Community-Based Solutions for Digital Advancement
Findings from the Digital Integrators Pilot Program
by
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EXECUTIVE SUMMARY

This report presents findings from a qualitative study of the Centri Tech Foundation's Digital Integrators (DI) pilot program that took place between April and November 2022. The goal of the pilot program was to foster innovation within motivated digital equity community organizations. The research presented in this report highlights individual organizations[1] in five cities across the United States that received support from the Centri Tech Foundation to participate in the DI pilot program.

This short-term program evaluation used qualitative methods in response to the following research questions: *How are Digital Integrators leveraging existing programs to promote digital advancement in their communities? How might the Digital Integrators pilot program foster innovation within motivated digital equity community organizations?*

A digital equity ecosystems framework was used to gain a deeper understanding of the role Digital Integrators play in promoting digital advancement in their communities with other individual and organizational partners. Digital equity ecosystems are interactions between individuals, populations, communities, and their larger environments that all play a role in shaping the work to advance more equitable access to technology and social, economic, and racial justice.[2]

Through interviews with directors and staff members of the organizations, as well as observations conducted during the monthly DI cohort meetings, three key factors emerged as being essential to achieving digital advancement in each location: (1) meaningful community engagement, (2) intentional community partnerships, and (3) strong community relationships. All three factors, introduced in this report as *community development indicators of digital advancement*, often showed up across each of the pilot programs, emphasizing the important role that community development strategy played in each of the cities where the programs were piloted.

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[1] Byte Back (Washington, D.C), Detroit Community Technology Project/Equitable Internet Initiative (Detroit, MI), ExCITe Center at Drexel University (Philadelphia, PA), LIFT-NY (Bronx, NY), Metropolitan Area Planning Commission (Metropolitan Boston Area, MA)

[2] https://dercenter.org/digital-equity-ecosystems/

The findings in this report should be useful to those working to promote digital equity in their communities, including those focused on the intersection of workforce development, community health and human services, public housing, and other areas where digital inclusion and community development strategies can support social and economic justice.

PROGRAM EVALUATION OVERVIEW

In April 2022, The Centri Tech Foundation (CTF) brought on Dr. Colin Rhinesmith to develop a qualitative assessment of the DI pilot program. To help guide this process, CTF established the following goals for pilot program evaluation:

1. Design and implement an impact measurement framework that can be used to evaluate the DI pilot program;
2. Use the framework to identify opportunities for programmatic scale; and
3. Provide DI partner organizations with qualitative analysis about their work.

CTF also identified several key areas of focus (see Table 1) as being of particular interest in the evaluation and research design to further investigate the short-term outcomes of the DI pilot program.

Areas of focus

Table 1. Program evaluation areas of focus

Centri Tech Foundation Support	Context for Implementation
Funding and resources	Demographics
Evaluation	Removing barriers to access and adoption
Cohort experience	Goals and conceptions of equity
DI partner organization impacts and lessons learned	Workforce development
DI pilot process evaluation	Program design
CTF lessons learned	

RESEARCH DESIGN

Dr. Rhinesmith worked closely with CTF to develop the following research questions to guide the qualitative assessment of the DI pilot program while keeping these areas of focus in mind.

1. *How are Digital Integrators leveraging existing programs to promote digital advancement in their communities?*
2. *How might the Digital Integrators pilot program foster innovation within motivated digital equity community organizations?*

These primary questions guided the development of the interview protocol that was used for the research, along with the digital equity ecosystems conceptual framework.

Research framework

In addition to the concepts of "digital integrators"[3] and "digital advancement"[4] introduced by CTF for this pilot program, existing research on "digital equity ecosystems"[5] played a key role in developing the research framework used for the study.

Digital equity ecosystems are interactions between individuals, populations, communities, and their larger environments that all play a role in shaping the work to advance more equitable access to technology and social, economic, and racial justice.[6] This framework was used in this study as a lens both in the data collection and analysis of the data gathered for the project. The visualization in Figure 1 below represents many of the entities that help to create and sustain a healthy digital equity ecosystem.

