



DO DISRUPTION, IDEATION, AND INNOVATION FEED ONE ANOTHER?

Date: November 21, 2022

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KEY EVENTS

On November 21, 2022, Dr. Gitanjali Adlakha-Hutcheon, A/Chief Scientist of the Health Sciences domain at the Defence Research and Development Canada (DRDC) presented *Do Disruption, Ideation, and Innovation Feed One Another?* The presentation was followed by a question-and-answer period with questions from the audience and CASIS-Vancouver executives. The key points discussed were the positive and negative natures and impacts of disruption; the manner in which ideation and innovation addresses disruption; and the interdependence of disruption, ideation, and innovation within the context of emerging threats and societal resilience.

NATURE OF DISCUSSION

Presentation

Dr. Adlakha-Hutcheon presented working definitions of disruption, ideation, and innovation, highlighting the interdependencies therein. She noted the present convergence of traditional and emerging threats across the biological, legal, economic, and institutional realms, and the potential for an “innovation warfare”—guided by creativity and invention—as a means of outpacing ongoing and persistent disruption.

Question & Answer Period

During the question-and-answer period, Dr. Adlakha-Hutcheon discussed the importance of strong regulatory policy, emphasizing legal literacy and regulatory knowledge as essential tools in security. She pointed to cross-disciplinary forums

as crucial opportunities for the exploration of complex issues, noting this collaboration is representative of a positive disruption.

BACKGROUND

Presentation

To begin, Dr. Adlakha-Hutcheon defined disruption as an interruption or break in a natural continuation or course of some activity or process, noting the events can be positive or negative. She highlighted the advent of the programmable computer and the accompanying increase in efficiency as an example of positive disruption, and the multifaceted impacts of the COVID-19 pandemic as a negative disruption. She stated that the primary impact of disruption lies in decision-making, with temporal elements and scope dictating the response to the event.

She then discussed ideation and defined it as the capacity for, or the act of, forming or entertaining ideas. Whereas disruption impacts decision-making, ideation allows for creativity and invention through exploration. This exploration can take various forms, such as brainstorming or the formulation of strategy via online collaboration. She proceeded to define innovation as the introduction of a new idea into the marketplace. Unlike disruption and ideation, innovation is not a noun but an adjective, and its principal impact is economic—represented as the transformation of ideas into revenue.

After providing this definitional base, Dr. Adlakha-Hutcheon identified the convergence occurring in science and technology, broadly stated to include the social sciences. She pointed to the meeting of traditional areas of interest—namely, nanotechnology, biotechnology, information technology and, importantly, cognitive sciences—with non-conventional and emerging areas. She further elaborated how the convergence has the potential for misuse in the form of biofare, lawfare, ecofare, and trustfare. Biofare entails the weaponization of biological data available online and is built upon lawfare or the weaponization of law. Lawfare is of significant note, in that it provides the greatest solution capability in relation to issues raised in the other three areas. Ecofare, proposed the presenter, captures disruption caused by supply chain issues, such as those experienced during and in the aftermath of the COVID-19 pandemic. Lastly, trustfare, a term coined by Dr Adlakha-Hutcheon, represents a weaponization of trust, individually and institutionally, which is an ongoing form of disruption not a one-off in time.

Owing to the challenges discussed, the sphere of interdependence between disruption, ideation, and innovation is significant. Since the disruptions we face are iterative—in that they are ongoing and compounding—so too must be ideation and innovation in order to face emerging challenges. Ideation must continually be converted to innovation as a means of outpacing and avoiding ongoing disruption.

Dr. Adlakha-Hutcheon then drew attention to the sub-surface threat of idea suppression, pointing to the various mechanisms that prevent ideation from becoming innovation. Ideation can be stifled in the initial phases, face increasing legal barriers to commercialization, or fall victim to competitive challenge, each resulting in frustration and mental disruption. Dr. Adlakha-Hutcheon noted the specific challenge this presents to Generation Z and Generation Alpha, who often suffer this form of ecofare in which ideation struggles to transition to innovation through commercialization and revenue.

To further highlight the interdependence of disruption, ideation, and innovation, Dr. Adlakha-Hutcheon outlined the parallels of human and technological disruption since the end of the twentieth century through present day. The interplay between human ideation and technological disruption is evidenced in the progression from the programmable computer to smartphones and social media as a means of satisfying humans' social, biological, and cognitive needs. Presently, this manifests in the emerging crypto and quantum technologies, with the end goal being the realization of a metaverse in which a new world is created, with many identities and many gateways to innovation.

In closing, Dr. Adlakha-Hutcheon discussed the emerging threats facing society as a result of this convergence. She pointed to the creation of the metaverse—in which individuals can possess multiple, anonymized identities—and the sub-surface momentum of availability of biological data, emerging identities and self-identification, and social media populism as the principal challenges at present. She proposed the creation of an “innovation warfare” as a means of meeting these challenges, where the speed of innovation is so powerful that disruption is unable to catch up. In order to facilitate this process, there must be an innovative collaboration between the cutting-edge hard technologies and soft human skills, resulting in an adaptive agility and layered resilience to ongoing disruption.

Question & Answer Period

During the question-and-answer period, Dr. Adlakha-Hutcheon noted the positively disruptive capability of strong policy. As international adversaries seek

to weaponize loopholes in the domestic legal and regulatory systems (lawfare), she emphasized the need for legal literacy among security professionals in order to fully utilize the positive aspects of strong regulation. To maintain security, all tools in the toolbox must be understood and strengthened, and special attention should be paid to the legal, economic, and technological rules and knowledge. Dr. Adlakha-Hutcheon then articulated the need for and benefit of forums in which a cross-disciplinary field can explore different approaches to solving the same problem. These forums are fruitful in that they often yield unintended consequences which, in turn constitute a positive disruption.

KEY POINTS OF DISCUSSION

Presentation

- Disruption represents an ongoing positive or negative interruption or break in a natural continuation or course of some activity or process that primarily impacts decision-making.
- Ideation is the capacity for or the act of forming or entertaining ideas which allows for creativity and invention through exploration, collaboration, and formulation of strategy.
- Innovation is the introduction of a new idea into the marketplace. Unlike disruption and ideation, innovation is not a noun but an adjective, and its principal impact is economic—represented as the transformation of ideas into revenue.
- The interdependence of disruption, ideation, and innovation is significant in that it is ongoing and compounding. This is evident in the convergence occurring in science and technology, articulated in the non-conventional and emerging areas of biofare, lawfare, ecofare, and trustfare, as well as sub-surface threats such as the suppression of ideation and innovation.
- The creation of “innovation warfare”—where the speed of innovation is so powerful that disruption is unable to catch up—presents a possible solution to emerging threats, as long as ideative and innovative collaboration is centered on the dual presence of cutting-edge hard technology and soft human skills.

Question & Answer Period

- Strong regulatory policy needs to be emphasized for its positively disruptive capability.
- As international adversaries seek to weaponize loopholes in the domestic legal and regulatory systems, all tools in the security toolbox must be

understood and strengthened, with special attention paid to the legal, economic, and technological rules and knowledge.

- Cross-disciplinary forums are essential in that they allow for complex problem solving. These forums are fruitful in that they often yield unintended consequences and constitute a positive disruption.



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