

Building Career Pathways for Diverse PIT Entrepreneurs Year 1 Final Grant Report

Summary of Key findings

In 2019, the University of Michigan received a Network Challenge grant from New America through their Public Interest Technology – University Network (PIT-UN). The Network is a partnership that fosters collaboration among universities and colleges committed to building the nascent field of public interest technology and growing a new generation of civic-minded technologists.

Overall, the salient findings include the following:

1. Data that is representative of the population of BIPOC PIT entrepreneurs in our study are limited. This is due in part to how the secondary dataset used in our study was collected.
2. Current funding structures are not serving BIPOC tech social entrepreneurs well. Participants expressed significant difficulties in navigating funding structures and gaining access to capital
3. BIPOC PIT entrepreneurs face challenges finding supportive and values-aligned ecosystems to recruit talent, raise funding, develop research, and experiment with social innovations and these challenges are particularly onerous for BIPOC female PIT entrepreneurs.
4. The lived experiences of PIT entrepreneurs bring a vital lens to the field when trying to make a positive impact in their communities – an acknowledgement of the importance of diversity, equity and inclusion in the field of PIT.
5. University collaboration with PIT entrepreneurs generated positive results for students and PIT entrepreneurs alike.

Background and Problem Definition

Our study utilized a mixed-methods approach to analyze the landscape of PIT entrepreneurs in the United States with the objective of:

1. Gaining a better understanding of the socio-demographic landscape of PIT entrepreneurs in the United States.
2. Identifying and documenting the career paths of BIPOC (Black, Indigenous and Persons of Color) PIT entrepreneurs and developing an understanding of the constraints they face.
3. Developing and implementing an effective experiential learning course that provides an understanding of PIT and career pathway into the field.

The initial problem that we wanted to address was the lack of diversity within the field of Public Interest Technology. In looking at the intersection of technology and policy, both fields fall short of representing the U.S. population.¹ These issues can be attributed to a lack of *early pipelines*

¹ Burns, Crosby, Barton, Kimberly, and Sophia Kerby. 2012. *The state of diversity in today's workforce as our nation becomes more diverse so too does our workforce*. Center for American Progress; <https://www.eeoc.gov/special-report/diversity-high-tech>

into the field as well as the persistent racism, sexism, classism, ableism, and other forms of exclusionary practices that are prevalent, particularly within the tech industry.²

We leveraged the project team's experiences in social innovation and entrepreneurship to lead recruitment of PIT entrepreneurs, design of workshops, and the management of reports. We also partnered with the Ford School's Public Policy and International Affairs (PPIA) Junior SummerInstitute (JSI), by providing a session on July 24th, 2020 introducing underrepresented, undergraduate students to Public Interest Technology.

Diversity, Equity and Inclusion (DEI) are key values and the primary motivation for this project. We are committed to broadening the participation and capacity of populations that have historically been excluded from and underrepresented in public policy making and STEM fields. It is crucial to seek the input of social entrepreneurs of color in designing interventions that seek to rectify the uneven playing field that presently exists. The long-term motivation for the proposed project is to shape the nascent PIT field into a more diverse, inclusive and equitable one.

Approach

We proposed a top down and a bottom up approach to achieve our aim of identifying the PIT career paths and constraints faced by persons of color. The intended top down method was to generate descriptive statistics of the size and distribution of the current PIT workforce. Based on the research literature on volunteering and pro-bono professional services³, we hypothesized that persons of color have a lower participation rate in PIT careers. In order to test this hypothesis, we focused on assessing the impact of socio-demographic factors on pursuing a PIT career. We leveraged micro-data from the Bureau of Labor Statistics and US Census. The proposed analysis considered both the current supply and demand for PIT jobs. In addition to analyzing publicly available microdata, using existing databases of social entrepreneurs and employing a snowball sampling to arrive at a representative sample, we surveyed social entrepreneurs of color to identify the factors that are most impactful in 1) self-selecting into social entrepreneurship and 2) constraining or accelerating their growth. We also used these surveys to explore localized differences observed across regions, states or metropolitan statistical areas (MSA).