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[3] Digital integrators play a key role in local digital equity ecosystems to promote digital advancement.
[4] Digital advancement leverages investments in digital access and adoption to promote economic justice in the digital economy.
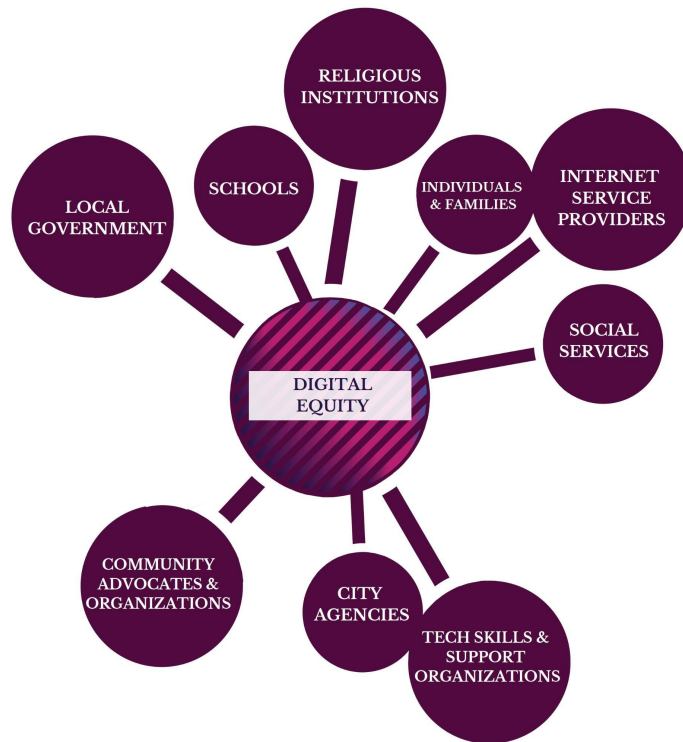[5] https://dercenter.org/digital-equity-ecosystems/
[6] https://dercenter.org/digital-equity-ecosystems/

Figure 1. Digital Equity Ecosystem[7]

Data collection & analytical approach

This study employed two rounds of interviews with representatives from each of the five organizations that participated in the DI pilot program. The first set of interviews were conducted at the beginning of the program and the second as the program concluded. Qualitative data were then analyzed across several areas of focus, which also helped to inform the final analysis and reporting. A digital equity ecosystems approach offered a lens through which to look at how the community-based organizations in this study engaged with other organizations and individuals in their communities to promote digital advancement.

In discussions with Centri Tech Foundation staff, three areas of focus from CTF's program evaluation framework (see Table 1) emerged as key focal points identified by CTF and Dr. Rhinesmith.

- Workforce development
- Evaluation needs and challenges
- Program design

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[7] https://www.sipa.columbia.edu/file/14533/download?token=kCcpFCdE

In the analysis of data related to these three topical areas, particular attention was paid to learning how participants in the pilot program described their own interpretations of workforce development, program evaluation, including how community members played a role in the design and assessment of their programs. In other words, these three areas of focus were examined broadly and in an open way to allow room for each participant to share their own experiences related to these dimensions of their work.

QUALITATIVE ASSESSMENT FINDINGS

Through the analysis of interview data and observations of the DI monthly cohort meetings, three main findings emerged as being essential factors to the success of and lessons learned by the DI pilot program participants.

1. **Meaningful community engagement** - a process through which community-based organizations center community members, including their organizational partners, in the design, implementation, and evaluation of programs to ensure community members' needs and aspirations are considered and addressed.

2. **Intentional community partnerships** - a process through which community-based organizations listen to the needs and aspirations of their community partners and, in response, develop mutually beneficial programs that advance common goals.

3. **Strong community relationships** - a process through which community-based organizations center the "entire person" in their support of community members, as they work together to achieve digital advancement.

In this section, these three areas – which can be understood as ongoing and iterative processes – are defined and further supported with evidence using examples from the qualitative data, before turning to a discussion of how the findings from this study can be useful to other stakeholders working to promote digital equity in and with their communities most impacted by digital and social inequalities.

