

Digital Inclusion in Detroit, Michigan:
A Study of Community Leadership, Network Building, and Possibility of
Closing the Digital Divide

Master's Thesis

for the

University of Michigan School of Information

May 2020

By

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Acknowledgements

This thesis experience taught me about mixed methods research and analysis, but more importantly it taught me how to be a stronger and more intentional researcher. I am forever grateful for this opportunity and the Detroit leadership that made this possible.

Advisors

Dr. Casey Pierce - I am so thankful for you! Your wisdom of everything research, and your patience and flexibility with me throughout all the ups and downs of this project. I think you are the best, most thoughtful, and collaborative mentor that I could have asked for at the University of Michigan. Thank you for believing in me and for being my gentle guide along this journey.

Dr. Michaelanne Dye - for your enthusiasm, encouragement, and expertise with this process. Thank you for being another sounding board for me when I needed to work through some things.

Partners

Joshua Edmonds - for being a catalyst and partner in this project. Your passion, honesty, and openness to collaborate and bring everyone to the table is inspiring. I can't wait to see what happens in the future!

To the fierce leaders who participated in this research, thank you for your valuable time and for teaching me about your work and the community that you care so deeply about. You are all an inspiration for this work.

Network

To my friends and family who put up with my endless excuses of "being busy because I have to work on this thing." Thank you for your patience, love and support.

Note: Names of organizations and individual participants have been anonymized in this report to protect their privacy.

Abstract

The digital divide is described by technology experts and scholars as the disparity between digitally literate individuals with access to broadband internet and internet communications technologies (ICTs) and those who do not have access to ICTs nor possess digital skills.

Approximately 19 million Americans, 6 percent of the population, are without reliable internet service. In Detroit, Michigan, approximately 40 percent of city residents live without an at home internet connection making it the most digitally disconnected city in the United States.

Economic, social, and political factors have contributed to this high number of disconnected residents. Any resident affected by digital inequities faces daily challenges in accessing and navigating simple services. These inequities impact a Detroit resident's ability to find employment to provide for their family, a student's ability to complete a homework assignment, and an older citizen's ability to access healthcare services and pay their bills. Affected residents also miss out on being part of the political conversation. The digital divide can impact a resident's ability to access news, research political candidates, and register to vote for the first time.

The digital divide must be understood as a spectrum, it is not binary. It is complex, manifested by a history of inequalities between countries, nations, and communities. Solutions in this space require a great deal of organizational collaboration, data gathering, and local expertise. Scholarly research has highlighted that grassroots efforts usually catalyze the solutions in this space, and local community nonprofits know the impacts for those most affected intimately and accurately. However, there is a scarcity of published academic work on the digital divide in Detroit particularly assessing the needs and work of residents and community leaders. We still don't

know how these local changemakers working in nonprofits, public sectors, and academia are viewing the digital divide. There is not much data on how they interact with one another or if their needs and behaviors share patterns. Lastly, we don't know how these stakeholders measure their success. This research seeks to begin to answer these questions using a primarily qualitative approach.

I focus this work on local leadership in the non-profit and public sectors in Detroit. Based on qualitative research and secondary data collection through 8 interviews with community leaders, my research provides insight into how these leaders of the digital inclusion and equity efforts in Detroit see the current state of the digital divide, what they are doing about it, and what they believe they need to successfully reach their goals. These findings provide insights to what future collaborative efforts and relationships might look like as well as highlights suggestions and next steps for this work to continue.

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Introduction

As of April 2020 this year, almost 4.57 billion people were active internet users, approximately 59 percent of the globe. The countries with the highest amounts of users include the United States, China, and India. Citizens in these countries use the internet to complete daily tasks such as banking, paying bills, registering to vote, accessing their healthcare services, meeting up with family and friends by searching locations on maps, and working remotely. Digital literacy is

thought of as an essential life skill assumed by higher education and industry professionals and is required for most middle class level jobs.

Given the global rapid connection that has occurred since the inception and adoption of the internet, access to high speed internet is now widely viewed as an essential service by scholars, industry professionals, and politicians across the globe. Scholars have asserted that “Information and Communication Technologies (ICTs) have been revealed as key potential factors for economic growth and social development. The diffusion of ICTs drives access to information and knowledge; the uneven distribution of ICTs within or between societies may result in their having a very uneven impact on economic development and on wealth.” (Srinuan and Bohlin, 2011)

The former United Nation Special Rapporteur on Freedom of Expression at the U.N. Frank La Rue stated that the internet is “one of the most powerful instruments of the 21st century for increasing transparency in the conduct of the powerful, access to information, and for facilitating active citizen participation in building democratic societies.” In 2016, the Human Rights Council of the United Nations General Assembly declared in a report that access to the internet is a basic human right. However, in the wealthy, democratic nation of the United States, approximately 19 million Americans, 6 percent of the population are without reliable internet service. In geographical areas where a high percentage of citizens are disconnected within the United States- those communities, cities, municipalities, and states end up being left behind, deprived of their basic human right to information.

This disparity between those who possess access and the skills to use ICTs and those who lack the same access and skill sets is commonly known as the digital divide. The term was introduced in the mid-1990s and first defined as “the gap separating those who have access to new forms of information technology from those who do not.” (Srinuan and Bohlin, 2011) Eventually, scholars and experts determined this definition must evolve past this binary. Other studies (Hargittai 2002, Hargittai 2003, Fernandez et. al, 2019) determined that the digital divide should be defined in terms of both access to the technical and social infrastructures that support the use of ICTs, further complicating the term’s meaning. (Srinuan and Brounin, 2011) Presently, the digital divide spectrum and surrounding issues vary based on the context in which it exists. This context includes geographical as well as socio-demographic factors such as income, gender, race, ethnicity, education, age of citizens affected.

