

**Department of Computer Science Innovation Lab
Research to Commercialization Program**

Abstract

Invention, by itself, is necessary in order to advance a science or discipline but it takes a robust and complementary commercialization outlet to transform it into innovation that could serve humankind.

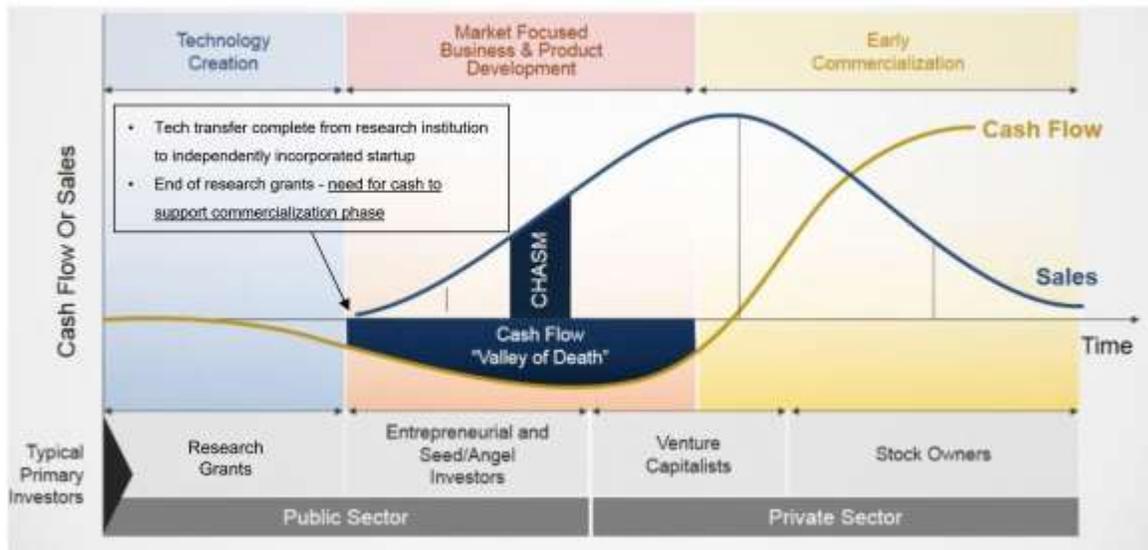
The Department of Computer Science Innovation Lab (DCSIL) has created a “Research to Commercialization program” (“R2C” or “the program”) that effectively responds to the drive of applied research teams to commercialize their inventions in a founder owned, incorporated startup format that partners with industry in order to extend the research into a production quality solution. Additionally, this generates the startup’s first paying and referenceable customer and provides industry a unique way to get a first-hand experience with emerging technologies originating from an academic setting and evolving into a commercializing startup.

This document will outline the characteristics of the program and the impact it delivers. To apply please [download and complete the application form](#).

The Problem – Research Based Startup Survival

Referring to Figure 1; a typical academic research team, made up of various combinations of PhD students, Faculty and postdoctoral researchers will disclose their invention to the university’s technology transfer office, which can facilitate the protection of the intellectual property and its

Figure 1: Research Startups Financial Evolution



Courtesy of Geoffrey Moore

ownership transfer to an independently incorporated entity, the startup founded by the research team. In this independent configuration, the founders are no longer eligible for research grants once enjoyed under the university’s umbrella and now undertake a search for funding outside of the university