Meaningful community engagement

Meaningful community engagement can be understood as a process through which community-based organizations center community members, including their organizational partners, in the design, implementation, and evaluation of programs to ensure community members' needs and aspirations are considered and addressed. This approach to community development was particularly salient in Byte Back's digital literacy training initiative developed as part of CTF's DI pilot program.

Byte Back's mission is to close the digital divide by providing under-resourced communities an equitable pathway into the digital economy. They achieve this through transformative digital advocacy, digital literacy, and technology certification training.[8] For their DI pilot, Byte Back collaborated with Martha's Table in Washington, DC., to pilot a 2-generation digital skills training model for primary adult caregivers in the home and their dependents. Martha's Table is a non-profit community-based organization that offers education programs, pairs healthy food access with physical and mental health services, and promotes family success by investing in family leaders.[9]

Sharon Morgenthaler, Byte Back's Head of Programs (Administration, Assessment, Impact), explained how their community members informed the design of their pilot program:

> *We listened to our community partners. And their needs over the summer are often, 'We have caretakers and we have youth and we have children, and what can we do where everybody is served at the same time, whether in two rooms or one room?' And this creates the equivalent of family literacy. So it's family digital literacy.*

This approach to listening first as a strategy for developing meaningful community engagement was evident in many of the Digital Integrators pilot programs. It was also reflected in Martha's Table's approach, as a Byte Back community partner, to serving their community members. On their website, Martha's Table explains, "In their own words, the community told us what they need, what they hope for, and what they entrust Martha's Table to act on."[10] And, it was this approach that then led Byte Back to develop their 2-gen model of digital literacy training, or what Sharon referred to as "family digital literacy."

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[8] https://byteback.org/about-us/
[9] https://marthastable.org/about
[10] https://marthastable.org/about

Byte Back learned through CTF's DI pilot program that the 2-gen model is not without its challenges. More concretely, engaging both youth and caregivers in meaningful ways to maintain their attention and interest was something they realized through the DI pilot program that they needed to further develop. Through the cohort meetings and individual meetings with CTF staff, Byte Back staff developed new ideas to inform their future family digital literacy offerings. For example, one idea that Byte Back might try is to do outreach and community engagement at some of Martha's Table's larger community-focused events. As Mark Rivera, Byte Back's Education Manager, explained, "We could also record a mock class so that they can see first-hand some of the activities. And we should also provide them with information upfront." Through the DI pilot program, Byte Back learned new ways to creatively engage youth in their community, while gaining additional strategies to build upon their successful community partnerships.

This approach to meaningful community engagement therefore extends beyond Byte Back's walls and into the community to take advantage of the community assets that exist, engaging both Martha's Table staff and directly with the community they serve.

Intentional community partnerships

Intentional community partnerships can be understood as a process through which community-based organizations listen to the needs and aspirations of their community partners and, in response, develop mutually beneficial programs that advance common goals. Byte Back's partnership with Martha's Table is one example. The Metropolitan Area Planning Council in Boston is another example where their partnerships with the public housing authorities in Quincy, Malden, Revere, Chelsea, and Everett were essential to the development of their DI pilot program initiative.[11]

Another example of this focus on intentional community partnerships was found when looking at the partnerships developed as part of LIFT-New York's DI pilot program. LIFT-NY is part of a national network committed to breaking the cycle of poverty by investing in parents of young children.[12] LIFT-NY pairs parents with trained Master of Social Work (MSW) coaches who work together to set self-defined finance, career, and education goals. LIFT-NY described in their DI pilot program proposal that, since the pandemic began, the digital divide has been exacerbated in the South Bronx where more than 30% of residents lack a home internet connection. The LIFT-NY team developed their pilot program to close this divide. They did this by integrating digital

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[11] https://www.mapc.org/resource-library/mbi-grants-internet/
[12] https://www.whywelift.org/

access and continued learning permanently into their coaching programming, while supporting their member parents in gaining sustainable career pathways.