Research on the digital divide has been grouped by scholars into rural and urban categories. The main factors that contribute to the urban digital divide come from historically high levels of economic inequality, uneven distribution of resources, and oppression of marginalized populations resulting in an uneven distribution of ICTs. Therefore, the cities with the highest poverty levels and social stratification also are among the most disconnected. Scholars also have determined that “broadband access is increasingly a requirement of social and economic inclusion, not simply an outcome of it, and that individuals from low-income and otherwise marginalized communities are well aware of this.” (Bach, et al., 2018) Therefore, if an urban area is lacking broadband access, it is highly likely that those disproportionately affected are actively seeking ways to get connected, and have the desire to do so to improve their quality of life.

The Digital Divide in Detroit

The most disconnected U.S. city is Detroit, Michigan where 35% of citizens live below the poverty line and approximately 40% of residents live without an at home internet connection. (Worst Connected Cities 2018, 2019) Any Detroit resident affected by the loss of their human right to internet access and information faces daily challenges in accessing and navigating simple services. It impacts a resident in Detroit's ability to find employment, to provide for their family, a student's ability to complete a homework assignment, or an older citizen's ability to access healthcare services and pay their bills. Many marginalized and low-income residents are among those most severely affected by this disconnection. (Fenandez et. al, 2019) Residents that are aware of the barriers and disadvantages of everyday life without the internet are finding their own ways to connect if they can't access the internet in their homes such as using public Wifi, using library internet, and going to friends and family's homes who have access. (Fernandez et. al, 2019)

In the past few decades, community leadership has grown in Detroit, both in the public and nonprofit sectors working to connect residents and address the skills gaps within the city. These leaders have raised awareness to the issues of disconnection and digital literacy impacting their communities in the form of non-profit and religious organizations and their networks. Their efforts have been recently observed at a city and national level. Although it is clear that these organizations are making progress within their own communities, the American Community Survey notes that there are still approximately 40% of residents without at home internet access and approximately 50% of Detroit homes without a laptop or desktop. (Worst Connected Cities

2018, 2019) This data reveals that there is much work left to be done in the business of closing the digital divide. The city has a goal of achieving digital equity and recently has hired dedicated staff to help existing grassroots leadership reach their goals in connecting and educating residents. However, in order for city leadership to be effective, they must fully understand the landscape of the divide by forming strong partnerships with community leadership and constantly have access to updated research to base their decisions.

However, divides in urban areas are under-researched. There is a lack of information on the outcomes of digital inclusion initiatives which is troublesome because this is the specific information that stakeholder leadership needs to determine the solution design and strategy in their digital inclusion efforts. (Rhinesmith, 2016) This lack of research, leaving room for incorrect assumptions to be made, has the potential to block meaningful intervention efforts to narrow urban digital divides.

This need for more research to determine a thorough understanding of the landscape of the digital divide in Detroit is what inspired this research. To date, there have been primarily quantitative studies on the digital divide in Detroit, and there is a gap in research that speaks to the successes, networks and needs of leadership in this space. This study seeks to start to fill that gap in research to better understand the work and needs of leaders in the digital equity and inclusion movement and workforce in Detroit. The hope is that this work can provide more context for both city officials and other researchers to collaborate on future work in this space with Detroit leadership. I am aware that this work is not a complete picture of the current state of

the divide and the full spectrum of needs that leadership has in their own communities, but I am hoping that this acknowledges needs that can be addressed in future research efforts.

Challenges

Some challenges that occurred in conducting this work included a six month school year timeline, a one person research team, and extra time for additional contextual research since I am an outsider. I had very basic knowledge of the city history and current networks when I embarked upon this research. It took longer for me to make local connections and the interviewees were on very tight schedules. The final difficulty in completing this work was the global pandemic in relation to COVID-19 in the data collection process. I was not able to conduct as many interviews or follow up interviews with participants to meet my initial goal.

Despite these challenges, I was able to still address my research questions uncovering some useful insights about the current state of the digital divide in Detroit and the networks of leadership working to close the gaps. Through in depth interviews and secondary research, I uncovered the following themes:

- *The exacerbation of the digital divide in Detroit comes from a long history of inequality, racism, and economic oppression in the city.* In order to understand the issues of the digital divide, one needs to understand the history of the place.
- *There is an acknowledged shortage of technical and digital skills in the city by all stakeholders.* There are very few people who hold all of the expertise and skills required to do the work of bridging the digital divide, meaning that the voices of the average Detroiter are not always included in the solutioning process of all

stakeholder efforts, leaving room for incorrect or incomplete solutions to be implemented.

- *Grassroots efforts and a small group of competent leaders have been the most successful at raising awareness to the issue and educating Detroit citizens.* Non-profit networks have been effective in educating citizens and gathering awareness around the issue through hosting public networking events, informational sessions, and publishing white papers and speaking about their work to other partners and media outlets.
- *The major stakeholders of the issues in Detroit are the citizens, non-profit organizations, religious partners, the public sector, city government, Internet Service Providers (ISPs), academic partners, and other companies.* Community leaders from different nonprofit organizations have begun to partner with one another to host events, attend conferences, and seek funding. However, there is still ample opportunity for more stakeholders to unite creating a stronger network of mutual support, also known as a digital inclusion coalition.
- *While community leaders are proving to be effective within their own realm, they still need help from outside sources to meet their goals.* Local leadership and representation is essential in order to ensure proper solutioning in each community affected by the digital divide, but there are only a few known leaders in this space. These leaders are currently pulled in so many directions due to budget and staffing limitations that they consequently miss out on these potential partnerships and beneficial opportunities to spread their message. One major area where digital inclusion leadership could use more support is in research.

Conducting evaluative research and adding to the current scholarly body of research can support decision making efforts and provide contextual information that inclusion leaders can use to strategize their solution and growth efforts.

In order for the digital divide to be rectified and for digital equity to be achieved in Detroit, there is scholarly evidence that a coalition catalyzed by community leadership along with buy-in from a diverse range of public, academic, and private actors is necessary for success. The more collective action taken by stakeholders in the non-profit, public, governmental, technology and business sectors, the faster progress will be made. Financial sponsorship along with increased sustainable research efforts that include the voices of all Detroiters are essential for city decision makers to prioritize their efforts.

