

# Digital Entrepreneurship in Communities of Color

---

This policy brief and virtual workshop were possible thanks to funding from the Ewing Marion Kauffman Foundation.

October 2021

[techdatasociety.asu.edu](http://techdatasociety.asu.edu)

**ASU** Center on Technology,  
Data and Society  
Arizona State University



This policy brief is authored by Karen Mossberger, Meredith McCullough, Angel Molina and Yushim Kim of the Center on Technology, Data and Society, School of Public Affairs, Arizona State University.

The brief is based on presentations made at the center's April 9, 2021, virtual workshop by (in alphabetical order):

- Joseph Coll, University of Iowa
- Tianca Crocker, Ph.D., University of North Carolina-Charlotte
- Marycruz De León, Dallas Federal Reserve
- Joshua Edmonds, City of Detroit
- Robert Fairlie, Ph.D., University of California – Santa Cruz
- Heather Fleming, Change Labs
- Xenia Hernández, St. Paul Public Library
- Christine Mackay, City of Phoenix
- Fallon Wilson, Ph.D., #BlackTechFutures Research Institute

Presentations may be viewed at:

[Virtual Workshop hosted on April 9th: Digital Entrepreneurship in Communities of Color | Center on Technology, Data and Society \(asu.edu\)](#)

## **EXECUTIVE SUMMARY AND RECOMMENDATIONS**

As COVID-19 disrupted the economy and all aspects of daily life, businesses scrambled to maintain operations by using their online presence to facilitate transactions through curbside pickup and contactless payments. They advertised on websites and used social media to communicate changed hours, health protocols, and reopening plans. Trends toward digital transformation of the economy were rapidly accelerated and are likely to mark a turning point in technology use for entrepreneurship going forward. This acceleration brings with it a renewed emphasis on the following question: What is needed to support equitable technology use in communities and to help entrepreneurs of color thrive in this digital environment?

Throughout the course of the ongoing pandemic, it has become clear that Black, Latino, and Asian-owned businesses suffered disproportionately (Fairlie, 2020) and that Tribal communities experienced a heavy toll. Many minority-owned businesses were especially vulnerable because of their smaller size, concentration in hard-hit industries, more precarious financial conditions prior to shutdowns, and location in low-income areas with high COVID cases. Limited access to federal relief such as the Paycheck Protection Program was in part a symptom of broader inequalities in access to credit.

Another factor affecting outcomes for minority businesses, however, was inequality in information technology access and use in low-income communities, including communities of color. Small business owners in these communities may be less technology savvy or may lack the resources for digital transformation. Yet, the pandemic demonstrated the value of technology use for entrepreneurship. Local governments can encourage a more inclusive recovery and future economic trajectory by supporting “digital entrepreneurship” in their communities, including for businesses owned by people of color. Such entrepreneurship may include startups that produce new digital products, online-only businesses, or the embedding of new digital tools and practices in existing brick-and-mortar establishments.

This policy brief is based on presentations from expert scholars and practitioners who participated in the “Digital Entrepreneurship in Communities of Color” workshop sponsored by the Ewing Marion Kauffman Foundation and organized by the Center on Technology, Data and Society at Arizona State University during April 2021. Technology may present opportunities to grow and thrive, through access to new markets, including those beyond local boundaries. This brief explains challenges that entrepreneurs of color face in harnessing the potential of technology as well as the promise that such technologies may offer.

The workshop’s participants offered a toolkit of policies and practices for consideration by local leaders. Local governments play a critical role in the ecosystem needed to support technology use by businesses of color. Needs will differ across racial and ethnic groups, as well as for the context of the community, including whether it is urban, rural, growing, or struggling. We present a summary of the speakers’ recommendations below.

## **RECOMMENDATIONS FOR LOCAL POLICY**

Complex problems require multiple solutions that address needs for both business and technology resources and skills. A holistic approach, geared to the context of the communities and the business owners, is needed.

Collaboration is needed across sectors and levels of government, enlisting the cooperation of financial institutions, business leaders, educators, community colleges, workforce development organizations, and nonprofits as well as governments.

Strong local champions are needed to develop solutions to fit their communities, manage collaborative efforts, and keep them moving forward.

### ***Entrepreneurial Resources***

Digital entrepreneurs need technology access and skills as well as the resources required for business development more generally. The top three challenges for starting businesses with a web presence, according to a 2020 survey of domain name website customers were: 1) marketing (69%); 2) getting the business online (49%); and gaining access to capital (45%). Other issues experienced by at least one-quarter of respondents were lack of technology expertise (34%), lack of business expertise (29%), and lack of networking opportunities (25%).

Given the barriers faced by business owners of color in gaining access to capital, programs for financial advice, grants, and loans are important for building successful businesses, including for the costs of technology.

Entrepreneurial education, coaching and mentoring, networking, and assistance through accelerators or incubators are needed as well. Support for digital strategies should become part and parcel of these entrepreneurial programs.

### ***Digital Connectivity and Skills***

The sudden shift online left many businesses lagging behind or having hastily designed strategies. Now is the time to slow the process down, build skills, and conduct planning for the future.

Rather than assuming that “digital first” is the best solution for everyone, programs need to offer guided support that estimates what the value might be for that business, shows how technology might help, identifies what platform is appropriate, and suggests how to reach different audiences.

Digital business strategies and skills should be integrated into programs in education and workforce development systems, as well as into programs for small business development.

Spaces for experimentation can be offered in workforce programs, small business programs, or libraries. This could include help for podcasting, video, website and social media development, search engine optimization, mobile app development, software programs to manage business processes, data use for scaling up business, and a variety of training programs.

Communities should consider library loans of laptops and Wi-Fi hotspots, as well as microgrants for the purchase of devices, software, and other technology needs.

Local governments should develop a network of community resources that can offer help for digital entrepreneurship, rather than relying on a single institution, such as a library. This should include both public and private sectors, but it could also be promoted by local governments. This might include Wi-Fi access points, organizations offering low-cost devices, computer labs in nonprofits and churches, as well as programs run by the city.

Digital infrastructure investment is also needed in some communities. Local governments can help to promote expansion of fiber through “dig once” policies as well as through investment of federal and state funds.

