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Systemic design: Two Canadian case studies
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Jeg elsker Norge!
Relationships between Systems & Design
Always design a thing by considering it in its next larger context – a chair in a room, a room in a house, a house in an environment, an environment in a city plan
—Elie Saarinen
A systems approach begins when first you see the world through the eyes of another
—C. West Churchman
...a designer can quickly wind up with a crisis of complexity, if his or her focus on details is not balanced with principles of organization, such as systems thinking. A systems approach allows complexity to be taken into account without leading to paralysis.

—Harold Nelson & Erik Stolterman
Why haven’t systems thinkers and designers been talking to each other?
Two Canadian Case Studies

UNIVERSITY OF TORONTO

Alberta

CONCEPT VISUALIZATION

EMPATHY & DEEP HUMAN UNDERSTANDING

STRATEGIC BUSINESS DESIGN

1. Environmental Framing
   Appreciate Context

2. Problem/Oppportunity Framing
   Is vs. Ought

3. Operational Approach
   Action to Improve
Case # 1: UofT
UofT Procurement Department

“Mission: To foster cost effective quality purchases by utilizing the expertise of all staff involved with purchasing and by employing innovative methods in contract negotiations and group buying initiatives.”
Project Challenge

How can Procurement Services effectively communicate its value proposition to the faculty and staff at the University of Toronto?
Understanding the Eco-system
Christine
‘In the Trenches’

“We are people too...not just databases.”
Dr. Wong
‘Academic Maverick’

“One experiment and the world changes.”
I need TRUSTED RELATIONSHIPS

“When we were looking for a vendor, I just went to the people I used to work with because I knew them.”

I need SIMPLICITY

“We have policies coming out of our ears.”

I need FLEXIBILITY

“You do what’s in the best interest of the science.”
Reframe the Problem

How can Procurement Services effectively communicate its value proposition to the faculty and staff?

To

How can Procurement Services effectively enhance both research and procurement activities of faculty and staff?
Reframe the Perception

Enforcers of policy and regulation.

“You need follow my rules.”

To

A trusted advisor, on your side.

“I’ll help you spend your research dollars better.”
EMPOWER THROUGH KNOWLEDGE

“Freedom and Flexibility”

PROVIDE A HUMAN TOUCH

“Building Trusted Relationships”

PROVIDE SIMPLICITY AND CONVENIENCE

“Simplicity and Convenience”

Information Visualization

Training Sessions

Direct Lines

Accessible Language

Audit Vendor Pricing

Policy & Process Simplification

Info Kits

Audit Vendor Pricing

Dynamic RFP

Proactive Outreach
Transforming Procurement

40% → 99% user retention
1 year pilot → $1.5 million savings

2012 CUABO industry award for their innovative negotiable RFP process
2012 UofT Excellence through Innovation award

Procurement adopted a user centred mindset and competency.
Case # 2: GOA
Objectives

• Raise awareness of the design methodology as a systemic approach to messy strategic problems;
• Apply the design methodology to a current strategic problem as a proof of concept to demonstrate institutional relevance; and
• Develop design skills in leaders across Government of Alberta Departments and Divisions to enhance systems thinking and improve collaboration.
Guidance Statement

Develop a three year strategy for the CENRG departments to improve the effectiveness and efficiency of the Alberta Government’s management of natural resources that will streamline our interaction with industry, improve environmental outcomes, and maintain or increase the revenue stream from industry while increasing public support for our social license to develop our natural resources.
Stakeholder Mapping
Causal Layered Analysis

- Litany
- Systemic Causes
- Worldview & Discourse
- Metaphor & Myth
Reframe the Mindset

Control of my piece.

“Live and die for the part.”

To

Collaboration with the collective.

“Shared accountability and shared rewards.”
Legacy Mental Model
System of Resources

- Not every function needs the same amount of resources available.
- Based on assumption that we have the resources available.

- Scarcity mentality

- Marathon Mindset
  - 10% of work
  - Slow down to speed up

- Coaching, Facilitators, Learning, Effort
  - $ Great Job
  - Will 2.1
  - CENRC

- Morale
  - Shared, Understood
  - We're hungry for change
  - Let's cocz SMB and CS

- Doubting Thomas
  - We see this could be good but...

- System Failure
  - Early detection, understanding, smooth transition

- Risk tolerance
  - Expecting failure

- Me vs We
  - Status quo is good

- Doses of power
  - Cynics

- Momentum Now
  - All's renewal
  - Resources
  - Direction
  - Reward
  - Trust
CENRG enables the creation of revenue for the citizens of Alberta in an environmentally responsible and socially acceptable manner.
“I can think of many situations, projects and issues we have encountered in the past in which this methodology would have been extremely useful - and we are already applying it in several current situations with great success. The fact that we have senior leaders in our organization, many with 25 to 30 or more years of experience, eager to use Design signals that it is not ‘flavour of the day’ but a practical approach to tackling complex issues.”
Outcomes

• Helped to create the Integrated Resource Management System
• Raised awareness of systemic design across the GOA
• Established a systemic design capacity within the GOA
  • Standing cross-ministry design team
  • Systemic design community of practice
  • Multiple follow-on design projects
What can we learn by comparing these case studies?
Holistic view of the challenge (human, technological and organizational systems)
Systemic perspective leads to reframing.
Drive to create unconventional paths to goals, as well as questioning the goals themselves.
Embraces complexity to find new opportunities for profound simplicity
Explores worldviews and surfaces the mental models of users and stakeholders
Contrasts
Explicit use of empathy
Physical prototyping
Rapid testing
User feedback
Design aesthetic

Explicit use of systems maps
Genealogy
Theoretical grounding
Narrating the journey of learning
Combining education with practice
The strengths and weaknesses of the two methodologies are complementary. A more centred assemblage of Systems + Design can be qualitatively better than Systems Thinking or Design Thinking in isolation.
Thank You!