Background

History of the Digital Divide

Over the past few decades, research on the digital divide has evolved. From first-level digital divides (Norris, 2001), focused on internet access, to second-level, concerned with digital skills and literacy (Hargittai, 2002), to third-level digital divides, which seek to understand the differences in inclusion effort outcomes due to the contextual variability levels of access and skills of communities. (Fernandez et. al, 2019) This section covers the evolution of these levels of research as well as the historical events and recognition of the digital divide that shaped that research over the past three decades. Then, the conversation shifts to the digital divide in Detroit specifically, providing historical context of the city and an overview of the work on digital

inclusion efforts within the city. The following section will discuss findings and Detroit inclusion efforts in more detail.

In the late 1990's, the United States Department of Commerce published a series of research studies that showed lower rates of Internet penetration among poorer Americans. In 1998, published survey data showed that affluent households were 20 times as likely to have internet than low income citizens, and more than nine times as likely to have computer access. This information sparked the attention and action of the current president and in 2000, President Clinton proposed a plan to help bridge the digital divide which gave private companies such as Microsoft and AT&T a tax break incentive to develop Community Technology Centers and educational services in low-income neighborhoods. (Norris, 2001) At this point, the scholarly and expert understanding was that if communities were all able to be equally connected they would be more empowered. Although data collected after these efforts suggested that progress was being made and poorer areas were getting connected, they were still disproportionately disconnected compared to more affluent Americans. Today, approximately 19 million Americans, 6 percent of the population, are still without reliable internet service. In major cities, more than a third of the population still doesn't have reliable internet access, and many are without a home desktop or laptop computer. (Worst Connected Cities 2018, 2019)

First Level Divides

During this time, Pippa Norris published the book "Digital Divide" in 2001 that delved into the definition of the digital divide describing the divide as a "multidimensional phenomenon encompassing three different aspects- *the global divide, the social divide, and the democratic*

divide. The *global divide* references the disparity of Internet access between developing and industrialized societies. The *social divide* references the gaps between the rich and the poor within a nation, and the *democratic divide* references the differences between individuals who use digital resources to engage and participate in public life. The focus of research at this time was primarily on the global divide, and then began to touch more on the social and democratic divides. In the United States, researchers and the government began to focus more attention on the social divide, discovering that disparities existed between rural and urban populations as well as between the affluent and poorer, more marginalized people within an urban area.

On a global scale, the UN recognized that the digital divide correlated with a citizen's economic status and stated the concern in their Development Report that Information and Communications Technologies (ICTs) might further widen the already existing gaps between the affluent and poorer more rural populations since the poorer areas lacked the skills, resources, and infrastructure to invest in digital networks. (Norris, 2001, p.5) It became clear that the social divide of internet access within countries was becoming more complicated based on the economic disparities between populations. Political experts acknowledged that there were two parallel communication systems forming: one for the affluent meaning they had income, education, and physical connections to infrastructure, and another for poorer, rural, more marginalized groups (ie. disabled people, people of color, women) (Hargittai 2002, NCD.gov, 2020), who experienced blocks to suitable infrastructure, information access, and prohibitive cost and time. This meant that the affluent groups were getting low cost rapid access to updated information, while poorer, more marginalized groups were forced to rely on outdated information that was much more difficult to access. This gap in information access by poorer,

marginalized populations was defined by world leaders at this time to be “exclusion from the knowledge economy.” (Norris, 2001)

Since poverty became the main diagnosable criteria of those most impacted by the digital divide, researchers and industry experts studying the divide in poorer areas began to realize that as technology was rapidly changing so were the needs of those impacted by the divide. Solution efforts needed to be continuously updated, and more resources and skills were required to bridge the divide. Additionally, with how quickly technology was moving, researchers who predicted that the Internet would eventually allow citizens to more easily access important information were proved right. This especially was relevant to education and healthcare access and thus the Internet came to be viewed more as an essential service and less of a luxury. (Norris, 2001) In 2016, the Human Rights Council of the United Nations General Assembly declared in a report that access to the internet is a basic human right.

This happened only for the most privileged citizens who were a part of the knowledge economy to begin with, leaving behind marginalized populations and poor communities. (Norris, 2001) Since the early 2000s, especially in the United States and other wealthy countries, more essential services have moved online, and with the development of the smartphone, daily tasks almost always have an online component. The divide in access to ICTs also widened the divide in knowledge and technical skills between privileged and underprivileged groups in the United States. Data collected by the American Community Survey, (used by many governmental officials as the most reliable dataset of city information) in addition to ISP data can usually give a pretty good idea of connection levels. However, these data are still flawed, they often show

inaccurate numbers in poorer communities. This is due to the technology maintenance theory that argues that although poorer communities might have increasing numbers of use with technology, they often go through periods of disconnection, which scholars have described as dependable instability. (Gonzalez, 2016)

Throwing Technology at the Problem is Insufficient

Some scholars will argue that the theory of technological determinism—which is essentially that a society's technology (in development and use) determines the development of its social structure and cultural values—is sufficient for determining the solutions needed to solve the divide. However, given the nuanced nature and geographical, cultural spectrum of the digital divide, that theory has not yet been proven successful. Regarding the digital divide, technological determinism as a solution has yet to be proved perhaps because digital inclusion efforts are still in their infancy, or perhaps it is simply because the world is on a spectrum of equality that varies place by place based on historical events. “Even if the basic digital divide shrinks gradually over time, it is naïve to believe that the virtual world can overturn fundamental inequalities of social stratification that are endemic throughout postindustrial societies, any more than it is likely to overcome world poverty.” (Norris, 2001, p. 17) For the theory of technological determinism to be proved correct, it would seem then that the historically most marginalized people would be at the forefront of designing and using these systems, and since the digital divide still persists, we know that is not the case.

Even if the infrastructure exists, for example, ISPs are providing enough service in a city, there are structural factors that can determine internet adoption, such as the cost of both installing and

paying monthly for service, as well as individual factors which relate to the relevance of the internet to a citizen's life, their education level, and digital literacy skills. (Bach et. al, 2018) This, in addition to dependable instability, further complicates broadband access as the most reliable metric for gaps in the digital divide.