### ***Advice for Local Governments on Outreach and Collaboration***

Local governments should invest in and support local Black, Latino, Asian American, or Tribal institutions that understand the tech disparity problem and its nuances within those communities. This might include, for example, historically Black and Tribal colleges, K–12 education advocates, and faith-based organizations led by and representing these communities. Local leaders should seek to cooperate with these organizations, and governments at all levels should consider funding them to deliver programs in the community.

In addition to developing partnerships within communities of color, local institutions must cultivate trust. Some communities that historically have had poor experiences with government or local institutions may be less receptive to participating in programs or receiving services.

To build trust with clients and improve program success, local programs should recruit volunteers and staff from within the specific communities they serve.

Multiple channels may be needed for outreach, including in-person contacts, and door-to-door campaigns at businesses. While one task is to help businesses get online in the future, multiple forms of communication are needed for responsive and inclusive programs now.

Intergovernmental coordination is crucial. While local efforts can address the local context, state and federal resources—including funds, planning, coordination, and technical support—are needed.

These recommendations are further explained in the policy brief. The presentations were rich with examples, and some of these are highlighted throughout this report.

**The presentations from the virtual workshop are also available for viewing at**

[Digital Entrepreneurship in Communities of Color Workshop | Center on Technology, Data and Society \(asu.edu\)](https://www.asu.edu/digital-entrepreneurship-in-communities-of-color-workshop)

Please see the appendix of this report for biographical information on the workshop presenters, with full biographies available at the above website.

## **Introduction**

The internet sustained businesses and communities alike during the pandemic, accelerating trends toward e-commerce and digital transactions, changing consumer expectations, and spurring innovations large and small. This digital transformation of the economy is likely to influence entrepreneurship in the longer term.

How do these trends affect Black, Latino, Asian American, and Indigenous entrepreneurs and the communities they serve? How can digital technology be harnessed to promote inclusive growth, for an economic renewal in every neighborhood and community? What role can local governments play?

This policy brief is based on presentations from expert scholars and practitioners during the virtual workshop, “Digital Entrepreneurship in Communities of Color,” sponsored by the Ewing Marion Kauffman Foundation and organized by the Center on Technology, Data and Society at Arizona State University during April 2021. Presenters included Dr. Fallon Wilson, #BlackTechFutures Research Institute; Dr. Robert Fairlie, University of California-Santa Cruz; Heather Fleming, Change Labs; Joseph Coll, University of Iowa; Dr. Tianca Crocker, University of North Carolina-Charlotte; Marycruz De León, Dallas Federal Reserve; Joshua Edmonds, City of Detroit; Xenia Hernández, St. Paul Public Library; and Christine Mackay, City of Phoenix. Presenters included researchers, digital inclusion leaders, and economic development officials. Further biographical information for these presenters appears in the appendix.

Expanding opportunities to engage in entrepreneurship is especially important for ethnic and racial minority groups who, historically, have experienced greater barriers to business ownership, including discrimination in lending. For communities of color across the country, entrepreneurial innovation is a key predictor of economic stability, according to De León.

During the pandemic, Black, Latino, and Asian-owned businesses suffered disproportionately (Fairlie, 2020), and Tribal communities experienced a heavy toll. Many of these businesses were especially vulnerable because of their smaller size, concentration in hard-hit industries, more precarious financial conditions prior to the pandemic, and location in low-income areas with high COVID-19 cases (Fairlie & Fossen, 2021; Parilla & Liu, 2021; Perry & Romer, 2020; Perry et al., 2021). More limited access to federal relief such as the Paycheck Protection Program was in part a symptom of broader inequalities in access to credit (Kramer Mills & Battisto, 2020).

Yet entrepreneurship is now growing at higher rates in communities of color – a source of resilience and an asset for the future. Black-owned business startups exceeded those of other demographic groups during 2020 (Fazio et al., 2021). Latinos previously had the fastest growth in business ownership – 34% over the past 10 years (Stanford Graduate School of Business, 2021; Hicks, 2021). Businesses owned by Latino and Asian immigrants have promoted economic development in many communities in recent years (Huang & Liu, 2016). Local economic development programs that support entrepreneurs of color for participation in the digital economy will enhance growth for their regions overall.

## **Digital Entrepreneurship and Local Governments**

Policymakers and local organizations can help these establishments to thrive now and in the future through “digital entrepreneurship.” This includes opportunities to (1) produce new technologies and

applications and (2) become proficient users of technology for business processes such as sales and marketing (Song, 2019; Giones & Brem, 2017).

Whether digital entrepreneurs are aspiring tech startups or Main Street businesses using new tools, their prospects for success are affected by the local environment, for both technology use and for business development. The local ecosystem for digital entrepreneurship includes access to financing, education, training, mentorship, and reliable and affordable broadband, among other needs (Sussan & Acs, 2017).

**Local governments** are therefore critical actors for creating a vibrant and equitable environment for digital entrepreneurs in their communities, in partnership with the private sector, nonprofit organizations, and state and federal government. We first discuss challenges and opportunities for minority businesses, how digital technologies might address those challenges and opportunities, the needs for internet access and skills, and policy recommendations for local governments.

### **Promise and Challenges**

Minority-owned businesses account for approximately 18% of business owners with employees, though people of color comprise 40% of the population (Parilla & Liu, 2021). Though underrepresented in entrepreneurship, businesses owned by people of color are an important source of employment and services in the surrounding communities, and an underutilized source for future growth in local economies (Bates et al., 2018).

Yet in comparison to businesses owned by non-minorities, minority-owned firms have fewer employees and are more likely to be sole proprietorships (Stanford Graduate School of Business, 2021; Perry et al., 2021). Ninety percent of all businesses in the U.S. are launched with personal savings, home equity, or loans from friends and family (Perry & Romer, 2020), and lower levels of personal wealth for people of color contribute to lower rates of business ownership, and fewer opportunities for growth (Fairlie, 2018; Perry & Romer, 2020). Black households have on average 32%, and Latino households 67% of the liquid wealth of white households (Parilla & Liu, 2021). Entrepreneurs of color are also more likely to be denied loans or to get smaller loans (Perry & Romer, 2020; Board of Governors of Federal Reserve System, 2017). In addition to being smaller, Black, Latino and Asian-owned businesses are often concentrated in low-wage sectors such as food service, accommodations, small retail, or personal services (Perry et al., 2021; Stanford Graduate School of Business, 2021), and therefore they were particularly vulnerable during the pandemic.

