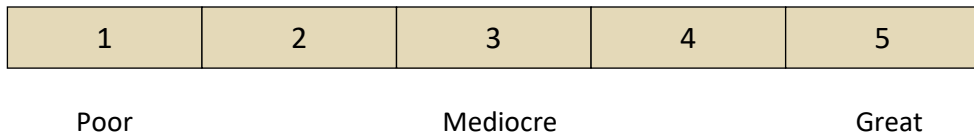
Easy Make the nudge *easy for people to do*; preset options; less effort; simple messages



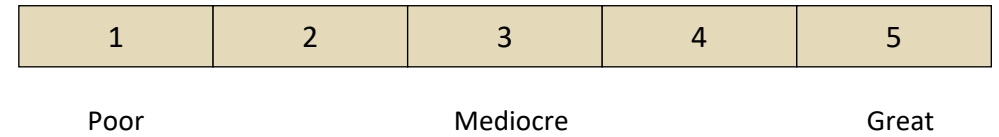
Social Title the nudge to something others are also doing; part of the norm; inspires commitment



Attractive Make the nudge *attractive*; something people would want to do; entices



Timely Nudge at the most opportune time for receptiveness; *immediate costs or benefits*



Define a **termination plan** for both the selected **Minimally Viable Nudge** as well as a termination plan to stop working on the targeted behavior.

Run a **series of Sprints** to test the selected **Minimally Viable Nudge**.

What is an Agile Sprint?

a. Time and Space (Building Relationships)

b. Weekly Huddle (To review your Scorecard and Plan, Reflect and Adjust sprint)

c. Sprint/ Solving a Problem (Produce a Product. Test Minimum Viable Product)

- **Team Sprint:** Every team member must present at the same time (Determine who needs to be in the meeting)
- **Relay Sprint:** Hand-off from one person to another

The content of the slides are based on the following books

- Agile Implementation by Malaz Boustani, Jose Azar, and Craig Solid
- Agile Network by Malaz Boustani, Jose Azar, Richard Holden and Craig Solid
- Change by Damon Centola.
- Nudge by Richard Thaler and Cass Sunstein
- Thinking Fast and Slow by Daniel Kahneman.
- Scaling dynamics by .Geoffrey West.
- Deep Learning by John D. Kelleher
- The Social Singularity by Max Borders.
- Signals and Boundaries by John H Holland.
- Infinite Powers by Steven Strogatz.
- The Book of Why by Judea Pearl and Dana Mackenzie.
- Network Science by Albert-László Barabási.

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[2] Carroll, L. (2019). Medical mistakes harm more than 1 in 10 patients. Many are preventable. NBC News. Retrieved from <https://www.nbcnews.com/health/health-news/medical-mistakes-harm-more-1-10-patients-many-are-preventable-n1030996>

[3] Ebell MH, Sokol R, Lee A, Simons C, Early J. How good is the evidence to support primary care practice? Evid Based Med 2017;22:88–92.

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[6] Annu Rev Public Health. 2013;34:431-47. doi: 10.1146/annurev-publhealth-031912-114353. Epub 2013 Jan 7.

Boustani M, Azar J, Solid C. Agile ImplementaitonA Model for Implementing Evidence-Based Healthcare Solutions into Real-World Practice to Achieve Sustainable Change. Published in 2020 by Morgan James Publishing. ISBN 978-1-64279-659-9 eBook ISBN 978-1-64279-658-2 hardcover; Library of Congress Control Number: 2019907494.