One of the ways that LIFT develops intentional community partnerships is through their engagement with MSW programs at local academic institutions. LIFT-NY has partnerships with CUNY, Fordham, NYU, Columbia University, and other schools to provide their MSW students with field experiences and to provide member parents with coaching and wraparound support. CTF's support helped LIFT-NY increase their capacity to provide virtual programming by further developing its online Tech Coaching platform. As Pedro Suarez, Program Director of Strategic Partnerships at LIFT-NY, explained,

> *There have been a number of things that we implemented over the last several months in terms of improving our online platform coaching corner to specifically address the needs of what we call student parents or what's called in the industry "student parents," which are parents that are attending some form of education or workforce development program...So that's allowed us to spend more time on curating those resources for that platform, and that's like an ever-evolving thing. It's not a static thing. We continue to work with our partners, particularly our community college partners on making adjustments to that.*

During the pilot program, LIFT-NY decided to establish a paid stipend for their MSW students allowing them to work more closely as technology coaches with LIFT's member parents over a longer period of time. LIFT-NY will ask their technology coaches to commit to 12 months of coaching instead of their usual eight to nine months, which Pedro also explained is an effort to promote stronger relationships between coaches and member parents. These two examples are just some of the ways that the DI pilot organizations are creating more intentional community partnerships in their work.

Strong community relationships

The third key finding that emerged from the analysis is the important role that strong community relationships played in the DI pilot program. Strong community relationships can be understood as a process through which community-based organizations center the "entire person" in their support of community members, as they work together to achieve digital advancement.

Strong community partnerships were critical to the success of the ExCITe Center's DI pilot program. The ExCITe Center at Drexel University began their Digital Navigator

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program in May of 2020 to assist community members in West Philadelphia with connecting to low cost/free Internet access, assisting with online tasks, computer distribution, and referrals to computer training. One of the ExCITe Center's goals for their DI pilot was to hire a community resident to work as a Digital Navigator, which they were successful in doing as an outcome of the pilot program. As Andy Stutzman, Project Director for Civic Technology at the ExCITe Center explained,

> *He is actually from the community. He lives in the local neighborhood called Mantua. And his grandmother was our outreach director at the Dornsife Center [at Drexel]. So I knew her and I met him actually when he was a middle school kid initially [laughter]. It's nice to have that connection and he lives right in the local neighborhoods. And he's just getting started with that work now. He's actually been reaching out to some seniors to get them [to be] part of this program.*

Andy also explained that this new role with someone hired from the community the ExCITe Center serves will also help them to build their capacity to provide additional programs and services to advance digital equity in Philadelphia.

This community-based approach to digital advancement that leverages strong community relationships was perhaps most evident in the case of the Detroit Community Technology Project's Equitable Internet Initiative (EII), which was also part of the DI pilot program. EII is a project of the Detroit Community Technology Program (DCTP) that works closely with Detroit communities to achieve the following:

1. build neighborhood-governed community wireless networks;
2. train residents as Digital Stewards;
3. forge local workforce pathways, and
4. support the sustainability of these networks by fostering accessibility, consent, safety, and resilience.

Digital Stewardship is a community-centered approach developed by DCTP to train neighborhood leaders in the technical and community organizing skills necessary to design, build, and maintain community wireless networks.[13] DCTP is rooted in the [Detroit Digital Justice Principles](#) and has a mission to use and create technology rooted in community needs that strengthens neighbors' connection to each other and to the planet.[14]

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[13] https://detroitcommunitytech.org/eii/ds
[14] https://detroitcommunitytech.org/

The DI pilot program provided DCTP with support they needed to help grow the Digital Stewards program that is essential to the Equitable Internet Initiative. As DCTP's program proposal to CTF explained,

> *We aim to develop a training-to-employment pipeline that both enhances the Digital Stewards technical skillset and provides access to opportunities for long-term sustainable employment. We want to focus on cultivating and implementing two of the employment pathways we've identified for Digital Stewards:* **The Apprenticeship Program** *and the* **Digital Steward Instructor Trainee Program***.*