### **Impacts of COVID-19**

Businesses owned by people of color suffered disproportionately during coronavirus shutdowns. In a widely cited study, Robert Fairlie demonstrated how devastating this impact was during the pandemic.

### **Covid-19 Shutdowns Hurt Minority Business Owners Most**

According to national research by Robert Fairlie, Black business owners were most affected by the immediate impact of the shutdowns, with a 41% drop in active Black business owners in April 2020. There was a 32% decrease in active Latino business owners and a 26% drop in Asian business owners, compared to 17% for non-Latino white business owners during this period (Fairlie, 2020). Though some of this decrease could be attributed to the business sectors of these firms (Perry et al., 2021; Baboolall et al., 2020), Fairlie found that size explained more of this difference. Smaller firms had fewer resources to make needed changes to continue or to reopen.

## Domain Name Sites Help Businesses and Local Prosperity

Survey research on commercial use of websites was discussed by presenter Joseph Coll. GoDaddy, the world's largest registrar of domain names, has collaborated with researchers at the University of Iowa and Arizona State University to learn more about their customers and economic impacts in communities. Random-sample online surveys show that more than 75% of these US domain name hosts (websites) are commercial, and that only 8% have 10 employees or more. More than half are solo entrepreneurs. The summer 2020 survey indicated that 32% were online only (up from 19% the prior year), 19% did business in-store only, and 50% of respondents conducted business both ways. Nine percent of respondents identified as Black, 6% Asian-American or Pacific Islander, 1% Native American, and 6% multiracial. Nine percent reported Latino ethnicity.

Some differences were visible by race. Black respondents were statistically more likely than others to say that their domain name site generated supplemental income, rather than serving as a main source of income. They were also more likely to say that the website helped them to shift business online during the pandemic – for 28% percent of Black respondents versus 20% of non-Black respondents.

While surveys can provide some information about the businesses behind the domain name hosts, research using de-identified data on the company's 20 million domain name sites in the US indicates the effects of such activities for local economies. Higher density of domain name sites (per 100 people) in a county predicts higher scores on a prosperity index, more positive change in such scores over time, and more change in median income. Ventures combined with high levels of broadband subscription in a county predicted lower unemployment during the pandemic (Mossberger, Tolbert, & LaCombe, 2021; Mossberger, LaCombe, & Tolbert, 2021). Similarly, a study examining predominantly Black zip codes showed that higher density of domain name sites was associated with significantly higher annual increases in median income in those neighborhoods, controlling for other factors (Tolbert, Lee, & Mossberger, 2021). Ongoing analysis will examine effects for Latino and Tribal zip codes as well.

Many microbusinesses and other small entities were forced to confront digital strategies for the first time. While national data is scarce, one study showed a 180% jump in online sales in California between February and April 2020 (Fairlie & Fossen, 2021). This shift, however, according to Fairlie's presentation, disadvantaged small businesses, including minority-owned establishments. Big box stores were best positioned to increase their existing e-commerce. Small retailers and service providers appeared far down in searches and couldn't contend with this corporate advantage.

Though Fairlie's research on racial and ethnic disparities during shutdowns covered the initial months of the pandemic, a survey of small businesses conducted by the Federal Reserve in the fall of 2020 revealed that businesses owned by people of color were also most likely to have decreased operations for months afterward (Federal Reserve Banks, 2021, 6). Also deeply affected by the pandemic were Indigenous entrepreneurs, especially those in Tribal communities. Navajo Nation had the highest rate of infections in the US, and other Native nations were sorely impacted as well (Marples, 2020).

### Resilience and Growth

Entrepreneurship is growing in the aftermath of the initial COVID-19 shock, with new business starts up 24% in 2020 (O'Donnell et al., 2021). Many of these startups are online-only, non-store retail, demonstrating the significance of technology for moving forward. New business starts are growing fastest in Black neighborhoods (Fazio et al., 2021).

This wave of entrepreneurship can support recovery in surrounding communities and more equitable and inclusive economies. Business owners of color often face barriers in education, skills, experience, and capital (Bates et al., 2018). Local governments can help close existing gaps – such as inequities in access to capital and reliance on nontraditional forms of financing – by investing in the development of digital infrastructure and supporting initiatives that educate entrepreneurs about various aspects of business development.

## HOW TECHNOLOGY COULD HELP

The surge of new business starts in the recovery is arising in the age of the platform economy, online marketing, and social media. Simply put, for entrepreneurs and society, the future is increasingly digital.

These technologies may hold special promise for businesses in communities of color, even for small businesses or startups without much capital. Websites offer one example. Whether located in predominantly Black neighborhoods, immigrant gateway communities or Tribal lands, brick-and-mortar businesses can gain access to new markets through advertising and online transactions. Broader markets can increase profits and may be especially helpful for niche businesses with specialized products, or to connect rural or Tribal communities with distant customers (Greenstein et al., 2018). Websites can also lower barriers to market entry, making it possible to conduct business online only, lowering costs such as real estate, utilities, and insurance. Thus, solo entrepreneurs or start-ups can test an idea with less capital investment than in the past. While not a panacea for barriers such as more limited personal wealth or discrimination in lending, the ability to launch a business online may make entrepreneurship more accessible. Research on domain name sites presented by Joseph Coll from the University of Iowa demonstrated how having a digital presence matters for very small businesses, or microbusinesses, including entrepreneurs of color.

### Barriers to Technology Use

Despite these potential opportunities online, communities of color are typically more limited in their technology use, and surveys find them to be less connected compared to the overall population. In February 2021, 71% of Black and 65% of Latino respondents said they had broadband at home, compared to 77% of the population overall. Dependence on mobile phones to go online is high in these communities; 25% of Latinos and 17% of Blacks said they were mobile-dependent internet users (Perrin, 2021). Today, only 50% of Native Americans living on reservations have access to high-speed internet, according to Heather Fleming. For many Native Americans, mobile phones are the primary tool for accessing the internet, even though reliable cell coverage remains an issue (see also Howard & Morris, 2019).