Second Level Divide — The Skills Gap

The digital divide is more recently described by technology experts and scholars as the disparity between digitally literate individuals with access to broadband internet and internet communications technologies (ICTs) and those who do not have access to ICTs nor possess digital skills. What makes the measurement of digital skills arbitrary is that the “skills” in question are not universally understood and will vary from community to community based on relevance to industry needs. Research from Stanford on the digital divide acknowledges that this skills gap should not be thought of as a binary; there are varying levels of literacy. “The history of literacy shows that our understanding of functional literacy has evolved considerably over time requiring flexibility in education policy to keep up with the changing landscape.” (Hargittai 2002) This view of the problem as flexible and variable should shape the approach to closing the digital skills gap or addressing digital literacy for individuals and communities.

Increasing digital literacy efforts has the ability to empower communities, giving them additional skills with which they can continuously acquire knowledge. Those who lack the skills will remain left behind and social stratifications will persist particularly in low and middle income communities. A recent study asserts that “the lack of digital skills particularly amongst poor communities is a crucial determinant of digital exclusion.” (Chetty et.al, 2018) Whilst accepting

that issues of infrastructure development and the cost of Internet connectivity must be addressed, due attention must also be directed to upskilling the population. This is widely referred to by experts as the skills gap or digital literacy gap.

However, the skills taught and the context is also important, each community and neighborhood has different needs. While the action of providing access to ICTs can be incredibly powerful for marginalized communities to elevate themselves, scholars warn this can happen “only if these tools are grounded in the real material needs of working people and are geared towards those needs.” (Bach et. al, 2018) When addressing the skills gap, the needs of each community need to be fully researched and understood by practitioners. Some scholarly suggestions on ways to implement a community digital literacy strategy are: to “monitor the evolving set of digital skills required for employment, incorporate a holistic digital skills development strategy into national education programmes, and contextualize skilling programs within prevailing socio-cultural norms that will shape the uptake and impact of digital skilling programs.” (Chetty et. al, 2018) Inclusion based organizations and public institutions can develop their own research frameworks and data collection processes to track community progress and determine if intervention efforts are proving to be effective. These efforts must be scalable in order to be sustainable.

Third Level Divide — Differences in Outcomes in Affected Populations

This level of the divide is perhaps the most under-researched, and the most difficult to understand perhaps because the metrics of a skills gap and broadband access are not universally measurable. Many scholars acknowledge that this is the biggest gap in research on the digital divide. There is clearly a need for more research measuring the outcomes of inclusion efforts in

affected populations, and this varies by community. (Scheerder et. al, 2017) What existing literature can tell us is that neither digital education nor broadband access alone can promote a more equitable society, and tracking that information is not enough to understand how the digital divide is shifting in communities. This level of research perhaps fits better under the umbrella of digital inclusion efforts, instead of identifying the digital divide.

Solutions to the Divide — Digital Inclusion Efforts to Achieve Digital Equity

The discipline of solutioning efforts of leaders to close the digital divide is now commonly known as digital inclusion. According to the National Digital Inclusion Alliance (NDIA), the means and efforts necessary to ensure that all citizens and communities, including the most disadvantaged, have access to and ability to use ICTs is called digital inclusion. Experts in digital inclusion across the country agree that the process of achieving digital inclusion consists of five major components:

- 1) Affordable, robust broadband internet service
- 2) Internet-enabled devices that meet the needs of the user
- 3) Access to digital literacy training
- 4) Quality technical support
- 5) Applications and online content designed to enable and encourage self-sufficiency, participation and collaboration.

Research on what digital inclusion organizations prioritize with their programming reflects the need to provide low-cost broadband, connect literacy training with relevant services and content,

make low cost hardware available, and have fully functioning public access computing centers. (Rhinesmith 2019).

The efforts of digital inclusion must evolve as technology advances. And since technology changes rapidly and constantly, digital inclusion efforts are an ongoing process that require focus and constant attention, data collection, and recalibration. In order to close the divide (reducing and eliminating historical, institutional, and structural barriers) inclusion efforts must be extremely intentional and responsive to the issues their individual communities face.

Digital inclusion is equatable to economic inclusion. A higher income makes it more likely that a citizen has access to broadband, and having broadband can increase the chances of having a higher income. According to evidence shown by the U.S. Census Bureau's 2013 American Community Survey, a household with reported income more than \$100,000 had a 92 percent likelihood of having broadband at home, For those who made \$25,000 or less, the chance of having home broadband fell to 47 percent. According to leaders in digital inclusion efforts- digital equity is ultimately what their work is hoping to achieve. Digital Equity is a condition in which "all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy. Digital equity is necessary for civic and cultural participation, employment, lifelong learning and access to essential services." (Callahan, 2020)

Governmental Progress on Inclusion Efforts since the early 2000s

In 2009, Congress approved the American Reinvestment and Recovery Act which included a portion of funds dedicated to expanding broadband access for marginalized communities in the US, called the Broadband Technology Opportunities Program. Many communities were able to take advantage of this funding and this was a major milestone for organizations to form and grow their efforts. However, over a decade later, these improvements are still not enough, and leaders in these efforts need more funding. Angela Siefer, Executive Director of the National Digital Inclusion Alliances has publicly stated the “financial support of local digital inclusion work is sorely lacking.” (McNerney et.al, 2019) There has been pressure by the NDIA and community leaders for the federal government to act.

Members of Congress are also aware that the digital divide is leaving their citizens behind. Congressman McNerney from California has said, “We are long overdue for closing gaps in broadband adoption and digital literacy.” (McNerney et.al, 2019) Fortunately, as of 2019, there are new bills that have been proposed under The Digital Equity Act. This act “would create two major Federal grant programs, operated by the U.S. Department of Commerce’s National Telecommunications and Information Administration (NTIA), to promote digital equity nationwide. The proposed funding for each program is \$125 million per year for five years — a total of up to \$1.25 billion.” This would be carried out by state governments and would for the first time define digital equity and digital inclusion at a federal level. (McNerney et.al, 2019) The Digital Equity Act is still pending, but many inclusion leaders and supporters are hopeful of its passing.