The funding and support provided through CTF's pilot program assisted DCTP/EII in two key ways. By being able to: (1) hire a curriculum developer to review the Digital Stewards curriculum for the first time since 2017 and (2) re-launch their Apprenticeship program with 123Net, a private company located in Southfield, Michigan, that offers fiber internet, colocation, and business voice services to clients throughout Michigan.[15] Through what Janice Gates, Director of EII, referred to as their "Digital Steward instructor pipeline," DCTP was able to offer one position as a network field technician and another entry level job in 123Net's sales department focused on customer service.

This partnership with 123Net has helped create workforce development opportunities for Digital Stewards to gain employment with a local internet service provider, while DCTP works to create a technology workforce in Detroit rooted in digital justice principles.[16] When asked whether DCTP/EII considers this workforce development approach to be innovative, Janice explained,

> *I think with our workforce development strategy, we're trying to think about the entire person. So as like part of the grant, even with the apprentices, like transportation, well, reliable transportation is a thing here in Detroit. So one of the things we wanted it to offer was transportation... Gift cards that would support gas, especially when gas was like by over $5, being able to support them with things like child care. A couple of our Digital Stewards are now parents. So making space for that, which unfortunately, like a lot of organizations or companies don't do, especially for part-time employees.*

> *I think it's just meeting people where they are at, because the Digital Stewards, we don't just look at them as employees. They are still from the neighborhood, and we*

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15 https://www.123.net/company/
16 https://alliedmedia.org/projects/detroit-digital-justice-coalition

still want to offer them the same types of services that they would offer residents in their community. So anything that would enhance their skills, quality of life, we try to support the Stewards in that way, try to keep them engaged. But most of that, I think is just meeting them where they are, understanding that if we're working in low-income communities and we're hiring people from those communities.

DCTP/EII considers strong community relationships to be central to their work. In doing so, DCTP/EII recognizes that creating and growing strong community relationships is essential in this work not only to advance economic outcomes, but also digital justice.

TOWARD A COMMUNITY DEVELOPMENT FRAMEWORK FOR DIGITAL ADVANCEMENT

The findings presented above show how meaningful community engagement, intentional community partnerships, and strong community relationships within a digital equity ecosystems approach are key to achieving digital advancement. These three areas together can be understood as a *community development framework for digital advancement*. In this section, I describe how each of these areas, or community processes, can be used as indicators to help digital equity stakeholders in communities across the country gain a deeper understanding of the important role that community development strategy plays in supporting digital advancement.

Table 2 introduces this community development framework for digital advancement, which can also be used as a guide to develop more specific measures of digital advancement rooted in each of the three indicator areas.

Table 2. Community development framework for digital advancement

Community Development Indicator Areas for Digital Advancement		
Meaningful community engagement	**Intentional community partnerships**	**Strong community relationships**
Digital Integrators center community members in the design, implementation, and evaluation of programs to ensure their needs and aspirations are considered.	Digital Integrators listen to the needs and aspirations of their community partners and, in response, develop mutually beneficial partnerships that advance common goals.	Digital Integrators center the "entire person" in their support of community members, as they work together to achieve digital advancement.

Tables 3, 4, and 5 summarize earlier examples highlighting indicator areas with more specific sample indicators that can be used to measure the success of the programs. This approach might also be helpful to each organization as they think about what data they might need to gather to help inform how they scale their digital equity programs.

Table 3. Meaningful community engagement: Byte Back example

Meaningful community engagement	Project design	Community partnerships	Sample indicators
"We listened to our community partners. And their needs over the summer are often, 'We have caretakers and we have youth and we have children, and what can we do where everybody is served at the same time, whether in two rooms or one room?' And this creates the equivalent of Family Literacy. So it's family digital literacy." - Sharon Morgenthaler (Byte Back)	2-gen model – digital skills training designed for primary caregivers and their children.	Training delivered by Byte Back at Martha's Table in DC, which offers education programs, pairs healthy food access with physical and mental health services, and promotes family success by investing in family leaders.	● % of primary caregivers and their children who have received digital skills ● % of youth who have developed clear pathways from high school to college ● % of youth who have pursued technology-based careers ● % of adult caregivers who can participate in the digital economy

In Table 3, sample indicators are provided to help provide concrete ways that Byte Back can measure the success of both their 2-gen model of family digital literacy training, as well as the role that meaningful community engagement played in the development, implementation, and evaluation of their program.