Reliance on mobile use affects the activities that people can engage in online (Mossberger et al., 2017), as the pandemic so clearly showed for remote education. Other tasks, such as constructing a website, are difficult without a high-speed internet connection and devices with larger screens and keyboards. In some rural and Tribal areas, there may be a lack of high-speed internet service, but affordability is a barrier in these and urban communities as well.

## Digital Skills for Entrepreneurship

Digital skills and tools are needed for a variety of activities in entrepreneurship today. This may include using software for business processes and planning, apps for contactless payments, websites for online transactions, social media for marketing, programs for data security, and more. Even business owners who are generally comfortable with technology may yet lack more specialized skills or experience in digital marketing and online sales.

This became especially clear during the pandemic when businesses had to shift rapidly to survive. Fallon Wilson of the Multicultural Media, Telecom, and Internet Council (MMTC) described the potential difficulties for a small local restaurant that had no digital presence and now had to build a new website (only to discover that it was far down in search results); that had no idea how to market itself on social media; and that lacked payment systems to participate in Uber Eats, Postmates, GrubHub, or DoorDash. Going forward, even as they reopen, such businesses will likely need these tools to be competitive.

## Complex Barriers to Digital Entrepreneurship in Navajo Nation

Heather Fleming from Change Labs in Navajo Nation provides an example of the complexity of barriers to digital entrepreneurship, and the need to understand the unique context in each community.

Entrepreneurs seeking a business loan have access to only four banks within Navajo Nation. These banks serve a population of 185,000 people over a span of 27,000 square miles. Native entrepreneurs are less likely to receive small business loans, as many Navajo residents have few assets other than their vehicles. Lenders are hesitant to finance small business loans without adequate collateral. Thus, Navajo entrepreneurs face challenges for securing capital, as do other business owners of color, but the disparities are starkly visible just by surveying the lack of financial institutions located in the area.

Some problems are distinctive to Indian Country. Land use is an issue as most Tribal land is held in trust by the Bureau of Indian Affairs and requires approval of a “business site lease” for commercial development. This application process includes 25 steps, and it can take years to receive approval. This burdensome process is one reason that roadside and informal businesses are commonplace on Navajo lands.

Online businesses might provide one solution, but connectivity is a problem in many parts of Navajo Nation. For decades, Tribal lands have lacked the broadband infrastructure needed to participate in the growing digital economy, because of these land constraints as well as remote and rugged landscapes. Change Labs estimates that less than half of the small business owners have an online presence and less than 10% have a website. For Native business owners who do have access to the internet, many require further digital literacy training to establish and maintain an online business presence.

Fleming states that the most challenging aspect of Change Labs’ work is that “there isn’t any one thing that needs to be fixed.” The Navajo entrepreneurial ecosystem is complex and requires holistic solutions for overcoming barriers.

North Carolina-Charlotte. The Zones’ place-based emphasis on low-income neighborhoods could help to target assistance to businesses in communities of color, though most programs have featured real estate investment rather than help for small businesses. This is a crucial moment when local

## Technology Disparities Intersect and Compound Over Time

The challenges for digital entrepreneurship in communities of color are complex, rooted in multiple barriers and needs, according to multiple presenters at the workshop. Technology disparities intersect and compound over time, according to Wilson. This begins with less exposure to digital technologies and STEM fields in schools in Black neighborhoods, for example, and includes the scarcity of mentors and peer support later, whether for Black entrepreneurs launching a tech startup or owners of brick-and-mortar establishments seeking to keep up with evolving business practices.

These complex, intersecting, and compounding barriers are present for entrepreneurs of color more generally, but the causes and solutions may differ across racial and ethnic groups and local contexts. The example from Navajo Nation presented by Heather Fleming illustrates this well.

## WHAT COMMUNITIES NEED FOR DIGITAL ENTREPRENEURSHIP

To address digital entrepreneurship, communities must consider needs for digital access and skills along with resources for business development. Local governments, along with other local institutions in the private and non-profit sectors, can take steps to create an ecosystem that supports diverse technology-enabled enterprises. Local action can address the needs of different populations and contexts.

Federal programs such as the American Rescue Plan Act (ARPA) provide new resources for local governments and allow for technical assistance and counseling for businesses, according to Robert Fairlie. Opportunity Zones may be another vehicle, observed Tianca Crocker from the University of

governments can make a difference, and the workshop presenters offered many recommendations for moving forward.

A common theme echoed across the speakers was that complexity and differences in local context require cooperation across boundaries.

- They require multiple solutions, and collaboration across sectors and level of government.
- It is essential to work across silos – including partners such as banks, business leaders, educators, community colleges, workforce development organizations, nonprofits, and local governments, said De León, Wilson, and Crocker.
- Strong local champions are needed who can develop solutions to fit their communities, according to Marycruz De León of the Dallas Federal Reserve.

### Federal Reserve Demonstration Project in the Rio Grande Valley

The Federal Reserve Bank of Dallas is conducting demonstration projects in diverse contexts to explore barriers to technology use, research the impacts of its use, and draw lessons for public policy. The projects recognize that there are different needs in Dallas than in rural Texas, though both have needs for digital inclusion.

One of the pilot initiatives to address technology disparities has convened community members in the Texas Colonias along the Rio Grande. These communities lack water, electricity, and infrastructure, so the hurdles to digital inclusion are high. Infrastructure is needed, but so are affordability and skills, including skills for business applications.

The Federal Reserve, which represents the 12 regions for the central bank of the U.S., has identified the digital divide as one of the biggest barriers to full participation for economic opportunity – in finance, health, education, business, and employment.

Workforce development and business development alike are hindered by a lack of internet access, which is part of the infrastructure needed for the entrepreneurial ecosystem in the 21st century. The Federal Reserve system is responsible for maintaining a healthy and stable economy. The demonstration project is based on the premise that when everyone has economic opportunity, all benefit.

### Digital Resources

Small businesses need to have a digital presence, according to Fairlie, but they also need to feel safe online. The pandemic prompted a scramble to get online, but some may need to slow down the shift to the online environment now to gain skills and make the move strategically. The GoDaddy survey presented by Coll suggests the intersection between digital skills and more traditional needs for small business development. Online marketing and skills for the website are most prominent, but access to capital is among the top three needs as well.

