

Developing Capacity for Exponential Research Initiative

Newsletter 1/Feb. 13, 2019

Dear Colleagues,

Thank you for the first session of the *Developing Capacity for Exponential Research* initiative on Jan. 30, 2019. We had great energy in the room; we generated great ideas; and most importantly, we worked together and had conversations never had before.

As a working group, we are learning to develop an ecosystem awareness of who we are; we are developing group norms to help us perform; we are also forming new relationships which will lead us to new directions.

In this newsletter, you will see recap of our first session: rules of engagement we have agreed on and post-it ideas we have generated. You will also see plans for our session on Feb. 19, tips on getting ready and the emerging direction going forward.

We at the Organizational Innovation Lab would like to thank you for your participation and look forward to engaging with you in this exciting learning journey!

For Feb. 19

Based on ideas generated in the Jan. 30 session, we synthesized two themes for our Feb. 19 group gathering: **diversify revenue sources**, and **upgrade support infrastructure**. Since this year's Super Bowl is still fresh on our mind, we can compare the first theme 'diversify revenue source' as the "offense" aspect of our Initiative, and the second theme 'upgrade support infrastructure' as the "defense" aspect of our Initiative. In that case, we all know what we are doing here: to win the Super Bowl!

Under the **diversity revenue source** theme, example ideas from our last session include more emphasis on industry partnership, new funding model divorced from traditional grants. For the **upgrade support infrastructure** theme, example ideas from our last session include professional grant writer and seed grants/pilot funding for large proposals, incentives to work on interdisciplinary (cross departmental) teams. For a full list of ideas related to the themes, please refer to Appendix 1.

During the session, we will leverage *design thinking* methods to help us to negotiate priorities: group brainstorming, perspective-taking, the Quad chart and group presentation. Dr. Hatem Hassan, the research specialist of the OI Lab, will be facilitating.

Getting Ready

You will find three appendices at the end of this newsletter; please familiarize yourselves with the materials in the appendices before we see each other again on Feb. 19.

Appendix 1: Ideas related to the two themes that were generated from the Jan. 30 session

Appendix 2: Full list from our brainstorming activities last session, and rules of engagement

Appendix 3: Reading materials to build common framework

The Emerging Direction

We are on this journey together to develop exponential research capacity at SSoE. Based on where we are at the end of the Feb. 19 work session, the leadership team will decide the next steps for us as a working group to follow up on action items and key deliverables. We will be in touch.

To complement the activities, we are launching a school wide network analysis study involving everybody in the working group and every department. You will be consulted as this study unfolds. In the meantime, we have also planned series of seminars with invited speakers on special topics related to the Initiative. Announcement to follow soon.

Looking forward to seeing you 10am-12pm @ 102 Benedum Hall on Feb. 19. We will provide **lunch @ 109A** after the session.

Thank you for contributing to the *Building Capacity for Exponential Research* Initiative at the Swanson School of Engineering!

Appendix 1: Two themes and related ideas

Theme 1: Diversify Revenue Sources

1. Seed grants for larger grant proposal preparation & pilot funding (Culture)
2. New funding model divorced from traditional grants (Structures and Processes)
3. Pilot funding /grants (Ecosystem)
4. Increase emphasis on industry partnerships (Ecosystem)
5. Promote centers (Ecosystem)

Theme 2: Upgrade Support Infrastructure

1. Mentor junior faculty (Culture)
2. Specific budget for internal and external support (admin travel, hiring, etc.) (Culture)
3. Transparency with faculty on grant processes (Culture)
4. Availability of professional grant writers for large proposals (Culture)
5. Interactions and respect between faculty and staff (Culture)
6. Accountability, communication, and collegiality (Culture)
7. Systems of evaluation, incentives, opportunities for promotions (Culture)
8. Increased research & technical support (incl. technical writing, graphic support) (Resources)
9. Support/agility for more research staff & personnel (Resources)
10. Time: teaching responsibility decrease for big effort research (Resources)
11. Help market departments (Resources)
12. Pre-award/reduced need for administrative tasks by faculty in proposal development, and submission (Structures and Processes)
13. Post-award control & transparency for faculty (accounting) (Structures and Processes)
14. Space and allocation based on research productivity (Central labs and facilities) (Structures and Processes)
15. Shared facilities (Structures and Processes)
16. Improve administrative processes (responsiveness in structure) (Structures and Processes)
17. Transparency (Structures and Processes)
18. More incentives and inclusiveness (Ecosystem)
19. Fluid departmental and engagement barriers (Ecosystem)
20. Incentives to work on interdisciplinary (cross departmental) teams (Ecosystem)
21. Evaluation systems (Ecosystem)

Appendix 2: Full list from brainstorming activities & rules of engagement

Radar Exercise

The purpose of the radar exercise is to generate and capture diverse ideas from each participant. This exercise provides a template where participant can organize items within a given scope based on how important or relevant they consider them to be. The four themes for this exercise (culture, resources, structures & processes, and ecosystem) were generated by synthesizing the first rounds of post-it notes from participants. Then these four themes were further elaborated by the second rounds of post-it exercises using the radar exercise.

Summaries

Culture - Administrative Transparency, Evaluation and Rewards system, Mentorship and Collegiality

Resources - Technical skill development in writing grants, More space and equipment for research, Increase Revenue

Structures and Processes - Non-traditional models for research funding and evaluation, Incentive structures for growth

Ecosystem – Break down barriers, Enhance communication, Promotion, evaluation, and incentive systems.

