Improving your Organization's Innovativeness through 'Design Thinking' Practices

--Varun Nagaraj, Management & Design Fellow & PhD Candidate, Case Western Reserve University

On April 24, 2017, Varun Nagaraj presented ideas that could hold the key to unleashing innovation at industry organizations and asked the MCAA audience the following questions: how innovative and proactive is their project portfolio? How subject are their organizations to the Top 10 innovation-killing biases? To provide answers he discussed Design Thinking and how industry companies using it to spark creativity and fuel innovation.

The goal of the presentation to the MCAA members in Atlanta was to graft two concepts into their innovation system—portfolio mindfulness and design thinking. In introducing these subjects, Mr. Nagaraj noted that innovation is something new that provides value. Disruptive technologies start with lower performance but that improves over time (such as consumer IoT and its migration to the industrial world). He noted that the MCAA world WILL be disrupted. It is important to remember that novelty is unfamiliar and uncomfortable so we either consciously or unconsciously don't get it, push back on it and de-prioritize it. So first we have to tackle the unconscious barriers to innovation by examining entrenched biases and culture and understanding reactive project (re)prioritization. Portfolio Mindfulness reduces reactive project (re)prioritization and Design Thinking counters our biases.

Often the scenario is something like: an incident happens, our customers are angry, our reaction makes it a big deal, we reprioritize and then our investment in meaningful innovation is jeopardized (often unconsciously, insidiously and without visibility). Without Portfolio Mindfulness, when there is a stimulus, we have a reaction. With Portfolio Mindfulness that stimulus is filtered by the mindfulness which results in an appropriate response. To achieve this we need to forget the past—let go of the values and practices that fueled the current business but fail the new, then we optimize the current business, and in the future we invent a new business or business model. The process requires us to be attentive to how each reprioritization decision impacts the R&D investment portfolio. Holding weekly or monthly portfolio progress and priority meetings and evaluating degrees of novelty and value changes us from reactive to proactive.

In Design Thinking, Mr. Nagaraj introduced the following biases:

- *Cognitive Bias* compromises decisions where errors are a result of mental shortcuts and heuristics—holding onto preferences and beliefs regardless of information to the contrary
- *Sunk Cost Bias* is where we justify staying the course because of resources already invested but leads us to ignore the benefits of a change in direction
- *Confirmation Bias* promotes innovation inertia where we see or hear information that justifies our current practices and ignore (sometimes obvious) contradictory evidence
- *Projection Bias* is the situation where we overestimate the extent to which the future will resemble the present which leads decision makers to engage in naïve realism and believe trends will be less disruptive than they are, thus impeding the development of new ideas
- *Availability Bias* is the tendency to prefer the familiar—that which is easy to imagine so we have a preference for incremental innovation and to discount the threat of emergent technologies.

Design thinking is a problem solving approach which seeks out and integrates different perspectives and is user- and problem-centric with iterative validation. It is also a methodology for innovation that combines creative and analytical approaches and requires collaboration across disciplines.

In creating innovators rather than just innovation, the use of certain practices are critical:

- Empathetic practices – understanding the customer fit, having networks of users and being problem centric
- Generative Practices- being open minded, optimistic and forward looking—being creative
- Iterative Practices – Experimenting, learning, evolving and planning
- Representative Practices – Using what is visual and tangible, learning from both internal and external inputs.

Mr. Nagaraj noted that the use of design thinking is more effective when the feature novelty is higher or where the customer problem novelty is higher.

Varun Nagaraj is currently a Management & Design Fellow and PhD candidate at Case Western Reserve University. He served from 2014 to 2017 as President of Sierra Monitor Corporation. Previously he was Senior Vice President and General Manager of the Industrial Internet of Things (IIoT) division of Echelon Corporation. He was President and Chief Executive Officer of NetContinuum, a leading provider of web application firewalls, acquired by Barracuda Networks in 2007. Varun served as Vice President of Product Development and Marketing for Extreme Networks during their transition from propriety to merchant silicon and as Executive Vice President of Marketing and Customer Delivery for Ellacoya Networks. He worked for PRTM, a leading management consulting firm focused on product and operations strategy, from 1995 to 2001 in various positions including associate, manager, principal and partner. He started his career in 1988 at Hewlett Packard as an engineer. Varun received his Electrical Engineering degree from the Indian Institute of Technology, Bombay, India. Subsequently he earned an MS from North Carolina State University and an MBA degree from Boston University.