### What Do Digital Entrepreneurs Need?

Surveys of business owners with domain name hosts provide some evidence about needs for digital entrepreneurship.<sup>1</sup>

The top three challenges for starting these businesses were: 1) marketing (69%); 2) getting the business online (49%); and gaining access to capital (45%).

Other issues experienced by at least one-quarter of respondents were lack of technology expertise (34%), lack of business expertise (29%), and lack of networking opportunities (25%).

These same needs were most often identified by these small digital entrepreneurs as the most important ways in which local governments could help support such businesses.

## Entrepreneurial Resources

Given the barriers faced by businesses of color in gaining access to capital and assistance with financial advice, grants and loans are important for building successful businesses, including for managing technology costs. Entrepreneurial education, coaching and mentoring, networking, and assistance through accelerators or incubators are needed as well. Support for digital strategies should become part and parcel of these entrepreneurial programs.

## Broadband Infrastructure

Digital infrastructure investment is also needed in some communities. Crocker indicated that local governments can help to promote expansion of fiber through “dig once” policies as well as through investment of federal and state funds.

## WHAT LOCAL GOVERNMENTS AND PARTNERS CAN DO

A variety of programs can be used to promote digital entrepreneurship through training and support. Skills for digital entrepreneurship can be addressed in education and workforce development systems, and through integration of technology use into business planning assistance, according to Crocker.

### Digital Inclusion vs. Digital Hospitality

Tianca Crocker of the University of North Carolina-Charlotte advocated for a stance of digital inclusion vs. “digital hospitality” in designing programs for entrepreneurs of color. Programs should emphasize inclusion, showing that this space is made for them, and how it can help them, in contrast with a less targeted message of “digital hospitality” or that all are welcome to participate. Rather than assuming that “digital first” is the best solution for everyone, programs need to offer guided support that shows entrepreneurs how technology might contribute to their business, whether or how it is an adequate solution, what platform is appropriate, and how best to reach different audiences with digital technologies.

Spaces for businesses to experiment and create might offer podcasting, video, help for developing websites and search engine optimization, app development for mobile, advice for using data for scaling up business, and a variety of training programs, according to Crocker and others. These might also be offered in public libraries, as the programs described below from St. Paul Public Library and The Hive in the Phoenix Public Library demonstrate.

Xenia Hernández, from the St. Paul Public Library, recommended that cities consider direct support for technology use through libraries and other local programs, for laptops, Wi-Fi hotspots, and even micro-grants (see description of St. Paul Public Library programs).

## Innovation Labs and Entrepreneurship Resources in Libraries

The St. Paul Public Library Innovation Lab offers equipment (such as a 3-D printer), software, training, and networking opportunities for entrepreneurship and creative endeavors.

Training opportunities include video tutorials on a variety of business, technical, and creative skills as well as virtual and on-site classes. The “Build your Small Business Web Site” course offers a series of 10 classes on setting up a small business and website, Wordpress (2 parts), Basic Image Editing, Search Engine Optimization, Social Media Marketing, Managing Your Website, Measuring the Success of Your Website/Marketing Plan/Small Business, Google Tools, and e-Commerce Selling Online. The Lunch and Learn Series has included presentations on marketing through social media.

[Innovation Lab | Saint Paul Public Library \(sppl.org\)](http://sppl.org)

### Hive@Central (Phoenix)

Hive@Central, located in the city’s main public library, was developed through a partnership between the library, the City of Phoenix Community and Economic Development Department, and ASU Entrepreneurship and Innovation Group. The website describes it as “a discovery space for business entrepreneurs, combining elements of a co-working space with expert library fact-finding services and resources, and ASU startup expertise.” It’s a place to “meet other innovators and entrepreneurs to share ideas and work together to develop a business concept” or to receive one-on-one mentoring. There are webinars, classes, streaming videos and more for entrepreneurial education. Free online classes include topics such as how to start and run an online business, search engine optimization copywriting, Salesforce 101, and more.

[hive @ central \(phoenixpubliclibrary.org\)](http://hive@central.phoenixpubliclibrary.org)

## Connect 313

In addition to the network of technology assets, the City of Detroit is building a coalition of organizations to address digital inclusion. Connect313 “is a citywide, data-driven digital inclusion strategy that brings countless organizations together with the bold goal to make Detroit a national model for digital inclusion and ensure all Detroiters can access the digital world and the opportunity it brings.”

<https://connect313.org>

## Building a Network of Community Technology Assets

Joshua Edmonds from the City of Detroit stressed the importance of diversifying community technology assets. In many cities, digital inclusion efforts have fallen on a handful of organizations (e.g., library systems or school districts). Rather than relying on one or two institutions (that are already spread thin), a robust network of technology resources from both the public and private sectors is needed to address the issue of digital inequality. In addition to mapping Wi-Fi access points throughout the city (the 313Net Asset Map), the city has offered low-cost devices at Human I-T storefronts and computer labs in churches, with digital skills classes run by partners throughout the city.

## Collaborating with Organizations Representing Diverse Communities

Partnerships are needed with organizations representing communities of color to better understand both assets and needs, and to empower existing and future entrepreneurs.

Fallon Wilson’s Black Tech Ecosystem Index outlines through data and policy how to build “Black Tech Ecosystems” in municipalities (#BlackTechFutures Research Institute). Such ecosystems support not only the development of robust and race-centered digital entrepreneurship solutions but capital and non-capital investments into local Black institutions (e.g. Historically Black Colleges and Universities, Black churches, and Black entrepreneurship support organizations) that understand the tech disparity problem and its nuances within those communities.

## Building a Black Tech Ecosystem

How could local governments help to build ecosystems of support for digital entrepreneurship in Black businesses in their communities? Partners could include Black technology organizations, historically Black colleges and universities, K-12 education advocates, and Black faith-based organizations. Local leaders should seek to cooperate with these organizations, and governments at all levels should consider funding them to deliver programs to promote digital entrepreneurship in the community.

## Rez Rising: An App for Connecting with Native Entrepreneurs

Often lacking broadband access or a physical address recognized by search engines, many businesses on Tribal lands do not have an online presence and are largely invisible to customers outside of their local community. In 2019, Change Labs launched [Rez Rising](#), an app that connects customers with Native-owned businesses across the Southwest. This app now lists more than 600 businesses and gives Native entrepreneurs a platform to reach locals as well as tourists seeking authentic Native-made products and services. Rez Rising is one tool to help Indigenous businesses reach a larger customer base, generate local spending, and strengthen Native economies.

