Takeaways from a systems thinking colloquium

By Ricardo Valerdi

A few months ago, I was fortunate to receive an invitation to attend the Systems Thinking Colloquium at Worcester Polytechnic Institute in Massachusetts. The objective of the event was to bring together thought leaders in systems thinking to provide “perspectives in systems thinking” to further our understanding of this transdisciplinary field.

Organized by WPI Professors Jamie Monat and Tom Gannon, the event set out to clearly articulate the various approaches to systems thinking and facilitate a discussion among systems thinking experts about their perspectives.

Motivated by the fact that there is no clear consensus on the definition of systems thinking, the colloquium attracted presenters from New Zealand, England and various parts of the U.S. My sense was that arriving at a consensus on a definition was not the most important goal, or even an achievable one, but the dialog that ensued as a result of the presentations was the most valuable aspect of the event.

While I cannot faithfully summarize each presenter’s contribution because there were many, I can attempt to articulate my main takeaways. Some of the excellent presenters included Gene Bellinger (consultant), Derek Cabrera (Cornell University), Bob Cavana (Victoria University of Wellington), Joe Kasser (Cranfield University), Saeed Khalid (Worcester Poly), Mike Radzicki (Worcester Poly), Donna Rhodes (Massachusetts Institute of Technology) and David Peter Stroh (BridgePay Partners).

**Observation No. 1:** Systems thinking is difficult to define. To my surprise, most presenters stayed away from defining systems thinking. This could partly be because they recognize that a single definition might not capture the essence of the concept. It could also be because providing a definition might suggest other definitions are wrong. One problem that was noted by experts is that some definitions of systems thinking are in conflict. Those who did provide a definition offered unifying principles in a thoughtful manner. One of my favorite principles: “systems” is an adjective describing the noun “thinking.” In other words, it is as much about thinking as it is about understanding the systems being considered.

**Observation No. 2:** Systems thinking is difficult to measure. Multiple presenters provided methodologies for applying systems thinking to various contexts. All of them seemed practical and well-grounded in theory. These methodologies also showed that systems thinking is difficult to measure directly.

But I am convinced we can indirectly measure it, making it a latent construct, one that can be inferred from other things that can be observed.

For instance, the benefits of systems thinking that might be measured include faster consensus between stakeholders or deeper understanding of the structure and function of a system.

**Observation No. 3:** The process of systems thinking can lead to a tangible outcome. One of the objectives of systems thinking is to help understand how complex systems work and anticipate the behavior to change it. To this end, all of the methodologies I heard at the colloquium led to a tangible outcome such as a model to visualize a system’s structure or behavior. Others led to abstract representations like drawings or simulations that represented the behavior of a system.

What I realized is that the art of systems thinking involves fitting the right methodology to the right problem. Those able to do this will obtain greater insights about the systems they are trying to understand.

We are fortunate to have colloquiums like these to accelerate knowledge exchange. I encourage other interest groups to do the same.

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