Our bottom up approach includes three facilitated workshops for a small number of PIT entrepreneurs of color. The premise behind this is that selected PIT entrepreneurs of color would learn from UM's students and faculty and from each other during a series of three distinct workshops based on topical areas (e.g., health care, transportation, food access etc.) Our team identified the PIT entrepreneurs by leveraging its existing database and network of contacts that they have developed over the years through community engagement efforts. The objectives of the workshops were to 1) identify and document the career paths of the PIT entrepreneurs of color, and develop an understanding of the constraints they face, 2) strengthen the social capital for all participants through meaningful collaboration and working relationships and 3) proffer solutions or programmatic interventions to the identified constraints from the top-down data

² https://morethancode.cc/T4SJ_fullreport_082018_AY_web.pdf

³ https://www.bls.gov/news_release/volun.nr0.htm

analysis phase. In addition to the top down and bottom up approaches, we proposed an experiential learning course with masters students in public policy in Winter 202 would engage students in a supervised consulting project with a real-world client led by PI Hampshire.

Over the course of the year, modifications were made to the project. Due to the Covid-19 pandemic, we did not hold the workshops for the social entrepreneurs of color. In addition, instead of conducting surveys, we decided to conduct qualitative interviews with tech social entrepreneurs of color. We made this choice because we wanted to get a deeper understanding of the participants' experiences navigating the field, while surveys could only allow surface level information. We had also expected to buy additional data to inform the supply and demand of PIT careers; however, after conducting a literature scan, we came to realize that data is very limited in this field and where it exists, may not be representative of our population of interest. We therefore conducted our analysis on publicly available data.


A summative evaluation was carried out to assess the class's effectiveness and focused on ascertaining the extent to which the class has been able to identify and address the factors that negatively impact social entrepreneurship for minorities. A total of four surveys—one pre-, one post-, and two during the class—were completed by participating students and entrepreneurs to document changes that came about as a result of the program.

Building from the project team's learnings from the year one efforts, we are currently working on our year two activities that aim to 1) Create a PIT-UN Knowledge Network Platform (PIT- KN). This platform PIT-UN KN will facilitate connection, collaboration, and research led by BIPOC tech social entrepreneurs, referred to as "PIT entrepreneurs", by elevating the lived experiences and insights of these individuals as it relates to the field of PIT; 2) Partner with the Public Policy and International Affairs (PPLA) program Junior Summer Institutes (JSIs) by providing workshops introducing undergraduate juniors from underrepresented groups in public policy to the PIT; and 3) Expand our experiential learning course in Fall 2021. Students will be matched with a group of PIT practitioners, representing Black, Indigenous, and Persons of Color (BIPOC) communities. PIT practitioners will also participate in professional development workshops.

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Several efforts to clarify the definition of Public Interest Technology have emerged including those from [“*Defining Public Interest Technology in Academia*”](#), which synthesized different perspectives across multiple groups to answer a set of core questions: what is public interest technology, what core competencies and skills does it require, in what ways should we think of it as a field, and what areas should be prioritized for investment if the field is to grow.

The authors describe their observations of “evident enthusiasm for building a diverse network of universities committed to experimenting with new approaches at the intersection of technology and public policy problems.” Understandably, the group was unable to arrive at a shared definition of public interest technology or who belongs in the field but the authors wisely point out that “most fields emerge from interdisciplinary fusions where engaged people from different backgrounds work jointly on common questions and begin to share and entwine methodologies. This too is how we expect a field of public interest technology might emerge. At this stage, seeding potential intersections, rooted across relevant disciplines, makes a great deal of sense.”