Similarly, Indigenous approaches to entrepreneurship are needed. The concept of entrepreneurship is a foreign one with negative connotations (such as greed) in some cultures, including for the Navajo, according to Heather Fleming. Efforts to promote digital entrepreneurship in Tribal communities must honor traditions if they are to succeed, and Indigenous organizations can provide leadership that understands and respects these needs.

## VOICES OF EXPERIENCE: WHAT LOCAL GOVERNMENTS HAVE LEARNED ABOUT OUTREACH

A panel of local government officials with different positions (for digital inclusion, economic development, and public libraries) drawn from diverse regions, offered perspectives on how local governments can most effectively work to conduct outreach and offer support.

### *Cultivate Trust*

In addition to developing partnerships within communities of color, local institutions must cultivate trust. All participants on the local government panel noted a lack of trust as a major barrier to digital inclusion efforts as well as outreach to business owners of color. Some communities that historically

have had poor experiences with government or local institutions may be less receptive to participating in programs or receiving services. For example, Christine Mackay from the City of Phoenix found that some business owners in majority-minority neighborhoods were hesitant to apply for COVID-related government assistance.

### ***Recruit volunteers / staff from target communities***

To build trust with clients and improve program success, both the St. Paul Public Library (SPPL) and City of Phoenix have recruited volunteers and staff from the specific communities they serve. For example, Hernández said the SPPL serves many refugee families and has “community specialists” on staff to better communicate with this population. In Phoenix, Mackay’s economic development team has brought on members from targeted communities to improve outreach to business owners.

### ***Reach communities in the way they want to be reached***

Multiple channels may be needed for outreach. At the start of the COVID-19 pandemic, Phoenix launched a grant program for small business owners facing hardship. As applications from businesses came in, the city noticed that two council districts were left out, and both were in communities of color. Mackay’s team learned that business owners in these districts relied mostly on traditional, non-digital forms of communication. Mackay’s team switched gears and sent out specialists to meet with business owners and walked them through the grant application process in person. While another task is to help such businesses get online in the future, multiple forms of communication are needed for responsive and inclusive programs now.

## **LOCAL AND TRIBAL GOVERNMENTS NEED STATE AND FEDERAL SUPPORT**

A lack of coordination and communication among local, state, and federal governments can create barriers for developing digital entrepreneurship in communities. Local government panelists argued that no one has “taken ownership” of the digital inequality problem, as many efforts at the local, state, and federal levels are siloed from one other. For instance, Edmonds from the City of Detroit noted that while the federal government has taken some initiative to address digital inequality, national efforts such as the Emergency Broadband Benefit will not be successful if the federal government is not coordinating with municipalities to reach the communities who need it most.

A lack of support at the state level can also hinder local digital inclusion efforts. Edmonds argues that without support at the state level, local governments and organizations lose a “co-signer.” When states have digital inclusion plans and express support for addressing issues of digital inequality, they essentially act as a “co-signer,” which can unlock new philanthropic and other funding opportunities.

For Tribal governments to advance digital entrepreneurship, policy change is also needed at the federal level, according to Fleming of Change Labs. Policy decisions made decades ago (especially related to land ownership) serve as a significant barrier to both business development and broadband infrastructure on Native lands. With so many changes now underway for Tribal economic assistance and broadband development, federal action is needed.

Mackay from the City of Phoenix summed up the sentiments of participants. While support at the state and federal levels is critical, local governments need the freedom to utilize support in ways that best meet the needs of the businesses and residents they serve.

## References

- Baboolall, D., Cook, K., Noel, N., Stewart, S., & Yancy, N. (2020). *Building Supportive Ecosystems for Black-owned US businesses*. McKinsey & Company. <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/building-supportive-ecosystems-for-black-owned-us-businesses>
- Bates, T., Bradford, W. D., & Seamans, R. (2018). Minority Entrepreneurship in Twenty-first Century America. *Small Business Economics*, 50(3), 415-427. <https://doi.org/10.1007/s11187-017-9883-5>
- Board of Governors of Federal Reserve System. (2017). *Availability of Credit to Small Businesses - September 2017*. <https://www.federalreserve.gov/publications/2017-september-availability-of-credit-to-small-businesses.htm>
- Fazio, C. E., Guzman, J., Liu, Y., & Stern, S. (2021). *How is COVID Changing the Geography of Entrepreneurship? Evidence from the Startup Cartography Project* (No. 28787). National Bureau of Economic Research. <https://www.nber.org/papers/w28787>
- Kramer Mills, C., & Battisto, J. (2020). *Double Jeopardy: Covid-19's Concentrated Health and Wealth Effects in Black Communities*. Federal Reserve Bank of New York. [https://www.newyorkfed.org/medialibrary/media/smallbusiness/DoubleJeopardy\\_COVID19andBlackOwnedBusinesses](https://www.newyorkfed.org/medialibrary/media/smallbusiness/DoubleJeopardy_COVID19andBlackOwnedBusinesses)
- Fairlie, R. (2018). Racial Inequality in Business Ownership and Income. *Oxford Review of Economic Policy*, 34(4), 597-614. <https://doi.org/10.1093/oxrep/gry019>
- Fairlie, R. (2020). The Impact of COVID-19 on Small Business Owners: Evidence from the First 3 Months after Widespread Social-distancing Restrictions. *Journal of Economics & Management Strategy*. <https://doi.org/10.1111/jems.12400>
- Fairlie, R., & Fossen, F. M. (2021). The Early Impacts of the COVID-19 Pandemic on Business Sales. *Small Business Economics*. <https://doi.org/10.1007/s11187-021-00479-4>
- Giones, F., & Brem, A. (2017). Digital Technology Entrepreneurship: A Definition and Research Agenda. *Technology Innovation Management Review*, 7(5). <https://papers.ssrn.com/abstract=2984542>
- Greenstein, S., Forman, C., & Goldfarb, A. (2018). How Geography Shapes—and Is Shaped by—the Internet. In G. Clark, M. Feldman, M. Gertler, & D. Wojcik (Ed.), *The New Oxford Handbook of Economic Geography* (pp. 269-285). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780198755609.013.21>
- Hicks, G. (2021). *Latino Inclusion in the Digital Economy*. The Aspen Institute. <https://www.aspeninstitute.org/wp-content/uploads/2021/05/Latino-Inclusion-in-the-Digital-Economy.pdf>
- Howard, B., & Morris, T. (2019). *Tribal Technology Assessment: The State of Internet Service on Tribal Lands*. <https://doi.org/10.2139/ssrn.3427547>
- Huang, X., & Liu, C. Y. (2016). Welcoming Cities: Immigration Policy at the Local Government Level. *Urban Affairs Review*. <https://doi.org/10.1177/1078087416678999>