Boustani M, Holden R, Azar J, Solid C. The Agile Network: A Model to Foster Innovation, Implementation, and Diffusion in Healthcare Settings. Published in 2021 by Beaver’s Pond Press. ISBN 13: 978-1-64343-865-8. Library of Congress Catalog Number: 2020912475

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A Guide to CHHS

INNOVATION FORUMS



Center for Health Innovation & Implementation Science

Guide to Innovation Forums

- **Innovation Forums: A service to CHHS scientists and scholars**
 - Minimally Standard Operating Procedure
 - Benefits
 - Examples
- **Q & A**

Virtual Innovation Forum MSOP

1. Initial meeting with CHHS to zoom in on your challenge question, identify key stakeholders to invite
2. Facilitator is selected
3. Invitations sent to network / key stakeholders
4. Presentation finalized
5. Conduct Forum:
 - Introductions/Networking (30 min.)
 - Presentation (10 min. max)
 - Clarifying Questions (5 min.)
 - Solution Generation (45 min.)
6. Presenter receives Solution Tracker document
7. Optional: Presenter follows up with engaged participants to discuss specific solutions
8. Optional: CHHS sends 6-month update to network about successful solutions implemented

INNOVATION FORUM

RULES



This is a time for **solution generation**,
not clarifying questions

There are no constraints so **be creative**

Everyone will get a turn to provide a solution

Please **do not interrupt** another person

We are looking for **positive** solutions

Benefits for You

- **Generate solutions for your challenge**
 - DIVERSE perspectives at the table
- **Engage key stakeholders**
 - Time and space; Buy-in to the problem
- **Mobilize a team**
 - Project Teams are often formed out of Innovation Forums
- **Get to know your challenge deeply**
- **Accountability for solving a problem**
 - 6 month updates

Examples of Past Innovation Forums

- ❖ Jan Powers PhD, RN, CCNS, NE-BC (Parkview Health)

How can we standardize a sustainable evidence-based process for oral hygiene at Parkview?



Examples of Past Innovation Forums

- ❖ **Jasmine Gonzalvo PharmD, BCPS, BC-ADM, CDCES** (Purdue CHEqI)
How should we address health equity to improve health outcomes in Indiana?
- ❖ **Alyson Keen MSN, RN, ACNS-BC** (IU Health)
How do we create a research-friendly environment in healthcare delivery systems?
- ❖ **Liesel Delamater MSN, RN, ACNS-MC** (IU Health)
How do we make simulated education for charge nurses work in practice?
- ❖ **Ashley Overley MD** (Eskenazi Health)
How can we improve the appointment show rate of clients at their 7 day follow-up appointment after in-patient hospital discharge by December 2018? From our review of the literature, we believe that a 10% improvement is a realistic goal.
- ❖ **Kerri Lanum MS** (Northern Illinois University)
How can we get the non-engaged physician's cooperation and approval for QI initiatives for the practice in a timely manner?
- ❖ **Cynthia Reynolds LCSW, LCAC and Lana Dbeibo MD** (IU Health)
How can we bring internal and external resources to launch ICU STAT?

Q & A

Questions?

Interested in being a Presenter at our monthly Innovation Forums?

- Coaching to prepare your presentation
- Flexible times

If you have questions or would like to present a challenge to the network, please email Andrea Burkhardt at anburkha@iupui.edu.

Thank you for joining us today!

Remember to follow us on social media!



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Innovation Forum Initial Consult Form

Requester Information

Name of Requester:

Affiliation:

Background Information

1. What is your challenge that you would like addressed in our Innovation Forum?
 - a. **Can you please describe your current environment and the specific challenges you face related to this topic?**
2. What is the **scope** of this challenge? Does it affect just one health system, clinic, or patient type?
3. Are there any **resources** you can refer me to that would enable me to better understand the barriers, **stakeholders**, and other factors related to this challenge?
4. What do you feel is the **objective** of this Innovation Forum?
5. What is the title of your challenge in a question format? Example: *How can we better communicate and implement quality and safety RIEs?*

Challenge Question:

Attendee Information

6. **Who are the key individuals who could generate the most relevant and effective solutions to this challenge?**
 - a. Please identify 20-25 and give name, email, and affiliation OR...
 - b. **Let us know which roles or organizations you would like us to investigate to find individuals who could contribute to the Forum.**
7. After hearing our targeting options (email, hand-delivered, follow up options), which method or combination of methods would you prefer to be used?
 - a. If hand-delivered, who on your team would be willing to distribute?

Other Logistical

8. On what date would you like to hold this event? Please provide the name of your assistant so we can find a date that is accommodating for you.

Time/Date Options:

Request Bio/Pic