Critiques of the Divide — The Scholarly Research Gap

In addition to the need for more financial support, in the past couple years, experts and scholars have acknowledged that there is also a need for more research on the digital divide in the United States, qualitative research in particular. “Among the shortcomings of digital divide research are its lack of theory, conceptual definition, interdisciplinary approach, qualitative research and longitudinal research.” (Dijk, 2006, p. 221) The need for a more interdisciplinary research approach was also something that Norris mentioned in 2001. Norris particularly mentioned that the following disciplines especially needed to be contributing work on studying the divide: communications, sociology, anthropology, history, and social psychology (primarily qualitative disciplines) as well as market research, and business studies, computer studies and industrial design as well as political science. Since this space is so complex, it takes an interdisciplinary approach to fully understand, as “no single methodology can hope to capture the rich complexities of life.” (Norris, 2001, p.35) The digital divide reflects the social, political, and economic complexities of society, a multifaceted research approach to address those complexities is imperative.

The Need for More Digital Inclusion Organization Evaluation

In comparison with previous studies on the rural–urban divide, studies within metropolitan areas in particular are under-researched, especially those that evaluate outcomes of digital inclusion initiatives at city and organizational levels. (Rhinesmith, 2019) This has been the case for well over a decade. In their literature review in 2006, Dijk mentioned that outcome-based evaluation is critical to understanding the efficacy of implemented solutions and this was more recently echoed in a 2015 U.S. study of eight digital inclusion organizations that were working at the intersection of Internet availability and skills development. In this study,

researchers note that “most of the digital inclusion organizations that participated in this study did not have outcomes-based evaluation frameworks. However, all recognized the importance of having them. (Rhinesmith) This seems to be an opportunity for more academic researchers to explore in partnership with digital inclusion organizations.

The Emergence of Digital Inclusion Coalitions

The National Digital Inclusion Alliance suggests that building a digital inclusion coalition is the key to success in bridging the urban–digital divide. The NDIA defines this *coalition* as: “an *organization of organizations* (e.g., local governments, libraries, educational institutions, housing authorities, community technology training and network providers, other social service and civic organizations, etc.)...*operating in the public realm*, with a reasonable degree of *transparency* about its activities, in its governance and finances...with a formalized (though not necessarily incorporated) *structure* including leadership responsibilities, rights and obligations of members, regular meetings, etc...and *open to growth* by adding members that support its mission, with a clear process for joining.” (Callahan, 2020)

There are six such described digital coalitions that have formed officially over the past 5-7 years. They are based in Portland, Oregon; San Antonio and Austin, Texas; Kansas City, Missouri; and Charlotte, North Carolina. From these cities, the NDIA created a Digital Inclusion Coalition Guidebook to highlight important lessons for other cities hoping to form a stronger coalition themselves. The NDIA found that coalitions mattered for the following reasons: They focus attention on digital inclusion as an area for public policy and community action (advocacy effect), they create a framework to align the efforts of community players who may have little in

common other than a concern about digital inclusion (alignment effect), and just by bringing people together in one room, coalitions can be the catalyst for new working relationships and shared insights. (Hegle and Wilding, 2019) The NDIA Guidebook states that the key strategic objectives and strategies of the coalitions whose leaders we interviewed fall into four broad categories:

1. Professional development for local digital inclusion practitioners.
2. Support for the development of new strategic program alignments.
3. Improved factual understanding of the community's digital inclusion needs and resources (i.e., resource mapping)
4. Public education and advocacy regarding the community's digital divide, why it matters and how to overcome it.

Each of the six model coalitions have an informational website that highlights all membership groups and their partners and links to their individual websites. They each have their own playbook or set of guidelines and rules and publish their meeting notes for the public to see what they are up to. They publish their own research, however, there is a shortage of academic research outside of the NDIA that studies their effectiveness.

Detroit, Michigan Historical Background

The most disconnected city in the United States in Detroit, Michigan. In order to understand the present status of the digital divide that exists within the city today, historical context is important as these events directly impacted the same groups who are most affected by all aspects of the digital divide, and are at the focus of the city's inclusion efforts.

Detroit is a city of nearly 700,000 people in a metropolitan area of over 4.3 million. Known as Motor City due to the amount of car manufacturers that settled in Detroit, the city was at its peak in the 40's and 50's with a plethora of manufacturing jobs. Many African Americans were among the many workers who moved to the city and as they did, they faced serious racial discrimination and displacement. One blatant example of this is the targeted destruction of the historical "Black Bottom" neighborhood. The neighborhood was once a culturally rich community of black owned businesses nationally famous for its music scene. It was demolished in an "Urban Renewal " program and replaced with the Chrysler Freeway and Lafayette Park. This displaced the large and thriving African American population to public housing projects. (Detroit Historical Society, 2020)

Displaced citizens of color then became victims of redlining —the act of systematically preventing people from receiving loans to purchase homes due to the color of their skin— which further exemplifies the intentional curation and reinforcement of marginalized populations of African Americans. Consequently, stark racial hostilities permeated the city as systematic oppression persisted. Sequential related events such as the Detroit Riots in 1967 combined with the impact of industrial disinvestment by the manufacturing industries hit Detroit's community hard. Companies were leaving, jobs were becoming scarce, and many people, particularly white people, left the city and fled to the suburbs drastically as many as 40-80,000 in one year. (Campbell et.al, 2020) This "white flight" rapidly changed the demographics of the city. Understanding the history of race in Detroit can be summarized as "the legacy of racist patterns of bank lending, housing discrimination, and white flight." (Campbell et.al, 2020) Detroit also had issues with corrupt leadership and the city was not supported by the state and federal

government in the ways it required. These problems persisted into the 1980's and were exacerbated by issues of local corruption and abandonment by state and federal legislature.

These social, economic, and political factors left the city unable to properly support the patches of citizens that were left. As a result, Detroit ranked within the top U.S. cities for unemployment, poverty per capita, and infant mortality throughout the 1980s. The Detroit Public School system also closed 188 schools between 2008 and 2014. (Campbell et. al, 2020) Unfortunately, any bail out efforts proved ineffective and the city of Detroit officially declared bankruptcy in 2013. Since then, however, the city has been hard at work rebuilding itself, with citizens organizing to create a vision of the thriving community that they desire and deserve. They are making progress, but there is still much work to be done.