- Marples, M. (2020). Navajo Nation faces devastating loss from Covid-19 pandemic. *CNN*.  
<https://www.cnn.com/2020/11/24/health/navajo-nation-coronavirus-losses-wellness/index.html>
- Mossberger, K., Tolbert, C. J., & Anderson, C. (2017). The Mobile Internet and Digital Citizenship in African-American and Latino communities. *Information, Communication and Society*, 20(10), 1587–1606.  
<https://doi.org/10.1080/1369118X.2016.1243142>
- Mossberger, K., LaCombe, S. J., & Tolbert, C. J. (2021). A New Measure of Digital Economic Activity and Its Impact on Local Opportunity. *Telecommunications Policy*.  
<https://www.sciencedirect.com/science/article/pii/S030859612100135X>
- Mossberger, K., Tolbert, C.J., & LaCombe, S. J. (2021). Measuring Digital Entrepreneurship at the Grassroots: What Role Will It Play in Community Resilience? In Ewing Marion Kauffman Foundation, ed. “Big Data Direction in Entrepreneurship Research: Researcher Viewpoints.” Kansas City: Ewing Marion Kauffman Foundation, 21-25.
- O’Donnell, J., Newman, D., & Fikri, K. (2021). The Startup Surge? Unpacking 2020 Trends in Business Formation. Economic Innovation Group, February 8, 2021. Retrieved from <https://eig.org/news/the-startup-surge-business-formation-trends-in-2020>
- Parilla, J. & Liu, S. (2021). From Relief to Recovery: Using Federal Funds to Spur a Small Business Recovery (Stage 2 recovery) Washington, D.C.: The Brookings Institution.  
<https://www.brookings.edu/essay/from-relief-to-recovery-stage-2-recovery/>
- Perrin, A. (2021, June 3). *Mobile Technology and Home Broadband 2021*. Pew Research Center.  
<https://www.pewresearch.org/internet/2021/06/03/mobile-technology-and-home-broadband-2021/>
- Perry, A. M., Boyea-Robinson, T., & Romer, C. (2021). *How Black-owned Businesses Can Make the Most out of the Biden Infrastructure Plan*. [https://www.brookings.edu/blog/the-avenue/2021/04/29/how-black-owned-businesses-can-make-the-most-out-of-the-biden-infrastructure-plan/?utm\\_campaign=Brookings%20Brief&utm\\_medium=email&utm\\_content=124590608&utm\\_source=hs\\_email](https://www.brookings.edu/blog/the-avenue/2021/04/29/how-black-owned-businesses-can-make-the-most-out-of-the-biden-infrastructure-plan/?utm_campaign=Brookings%20Brief&utm_medium=email&utm_content=124590608&utm_source=hs_email)
- Perry, A. M., & Romer, C. (2020). *To Expand the Economy, Invest in Black Businesses*. Brookings.  
<https://www.brookings.edu/essay/to-expand-the-economy-invest-in-black-businesses/>
- Stanford Graduate School of Business. (2021). *State of Latino Entrepreneurship. 2020 Research Report*.  
<https://www.gsb.stanford.edu/sites/default/files/publication-pdf/report-2020-state-of-latino-entrepreneurship.pdf>
- Song, A. K. (2019). The Digital Entrepreneurial Ecosystem—a Critique and Reconfiguration. *Small Business Economics*, 53(3), 569–590. <https://doi.org/10.1007/s11187-019-00232-y>
- Sussan, F., & Acs, Z. J. (2017). The Digital Entrepreneurial Ecosystem. *Small Business Economics*, 49(1), 55–73. <http://www.jstor.org/stable/44697212>
- Tolbert, C. J., Lee, B., & Mossberger, K. (2021). *Broadband Use, Resilience, and Inclusive Prosperity in Communities*. Under review.

## **Appendix – Participant Biographical Information**

### **Speakers (alphabetical order)**

#### **Joseph Coll**

Joseph Coll is a doctoral candidate in the Political Science Department at the University of Iowa, where he has been part of a team analyzing GoDaddy's commercial data on domain name hosts and how that digital activity affects community outcomes. He researches electoral institutions, voting behavior, representation, and public opinion, primarily from a state politics perspective. He has investigated how electoral reforms affect the voting behavior of young, Black, and Latino Americans and how candidate demographics affect candidate support among other topics.

#### **Tianca Crocker, Ph.D.**

Tianca Crocker is a social worker and applied researcher whose work focuses on increasing economic and social inclusion in an increasingly digital world. An assistant professor, Crocker also is a Fellow with the National Digital Inclusion Alliance and formerly served as an NTEN|Google Fiber Digital Inclusion Fellow at Austin Free-Net. She earned a doctorate from the University of Texas at Austin's Steve Hicks School of Social Work.

#### **Marycruz De León**

Marycruz De León is a Community Development Advisor at the Federal Reserve Bank of Dallas – El Paso. She conducts research on the issues that impact the low- and moderate-income communities. Prior to this role, she served as Assistant Economist where she analyzed regional economic issues, collected information for the 11th District Beige Book, and contributed to various bank publications. Before joining the Dallas Fed, she was an Economist at Moody's Analytics, where she focused on Latin American economies.

#### **Joshua Edmonds**

Joshua Edmonds is the City of Detroit's inaugural Director of Digital Inclusion and is America's first municipal Director of Digital Inclusion. He is responsible for the creation of Connect 313 – Detroit's sustainable digital inclusion strategy designed to bridge the digital divide. While appointed at the City, Joshua has testified in front of Congress on the matter of digital equity, hosted Detroit's first Digital Inclusion Summit, established the City's first Digital Equity Fund, and most recently, helped raise a combined \$30 million for distance learning and telehealth initiatives for Detroit residents.