CULTURE

6. Mentor junior faculty.
7. Transparency with faculty on grant processes.
8. Interactions and respect between faculty and staff.
9. Appropriate reward system (recognition).
10. Appreciation for big efforts (proposal).
11. Systems of evaluation, incentives, opportunities for promotions.
12. More female faculty.
13. Accountability, communication, and collegiality.
14. Flexible workplace.
15. Work-life balance and flexibility.

RESOURCES

16. Availability of professional grant writers for large proposals.
17. Specific budget for internal and external support (admin travel, hiring, etc.).
18. Seed grants for larger grant proposal preparation & pilot funding.
19. Increased research and technical support (incl. technical writing, graphic support).
20. Support/agility for more research staff & personnel.
21. Central labs and facilities (more space and equipment).
22. More revenue.
23. Time: teaching responsibility decrease for big effort research
24. Help market departments.

STRUCTURES AND PROCESSES

- Space and allocation based on research productivity (need, incentive)
- Improve administrative processes (responsiveness in structure)
- Pre-award/reduced need for administrative tasks by faculty in proposal, development, and submission
- Post-award control for faculty (accounting)

- New model for evaluating faculty performance.
- Transparency
- Cluster hires
- New funding model divorced from traditional grants
- Shared facilities
- Facilitate research teaching
- Streamlining process (?)

ECOSYSTEM

- More incentives and inclusiveness
- Fluid departmental and engagement barriers
- post-award transparency
- Better communication
- Evaluation systems
- Increase emphasis on industry partnerships
- Large proposals
- Pilot funding /grants
- Promote center (?)
- Incentives to work on interdisciplinary (cross departmental) teams
- Resource allocation

Ladder Exercise

The purpose of the ladder exercise is to frame the problem in such a way as to allow the concept to emerge by considering a given challenge statement at different levels of focus. Moving up the ladder by asking *Why?* allows participants to expand the scope of inquiry, while moving down the ladder by asking *How?* allows participants to frame the problem more concretely and arrive at a more specific challenge to explore.

INITIAL STATEMENT

Building exponential research capacity

WHY

- Global learners
- Recognition/reputation
- Generate new knowledge
- Impact
- Revenue

HOW

- Recruitment of the Best (Faculty, Students, Staff, Retention)
- Culture of Collaboration
- Experts

Rules of Engagement

- Time Efficiency
- Everyone speaks
- Clear purpose
- Be prepared

- General respect
- Be open without fear
- Provide input
- Stay on topic

Appendix 3: Suggested Reading

[Informal Networks: The Company Behind the Chart](#)

Introduction: This Harvard Business Review article talks about the power of informal networks in practical leadership language and gives vivid examples of how insights gained from different types of informal networks can help an organization with moving forward.

The author compares the formal chart to the “skeleton” of an organization, while the informal network structures to the “central nervous system” driving the collective thought processes and actions. The “skeleton” facilitates standard modes of operation; the complex webs of ties in the “central nervous system” leads the organization to adaptability, learning and innovation.

Senge, Peter M. (1990). *The fifth discipline: the art and practice of the learning organization*. New York: Doubleday.

Introduction: Harvard Business Review identified *The Fifth Discipline* as one of the seminal management books of the previous 75 years. This book talks about the five disciplines essential to personal and organizational success in the knowledge economy: personal mastery, mental model, team learning, shared vision and systems thinking.

Systems thinking is the fifth discipline. This book not only talks extensively about the basics of systems thinking, such as feedback loops, leverage points, and system archetypes, but also gives case studies of how systems thinking principles can help solve complex problems. With modern systems mapping tools, systems thinking is becoming one of the most effective methods to solve our unparalleled complex challenges.

Scharmer, C. O. (2018). *The essentials of theory U: Core principles and applications*. Oakland, CA: Berrett-Koehler Publishers.

Introduction: We live in a time of disruptive change with rapidly evolving challenges. In such times, learning from the past no longer suffices because the past leaves us blind to profound shifts when whole new forces shaping change arise. Instead, we need to learn from the future as it emerges.

Theory U, developed at MIT and practiced by change-makers around the world for over 20 years, is a method of learning from the emerging future that allow individuals, organizations, and communities to turn ideas into real world change. Theory U is based on insights from a reflexive science of living systems that include the latest scientific development such as complexity theory, quantum mechanics, and generative biology.

Theory U outlines seven steps for the transformational process: suspending, observing, sensing, presencing, crystalizing, prototyping, and realizing. The first three steps along the left side downward stroke could be summarized as examining assumptions. The last three steps along the right-side upward stroke could be summarized as building capacity to bring the vision into reality.

A short [video](#) and transcript of Otto Scharmer talking about eco-system

And then, what we believe is that we should be moving towards something that we call eco-system awareness. And what I mean by eco-system awareness is an awareness that is focusing on the well-being of not only a few, but the well-being of all. So you could say that, in many ways, the key challenge today, in many systems, is to bring together diverse stakeholder groups that need each other in order to change the system and make them move from a silo perspective that operates based on an ego-system awareness, to a more holistic systems view that operates based on an eco-system awareness. That shift, that "ego" to "eco" shift, in multi-stakeholder groups, in my view, is the most important leadership challenge today. And it's the same across countries and across systems.

For more resources, please refer to the OI Lab [website](#)

Finally (just for fun), this is the [random team generator](#) you can use to vitalize your interactive dynamics