The DPS system is still in a state of emergency. Many neighborhoods still remain underserved and disadvantaged. We can see this highlighted particularly in relation to internet access and the presence of a strong digital divide. As the digital divide is known to further amplify the inequities that exist within society, it is no surprise given the history of the city that among the most without equitable ICT access are the poorest communities and communities of color within Detroit.

Digital Divide in Detroit

There is some data that gives an overview of the current status of the divide and recent efforts by key stakeholders to alleviate parts of the divide. According to data from the US Census 2017 American Community Survey, 27% of Detroit is without internet, and 46% are without

high speed internet. Over 40% of residents are without a personal computer or a cellular data plan. Detroiters without broadband access when broken down by race, ranges between 20% and 31%, with White residents at 20%, Latinx residents at 31%, Black residents at 29%, and Asian residents at 28%. Note that there are more races in the city, but these are the ones reflected in the American Community Survey, which this city (and others) uses as its primary data source.

Given this same data, residential educational level seems to strongly correlate with broadband internet connectivity. 10% of residents with a bachelor's degree don't have internet, 31% of residents with some college education, and 46% of residents with a high school education are without internet. The survey also tracks the correlation between employment and broadband access. Employed Detroiters are also more likely to be connected to the internet (20-22%) than those outside the labor force or who are unemployed (32-37%). However, this data does not include citizens with disabilities and elderly citizens which are highlighted by experts and scholars as high at-risk groups impacted by the digital divide.

City Inclusion Efforts

In 2019, the city hired its first Director of Digital Inclusion to lead the charge in inclusion efforts. Since this program's inception, city officials have been hard at work building community partnerships and raising awareness to the need in Detroit for assistance in digital inclusion efforts. They have spoken on behalf of Detroit inclusion efforts publicly, in news media, as well as have testified as experts in a congressional hearing to stress the importance of prioritizing digital inclusion work at a federal level.

The City of Detroit defines digital inclusion as “an active process of equitably including residents and organizations into the technological ecosystem.” They have stated on the public record that they understand that “at the core of any digital equity initiative is understanding the plight of older adults, veterans, low-income families, disabled residents, small business owners, and unemployed Americans all seeking to engage in a digital society.” (Committee on Energy...)

So the approach taken to address the divide is driven by four areas with a primary focus on addressing the needs of those core groups. The city describes this approach as a ‘stool approach’ (commonly known by experts of the NDIA). Digital Skills, Device Access, Internet Access are the legs of the stool, and Advocacy and Awareness is at the top (see image 1 below)

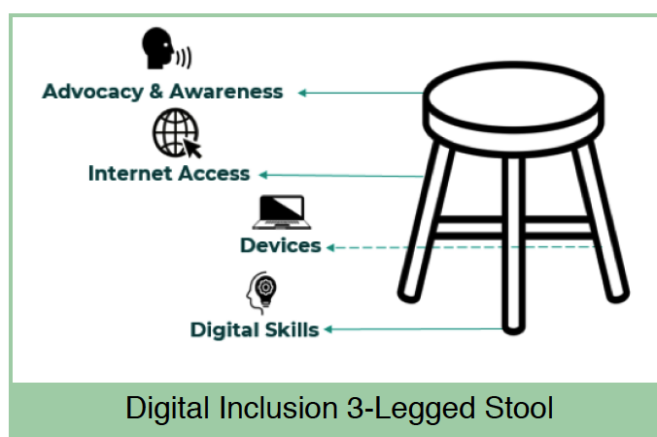


Image 1

Source (Connect 313 Timeline, Poverty Solutions)

As of January 2020, the new office of Digital Inclusion in Detroit reported their progress in each area of digital inclusion referenced by the stool. The categories within inclusion areas were: *Cybersecurity* under the “Internet” inclusion area, *Entrepreneurship and Digital Skills for Returning Citizens* under “Digital Skills” and *Academia* under “Advocacy and Awareness” highlighting the opportunity for a Michigan-based academic collaborative to continuously

research the progress of the digital divide. Additionally, *Faith* and *Health* fell under the categories of *all* inclusion areas.

Public and Nonprofit Sector Efforts

Nonprofits and public libraries in particular have been around for over a decade conducting work to support communities with digital inclusion efforts as well as building partnerships. There are a handful of well known nonprofits addressing both broadband access and the digital skills gap within the city through multi-layered approaches. Non-profits have been producing white pages on their work, highlighting their networks and why their work is important. More information on the City, Nonprofit, and Public organizational work will be discussed in the findings section of this report.

Academic Research on Detroit's Divide

Academic research has been published by the University of Michigan (Poverty Solutions), Michigan State University, and Wayne State University on the digital divide in Detroit. Researchers at the University of Michigan in the Taubman College of Architecture + Urban Planning visualized the disparities of digital access and exclusion in Detroit using publicly available spatial data in combination with information gathered from interviews with high school students in the city. They concluded that disproportionate neighborhood investment initiatives can be viewed as a continuation of historical discrimination efforts. The term they gave for the current uneven distribution of internet and accessibility is “digital redlining.” (Peñarroyo et. al) This is significant as it is an acknowledgement of how historical redlining and systematic racism

has transitioned into the current context of the digital divide affecting the same marginalized populations.

Poverty Solutions has published a paper on equitable access to broadband in Michigan asserting that “access to broadband is largely determined by Michigan’s state government and regulations, and the private sector.” (Narahariseti, 2018, p. 2) This research details some proposed and passed legislation around the concept of broadband access in the state, however, this research does not focus on Detroit specifically.

Researchers at Wayne State University, in collaboration with Michigan State, conducted a study of interviews, focus groups, and surveys of 525 individuals with Detroit residents to discover the levels and types of connection existing, as well as the barriers to the higher levels of connection such as at-home broadband and a desktop computer. From this research, they published a series of academic papers.