Table 4. Intentional community partnerships: LIFT-NY example

Project Design	Intentional community partnerships	Community relationships	Sample indicators
Technology coaching to help LIFT-NY's member parents build "foundational digital skills" and gain successful career and education pathways	LIFT-NY partnerships with Master of Social Work (MSW) programs (CUNY, Fordham, NYU, Columbia, etc.) to provide MSW students with field work and to provide member parents with coaching and wraparound support	"We are launching for the first time a paid internship… we're extending the length of coaching to promote stronger relationships, especially in the virtual space, really important to be with folks longer and get to know them." - LIFT-NY Staff	% of member parents who have gained foundational digital skills % of parents who have deepened ties with coaches & organization % of parents who have achieved career and educational goals

Table 4 attempts to operationalize the role of intentional community partnerships in measuring the success of LIFT-NY's foundation digital skills training program for their member parents. By visualizing the key elements of the program design (above), along with the community development indicator areas, LIFT-NY can consider how to further develop their already established program evaluation approach in a way that connects their community development approach with their program evaluation efforts.

Table 5. Strong Community Relationships: Equitable Internet Initiative example

Intentional community partnerships	Meaningful community engagement	Strong community relationships	Sample indicators
EII partnered with 123Net (www.123.net) to launch an apprenticeship program, which includes (1) a network field technician position and (2) entry level	EII's 6-week Digital Steward training program includes lessons on how to engage their neighbors through community meetings, events, and surveys. The first few lessons are	"I think with our workforce development strategy, we're trying to think about the entire person… it's just meeting people where they are… we don't just look at them as employees.	% of community members closest to the issues affecting their community are involved in generating solutions and making decisions

sales position. Also, partners: Grace in Action in Southwest, Church of the Messiah in Islandview, and the North End Woodward Community Coalition.	focused on community organizing - not the tech - allowing students to see how important the community engagement process is throughout their work as a steward.	They are still from the neighborhood, and we still want to offer them the same types of services that they would offer residents in their community" - Janice Gates, Director	• % of community members who have enhanced their skills (networking and community organizing) • % of community members who have enhanced their quality of life

Table 5 highlights all three indicators with a particular emphasis on the role that strong community relationships play in DCTP/EII's innovative approach to workforce development. While the other two indicator areas help to show how EII embodies a community development approach, it highlights exactly how and why strong community relationships matter within both the community and technological aspects of the program.

A PATH FORWARD

This report showed how meaningful community engagement, intentional community partnerships, and strong community relationships are key aspects for achieving digital advancement. These three areas can also be considered as part of a community development framework with indicators that can be used to assist individuals and organizations in other areas to advance digital equity and economic justice with members of their communities.

In addition, based on the findings in this study, it is clear that digital advancement, rooted in meaningful community development strategies, can promote healthy digital equity ecosystems. Each of the five organizations that participated in the DI pilot program not only engaged with, but also relied upon, other individuals and organizations in their communities to support digital advancement. The community development framework presented in this report not only represents what is possible to achieve, as well as the indicators to measure success, when multiple stakeholders work together.

Centering digital advancement through a digital equity ecosystems approach can also help cities and states be more thoughtful and intentional in identifying digital equity barriers and co-designing measurable objectives with those most impacted by digital inequalities in IIJA State Digital Equity Planning. The findings in this study, as well as the community development framework presented, should be useful to those working to develop state digital equity plans as part of the National Telecommunications and Information Administration's digital equity grant programs.[17]

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[17] https://broadbandusa.ntia.doc.gov/resources/grant-programs/digital-equity-programs