The Ford Foundation adds that “regardless, there is no designated path to this field, or any one entry point that’s better than another. That means the field has the potential to be rich in diversity, and to attract passionate people whose work is fueled by their values. At the same time, a lack of clarity about the field can be an obstacle for people who might be a great fit, but lack the knowledge and networks to readily make a connection between what they do and where it might fit into the broader field.” In other words, obstacles to self-identification into the field are present for folks and *the* folks looking to expand the self-identification and career paths of folks who might be a great fit face obstacles due to the lack of clarity on a definition for PIT.

The many benefactors of public interest technology have offered their definitions and broadly speaking these definitions recognize the importance of multidisciplinary skill sets and approaches to achieve impact within and outside the field. Pushing past the ambiguity of who should be involved in the field by introducing new career pipelines into PIT can be challenging and also represents a bold opportunity for new knowledge to be developed.

⁴ Ford Foundation. 2018. [“5 reasons you might be a Public Interest Technologist.”](#); Ford Foundation. 2021. [“Technology at work for the public.”](#)

Data Limitations in both Public Interest Technology and Tech Social Entrepreneurship

As we progressed through our research, we came to realize the paucity of data across the sectors that we were interested in understanding -- PIT and tech social entrepreneurship. As noted in our key findings, there is a lack of demographic data in both fields. Not having data made it challenging to conduct a study that accurately measures the supply and demand side of PIT entrepreneurs. To overcome this challenge, we used the available data, knowing that limitations to our analysis existed. We were able to utilize the U.S. Census data, but instead of being able to focus solely on "social entrepreneurship" we had to broaden our analysis to "tech entrepreneurs" in the US.

Covid-19 Pandemic and the Disproportionate Impact on BIPOC Students and Entrepreneurs

The largest unexpected challenge that we faced was the onset of the Covid-19 pandemic. The pandemic started in the middle of our experiential learning course and had an impact on student and entrepreneur participation. As the campus closed, our course transitioned to a remote setting. In addition, the pandemic did have an impact on the recruitment of tech social entrepreneurs participating in our qualitative interviews, as they were also navigating unrepresented times. We tried to overcome these unexpected challenges by being as flexible as possible. We allowed our students to make-up classes and attempted to streamline communication to the participants of our course.

Given the demographics of our tech social entrepreneur, expected challenges connected to DEI were illuminated. While we do not have a comparison group of their white counterparts, it was apparent that the resources of BIPOC PIT entrepreneurs have, including, time to participate in interviews and time to participate in all of the experiential learning events, existed. This is also supported by our findings from our research, in which higher standards exist for these individuals and they are often spread thin.

From the inception of this program, our team was intentional in providing compensation for their participation in our experiential course (a \$2,000 stipend) and incentives for their participation in our interview (\$25), resource barriers still existed. Given the pandemic, we were responsive to their needs and moved up the payment schedule to alleviate any sudden financial challenges experienced. In addition to the PIT entrepreneurs, the majority of our students represented BIPOC communities. The disproportionate impact of Covid on communities of color was seen in our class, in which a few students were navigating the impacts of covid on their families. The close proximity to impacted communities during Covid further demonstrates how proximate BIPOC students and practitioners have historically been to systemic racism and inequities. This highlights their unique problem-solving lens developed by building resilience overcoming these impacts.



Lessons Learned

1. **An entrepreneurial attitude might benefit PIT-UN members seeking to expand the boundaries of the field.** Given the nascent nature of public interest technology, a good bit of trailblazing might be necessary to specialize on specific career pathways.
2. **Express tacit knowledge and test assumptions.** Public interest technology benefits from diversity of thought and we believed that exploring the social impact of practitioners who utilize principles of entrepreneurship was worthwhile. However, these beliefs must be made explicit in order to develop knowledge with a broader set of PIT practitioners within the field. Our project grappled with questions like are CSR professionals who work at large tech companies considered practitioners in the field of public interest technology even when these companies are capable of doing bad things with technology? How do we treat social enterprises that seek public impact and profit through the application of technology?