All of the low-income individuals and families who participated in this study said they understood the value of broadband Internet service. Those who didn’t have it said their circumstance was due to their inability to pay for the service. In general, “affordability is a major barrier to access, such as the cost of (a home) desktop computer, software and a subscription and fees with an ISP.” (Fernandez et. al, 2019) For example, “for many low-income people, broadband at home is often a choice between having Internet service and having food....Having the ability to purchase Internet service for the home at a reduced price supports low-income people in other aspects of their lives: it makes it easier for them to apply for jobs, improves their

computer skills for the workplace, helps their children complete homework assignments, and allows them to participate more fully in society.”

Detroiters interviewed said that even if they didn't have home broadband they would find ways of connecting by other means such as using cell phone hotspots or their neighbor's Wi-Fi. This research also highlights that libraries, who have been at the center of digital equity efforts for a long time need more funding. “In addition to providing public access—a crucial part of the digital ecosystem in low-income communities—new programs, such as library hotspot loans could provide a potential remedy to missing home Internet connections.” (Fernandez et. al, 2019)

In agreement with American Community Survey data, this study found that many residents are mobile dependent when it comes to internet access and the factors that contribute to this include age, disability, and education level. In addition, those who perceive Internet service as more costly and who don't have kids, are also likely to be more mobile dependent. (Reisdorf et. al)

The significance of this study was that it proved at least two stereotypes about the digital divide to be untrue in Detroit. “Almost all respondents (98%) reported using the Internet, suggesting conventional wisdom that Detroit residents are disconnected from the Internet and not interested in being online is a myth.” (Fernandez et. al, 2019)

While this research provides some helpful context from residents as far as how they see the digital divide, and neighborhood connectivity levels, these studies do not address the skills gaps,

or measure inclusion efforts that are underway in the city. There is still a lot of unknown information about the landscape of the digital divide in Detroit.

Lack of Academic Research on the Detroit Divide

In correlation with Dijk's critique that the topic of the digital divide in general is lacking in research, particularly qualitative research focusing on evaluative inclusion efforts, researchers at Michigan State University acknowledge that there is a similar need for more research to be done in Detroit. They warn that "this lack of research, in combination with assumptions surrounding Internet use and adoption, could create a practical and ethical barrier to meaningful interventions aimed at narrowing urban digital divides." Thus, the more digital inclusion research that can be conducted, the better off inclusion efforts will be in the city. The research in this paper hopes to continue to build on existing digital inclusion research to fill in some gaps in knowledge.

Methods

This research was carried out by conducting preliminary interviews with City of Detroit officials, nonprofit leaders, and other public leaders in person and via Bluejeans video chat to understand the scope of the Digital Divide from their perspectives.

The focus was to reach out to local organizations who may be in need of research assistance to help them catalog and measure their own success. However, due to the conflicting timeline of the University of Michigan and many non-profit's work schedules, it was determined that the best course of action would be to conduct a round of interviews with as many leaders in the space as possible and then following the completion of this research, determine opportunities for the

University of Michigan and Detroit leadership to collaborate on future research. determine what research collaborations may form in the future between the University of Michigan and Detroit leadership.

Recruitment

The participant recruitment process for interviews was conducted using the snowball subject recruitment strategy. This happened partly through email connection via the Detroit Office of Digital Inclusion, and partly through my own research and cold emailing those who I found to be leaders of relevant organizations in Detroit. Not all of these stakeholders identified in my initial search were available. However, I was able to reach 13 leaders and got information from all of them via email but not all were available for an interview. I was able to talk with 8 leaders in person, on the phone, and via video call, with a follow up email or telephone conversation. I conducted these interviews with participants from Detroit based digital inclusion nonprofits, the City of Detroit, The University of Michigan, Detroit Public Libraries. All names of participants and their organizations that were interviewed were anonymized to protect their identities. Additionally, secondary research was conducted with leaders of nonprofits, the city, research institutions, and public libraries. This secondary research included published work on organizational websites, print materials such as the white papers published by community leaders, and other online resources published by identified stakeholders including those interviewed. The findings in the following section primarily represent those I was able to reach directly for interviews who also had published materials and websites from which I could pull mission and vision statements, as well as literature on their programs and goals.

Documentation and Analysis

All conversations and emails were documented, transcribed, and recorded. Interview protocol and outreach documents can be found in the appendix of this report. Hand notes were taken lightly during each interview as guidance and reference points; reflectional observations through the form of memos were recorded after each interview by me with high level thoughts. All transcriptions were anonymized and uploaded into NVivo (12) to qualitatively code them for themes and capture important information for this report. I took two passes through coding these interviews to capture and aggregate similar information together. Then I coded through the secondary research uploading those documents to NVivo (12) and coding them twice for patterns as well. I compared themes from primary datasets to the secondary datasets. The aggregated list of themes that came through the second pass in NVivo (12) included: barriers, goals, needs, skills gap, partnerships, networking and outreach, strengths/values, existing programs, existing partnerships.

I then used the affinity diagramming method to compare similar quotes and insights from these themes together. I did this by printing them out, and then grouping similar quotes and insights together forming a cluster. Then I formulated a sentence or two capturing the information in each cluster. After capturing this information from websites, white papers, and interviews, I went back through my literature review and did a second round of research using scholarly sources and pulled out pertinent information to put in the form of an outline for this report. Among the secondary data collected from organizational sites were that of the City of Detroit, Libraries Without Borders, The Detroit Public Libraries, Focus Hope, Allied Media Projects, Detroit Futures, Human IT, Detroit Community Technology Project, and the Equitable Internet

Initiative. Previous interviews analyzed in this secondary data collection were published on Youtube as well as on organizational websites. The draft of this report and findings were reviewed by my thesis advisors and the abstract and relevant sections were sent to several participants for review before publishing.

Research Questions

In the following section of my findings, I address the following questions:

Who are the stakeholders and community changemakers in Detroit working on digital equity and inclusion and what are their networks like?

How are they going about making change and closing the Digital Divide?

What are their biggest challenges and what are their individual strengths?

What is the current landscape of the Digital Divide according to the Detroit community leadership?