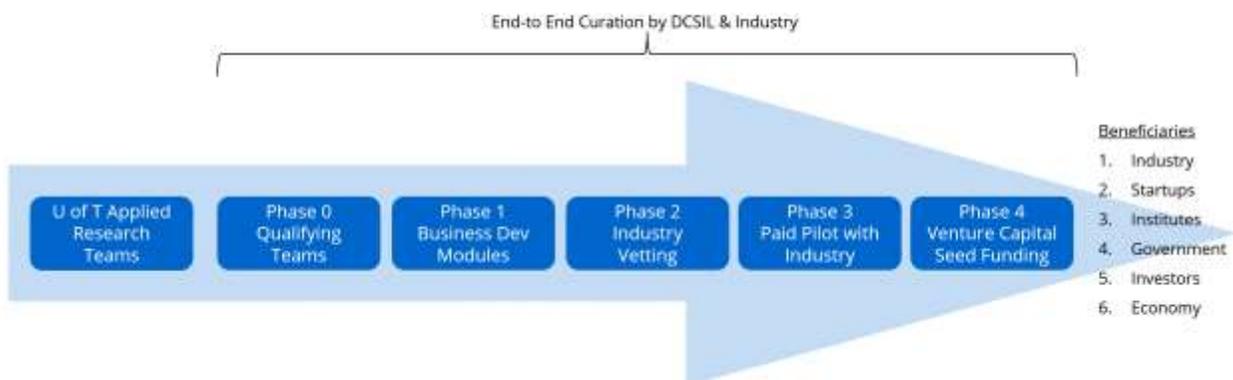
through either private angel investment or government agencies. Both funding options tend to be an enormous distraction to the newly formed entity. Private angel funding at this level is difficult to attain and, if attained, it tends to be in very small amounts at the expense of precious equity in the startup due to the risk associated with the nascent development. Government programs to assist with startup development are meager in size and usually require the startup team to match that money with funds they do not have. Furthermore, government programs are under continual financial downsizing and directed to “do more with less”. In spite of the hype and spin to the contrary this model is unsustainable and completely subject to the politics of the day. Burdened by these circumstances, startups run a very high risk of dying on the vine or seeking survival in the U.S. due to its less risk averse funding culture and super-sized investment resources.

The Proposed Solution – Research to Commercialization Program

The Department of Computer Innovation Lab’s Research to Commercialization Program attracts and supports academic researchers at the University of Toronto to accelerate prototype validation, industry partnered co-development, team scaling, commercialization and public/private funding. The end goal of the program is to support teams in an end to end curation process by the DCSIL team through paid industry pilot projects that completes the commercialization cycle. The proven program steps selected research based startups through a disciplined methodology that delivers globally scalable businesses.

University research teams possess deep subject matter expertise and have received years of public research grants to develop intellectual property that may be patented, pending or patentable. Referring to Figure 2; the DCSIL’s commercializing team, in cooperation with the startup and industry partners, reviews the submitted applications and selects teams that are deemed of interest to industry (Phase 0). These startup teams move on to a series of business development workshops (Phase 1) that instruct the teams on business best practices before engaging with an industry partner in a paid pilot project. This phase is expected to be completed in an eight week time frame. Once completing the workshops, teams then engage with interested industry partners and begin discussing the framework of a paid pilot project, its milestones, timelines and its terms and conditions, under the curation and support of the DCSIL team (Phase 2).

Figure 2: Research to Commercialization Program Phased Methodology



The paid pilot project between the industry partner and the applied research based startup is an arrangement under a legal framework for further joint development, team scaling and commercialization (Phase 3). The mutual commitments during these projects include:

- Contractually defined and mutually agreed to, verifiable milestones and trigger events that produce a referenceable and paying customer for the piloting startup
- All intellectual property remains that of the startup
- Coverage of salaries that the startup will need to round out its team
- Access to the industry host's key personnel (business unit stakeholders, research, legal and executive management)
- Interaction with complete industry datasets requiring confidentiality agreements approved by executive levels and legal counsel
- Office space at the industry hosts site(s) - justified to enable the two items previously mentioned
- Host provided hardware, software and infrastructure access
- End-to-end curation of the pilot program by the startup business development professionals that design and teach it

The conclusion of the pilot project produces a highly derisked and investable startup attractive to venture capital firms as the industry host now steps into the role of a paying and referenceable customer (Phase 4). The DCSIL curation team introduces the opportunity to its funding network to complete this critical phase of the commercialization cycle.

Benefits to Industry and Academia

Traditionally, universities have concentrated on pure research with industry looking to applied research to solve demands of the commercial world. Both are different but complementary and should be pursued concurrently and where possible in collaboration in order to take advantage of new and fresh ways of looking at a problem.

The industry host partner attains a first look opportunity at a unique and emerging technology that could solve a practical problem that they alone might not have arrived at, or that might not have come to fruition isolated in an academic lab environment. Taking the emerging tech out of the academic lab and into industry allows for further development against industry level data sets and business requirements.

The DCSIL team created the R2C program to facilitate and tightly curate synergies between collaborating partners and build on individual strengths and expertise.

Contact Information

For more details and answers to any questions regarding the Research to Commercialization (R2C) program please contact the author of this document:

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