#### **Robert Fairlie, Ph.D.**

Robert Fairlie is Professor of Economics at the University of California, Santa Cruz and Research Associate, NBER. His research interests include entrepreneurship, education, information technology, inequality, labor economics, and immigration. He is currently researching impacts of COVID-19 on small business owners, taxable sales, and community college students. He is also working on projects exploring job creation among entrepreneurs, racial inequality and water conservation. He has testified to the U.S. Senate, U.S. House of Representatives, U.S. Department of Treasury, and the California State Assembly regarding the findings from his research.

#### **Heather Fleming**

Heather Fleming (Diné/Navajo) is the co-founder and Executive Director of Change Labs, an organization supporting entrepreneurship and innovation on the Navajo Nation. Heather engages partners in and around the Navajo Nation to incubate, finance and train new and prospective Native American

entrepreneurs in an effort to diversify local economies and promote innovation. The inspiration for Heather's work to seed Native American social entrepreneurship was her upbringing in rural New Mexico and her work with Catapult Design, a company she co-founded in San Francisco and led for 10 years. Catapult is a product and service design firm with an expertise in human-centered design for marginalized communities. She was named a Young Global Leader by the World Economic Forum and a Pop!Tech Social Innovation Fellow for her work.

#### **Xenia Hernández**

Xenia Hernández is a Library Community Services Coordinator at Saint Paul Public Library. Her work is focused on nurturing collaborative partnerships and amplifying community centered entrepreneurship and workforce initiatives. She oversees the Workforce and Innovation Center, a makerspace for adults in downtown Saint Paul and Career Labs— spaces for jobseekers impacted by COVID-19 to connect to technology and economic opportunities.

#### **Christine Mackay**

Phoenix Community and Economic Development director Christine Mackay has served the people of Phoenix since August 2014. During Mackay's tenure with the city of Phoenix, the department has facilitated the creation of over 63,000 high-value jobs, seen the average wage of those jobs increase from over \$30,000 in 2014 to more than \$70,000 in 2019, and closed deals with more than \$58 billion in capital investment. Christine leads a department of over 55 full time staff that encompasses the full spectrum of economic development areas, including business attraction, business retention and expansion, community development, international relations, Sister Cities, the Phoenix Business and Workforce Development Board, administration, research, marketing and the city-owned Talking Stick Resort Arena. In 2021, Christine was named as one of the Top 50 Economic Developers in the Country by Consultant Connect.

#### **Fallon Wilson, Ph.D.**

Dr. Fallon Wilson is the co-founder of #BlackTechFutures Research Institute which is funded by the Ewing Marion Kauffman Foundation's 2020 Open Knowledge grant. #BlackTechFutures Research Institute builds a national network of city-based researchers and practitioners conducting research on sustainable local black tech ecosystems. As a member of the Federal Communications Commissions' Advisory Committee on Diversity and Digital Empowerment, Dr. Wilson chairs the Startup Diversity subgroup. She launched Nashville's Digital Inclusion and Access Taskforce to address the effects of the pandemic and digital divide on communities of color. Venture Beat has described her as the modern day Fannie Lou Hamer for tech equity.

#### **ASU Moderators, Authors and Organizers (alphabetical order)**

##### **Yushim Kim, Ph.D.**

Yushim Kim is an Associate Professor at the School of Public Affairs and a Senior Sustainability Scholar at Arizona State University. She has served as a co-editor of environmental policy for Journal of Policy Analysis and Management since August 2018. Her research focuses on environmental justice and policy as well as public health service provision and management. Her methodological interest is to explore the benefits and shortcomings of developing analytical tools that can structure the complexity of systems such as Agent-Based Modeling, Qualitative Comparative Analysis and Social Network Analysis. Currently, she is expanding her research to examine the U.S.'s COVID-19 policies and their impacts on people's information-seeking behavior.

**Meredith McCullough**

Meredith McCullough is a second-year Ph.D. student at Arizona State University's School of Public Affairs. Her research interests include the future of work, digital entrepreneurship, and digital skills development. She is currently a research assistant at ASU's Center on Technology, Data and Society.

**Angel Luis Molina, Jr., Ph.D.**

Angel Molina is an assistant professor in the School of Public Affairs at Arizona State University. Previously, he was a postdoctoral scholar in the Center for Organization Research and Design at ASU. His research interests include the impacts of organizational behavior on policy outcomes in minority communities, the performance implications of minority access to organizational leadership, public values, education policy, immigration, Latino politics and the salience of race and ethnicity for both public and private sector outcomes. He holds a doctorate in political science from Texas A&M University.

**Traci Morris, Ph.D.**

Dr. Traci Morris is the Executive Director of the American Indian Policy (AIP) Institute at Arizona State University and is a member of the Chickasaw Nation of Oklahoma. Morris's research and publications on Native American media and the digital divide are focused on Internet use, digital inclusion, network neutrality, digital and new media curriculums, and development of broadband networks in Indian Country. She spearheaded the groundbreaking Tribal Technology Assessment: The State of Internet Service on Tribal Lands in 2019. Formerly, Morris served on the Federal Communications Commission's Consumer Advisory Committee and the Advisory Board for the Department of Labor's Native American Employment and Training Council. As an entrepreneur prior to her ASU appointment, Morris founded Homahota Consulting LLC, a national Native American woman-owned professional services firm working in policy analysis, telecommunications, education, and research assisting tribes in their nation-building efforts.

**Karen Mossberger, Ph.D.**

Karen Mossberger is Frank and June Sackton Professor in the School of Public Affairs at Arizona State University, and director of the Center on Technology, Data and Society. She researches digital inequality, digital government, and the impacts of technology use, along with urban policy, local economic development and local governance. She is co-author of "Choosing the Future: Technology and Opportunity in Communities" and co-editor of "Transforming Everything? Evaluating Broadband's Impacts across Policy Areas," both from Oxford University Press. Mossberger is collaborating with the University of Iowa to examine domain name hosts as a measure of digital commercial activity and its effects on community outcomes. She is a fellow in the National Academy of Public Administration.