⁵ UM guidance notes that for each 1-credit unit, students should expect 3-hours of outside of class work.

- 3. To truly address DEI, one needs to be responsive to the specific needs of various populations.** While the Black Lives Matter protests throughout the country have forced a reckoning with profound racial injustices and institutions have started to look at its track record on race in a new light, system change is not expected to happen instantly. When implementing projects, especially those aimed at empowering marginalized communities, the projects' personnel need to be intentional in designing and executing them in a way that is responsive to the needs of the intended audience. It is also important to continuously evaluate the needs of the individuals you are working with, as they are likely to change.
- 4. Flexibility and adaptability are key to building an experiential learning course.** While it is important to do as much pre-planning as possible, it is also vital to expect things not to go as planned. Outlining a strong foundational plan with room for cushion and changes, allows the program to easily update or adapt to the unexpected changes.

Our project could have potentially been more impactful if we were able to recruit more students. Our project focused on recruiting both Ford and School of Information (SI) students, allowing for a lively discussion and learning of the intersections of policy and technology. Moving forward with our work, we will aim to strengthen this relationship.

Possibilities to Replicate

The aforementioned informed the focus of our second year research efforts - the design and implementation of a PIT-Knowledge Network (PIT-KN). The PIT-UN can support opportunities to replicate our project's success by supporting the build, scale, and implementation of the PIT-KN. PIT-KN makes it easier to build and implement effective experiential learning courses and share lessons learned from member institutions. The aim of the PIT-KN is to continue in the spirit of knowledge sharing by introducing new tools to connect, collaborate, and create knowledge with other individuals and groups within the PIT ecosystem. The PIT-KN will welcome and provide underrepresented practitioners with resources to contribute their tacit and explicit knowledge. Our approach is to develop a system that will help elevate the localized, subjective, and lived experiences of these practitioners. By doing so we expect to have robust contextual information and a shared understanding of how marginalized communities experience technology, how technology often accelerates inequities (often unintentionally) when layered on top of systemic racism, and what the field can do to build a more diverse, equitable, and inclusive experience for all practitioners at scale. The PIT-KN will feature blogs, white papers, reports as well as story-centric mediums such as speculative fiction, art, and essays. The PIT-KN will look to incorporate learning from a wide range of submissions and will encourage diverse practitioners and students to "bring their wares" to be highlighted and build the foundation for further community exploration and knowledge transfer. The PIT-KN efforts represent an opportunity to scale DEI values using technology. For this reason, the team has engaged in a co-design process that centers segments of BIPOC practitioners in the field to help better mitigate implicit biases, establish comprehensive problem definitions, and implement a tech-based solution that benefits all communities.

General Information

The Program Manager, Jessica Taketa, can be contacted at jestaket@umich.edu for any further information on the project. Our year one report was recently released, on Tuesday, June 29, 2021. The team is currently working on their year two efforts, building of the PIT-KN.

Annexes & Publications

Attachments:

- I. White Paper “[Building Career Pathways for Diverse PIT Entrepreneurs](#)”
- II. Ford School Blog: “[Growing civic-minded technologists](#)”
- III. [PIT Experiential Learning course syllabus](#)

Acknowledgements

We are grateful for the time and perspectives provided by the students and social entrepreneurs who participated in this research effort. Their input and knowledge has provided a foundation for the network to further explore career pathways into PIT for these segments.

We are also grateful for the vision provided by Dr. Robert Hampshire, our project’s former principal investigator, and we wish him the best on his appointment as the Chief Science Officer and Assistant Secretary of Research & Technology at the Department of Transportation.

Certification

All [University of Michigan (UM)] activities were and are consistent with charitable purposes under Sections 501(c)(3) and 509(a)(1), (2) or (3) of the Internal Revenue Code, and [University of Michigan (UM)] complied with all provisions and restrictions contained in this Agreement, including, for example and without limitation, those provisions related to lobbying and political activity.