Findings

In the sections below, I discuss the findings regarding our initial research questions. First, we will talk about the stakeholder map as well as the stakeholders that were focused on in this work. Then, a summary of findings followed by more detail on how nonprofit, library, and city leadership address connectivity and skills gaps within the city. This section will then explore several collective needs such as the need for more partnerships, research, and workers dedicated to continuing this work.

Stakeholders in Detroit

This research determined the list of stakeholders of the digital divide in Detroit to be the citizens, non-profit organizations, religious partners, public libraries, city government, educational institutions, research institutions, Internet Service Providers (ISPs), and other companies. The primary stakeholders are the citizens of the city including community leaders because they are directly the most affected by the digital divide. The secondary stakeholders are research institutions, ISPs, and other companies as their work contributes to the closing of the digital divide in Detroit.

Scholars from Wayne State and Michigan State University have published data that show nonprofit, library, and community leadership are at the core of digital equity and inclusion efforts in Detroit. “Libraries, community centers and non-governmental organizations working with residents in distressed areas often provide support for accessing the Internet. They might also play a powerful role by encouraging and enabling individuals to help one another in their respective social networks, such as by identifying individuals who can coach others. (Fernandez et. al, 2019)

These leaders understand the vast complexity of the digital divide spectrum and the work needed to reach equity and inclusion goals. In order for them to be the most successful in reaching their goals, they need sustainable research support and financial partnerships both within and outside of Detroit. Partners must be in consistent collaboration and alignment with all stakeholders to be properly helpful and supportive of their efforts. There is a strong need for more research to be conducted in this space so leadership can keep track of their impact and have strong reference points to guide their decision making. Sustainable, empathetic, and trustworthy partnerships are

important to ensuring this data gets collected and delivered to the right stakeholders in digestible, actionable formats. Identified needs of future work must be clearly understood, clarified, and revisited to appropriately drive the work. More research efforts to include the voices of the people who are impacted by the facets of the divide needs to be conducted. The research and the work is important, but what is most important is that those doing the work truly understand Detroit.

Not all residents are aware of the term digital divide, or that such a thing even exists. One Detroit resident mentions that since learning about the digital divide, she sees that in her community engagement work that the digital divide comes up when there's a difficulty with residents accessing resources online. The notion of the digital divide as described in this research isn't widely understood and acknowledged by most Detroit residents. Some residents don't think that they are disconnected, particularly if they have a smartphone, they just think that there's an issue with the method of information being delivered. They often raise concerns only when they encounter an issue with information access.

“Nobody wants to talk about not having access to the internet in typical engagement capitals. So it doesn't come up in a lot of community reports. It doesn't come up in city council meetings most times. When people are talking about some of the things that they're having challenges with, that's not one of the main things that's talked about...it isn't until you try to provide a resource and people can't access that resource that it comes up.” (Stephanie)

Oftentimes, organizations don't realize that their mediums of information sharing may not be reaching their audience. This knowledge of a spectrum of connection and access to information, especially digital information, is rarely uncovered until organizations hear directly from people

that they are unable to access a resource. However, once organizations are aware that they are not meeting their audience as effectively as they thought, this catalyzes the desire to incorporate more digital inclusion efforts into their frameworks.

Nonprofit Leadership in Detroit

Since the realization that the infrastructure was unsuccessfully supportive around digital inclusion in Detroit, community leaders have been serving as that base level infrastructure for over a decade. This concept of people as infrastructure emphasizes the economic collaboration among residents who are seemingly marginalized from and immiserated by urban life as part of what makes the city productive. (Simone) Essentially, these leaders have been holding down their communities providing stability with their actions and interactions with others, gradually growing and raising awareness to the issues of digital inclusion in their communities, and to the general public for almost two decades. Their work has been the catalyst for the growth of inclusion efforts within the city. In fact, a community leader acknowledges that “it wasn’t until nonprofits started going out and doing their work that then the city realized just how serious of an issue this was.” Non-profit leadership has been effective at forming organizations whose missions centralize around education and empowerment of Detroiters. Nonprofit and public leaders understand that the digital divide is not binary, not only restricted to those with broadband and device access and those without, and their multifaceted efforts and programs prove it. They have been raising public awareness to the digital divide by amplifying the voices of those affected through media and outreach events, and initiating efforts to close the skills gap. The non-profit leaders in Detroit I spoke with are adept at identifying their community needs

pertaining to digital equity and are resourceful and innovative when it comes to crafting and implementing solutions to meet those needs.

The primary supporter of digital equity in Detroit is the nonprofit *Project Media* —known as PM. It's been the catalyst for the important work undertaken by many other leading digital equity nonprofits like the Local Justice Group (LJC), Community Technology Group (CTG), and Internet Access Group (IAG). PM is a national organization that is based in Detroit with the broad mission of cultivating media for liberation and a substantial amount of their work, although expanding internationally, is done in Detroit.

PM achieves its mission in three ways. First, through support and growing their network, they reach this first goal by providing administrative services that increase their communities' ability to access resources to succeed practically and sustainably. The PM Sponsored Projects Program provides fiscal sponsorship, training, and capacity-building to people and projects aligned with their mission.” (PM) Their second goal is to convene and shape their network, this is done by hosting an Annual Conference (AC) which has been held every year for the past 20 years, and by funding Detroit-based projects. PM's third goal is to amplify the power of their network which they do through their People's Voice, a list of bookable talent in the PM network. (PM) The continuous work done by PM over the past few decades has placed them at the heart of the city's digital inclusion efforts.

Two other prominent nonprofits working in the city are the CTG and the Local Justice Group (LJC), both of which have shown to be the most successful nonprofit organizations working on

digital inclusion and equity efforts in Detroit. Understanding how they view the digital divide, digital equity, and about their impactful approach starts with learning how they formed and what guides their focused work. The CTG was born from a conversation at the annual Conference in 2009 around the topic of how funding for the Broadband Technology Opportunities Program could support the previous community work building networks and support for social justice movements. The diagnosis of the digital divide in Detroit was complex and leaders knew that broadband access was insufficient as a solution to the layered issues Detroit was facing by being disconnected. At the LJC, they understand that Detroit is a diverse community and its citizens fall into many different categories of connection and disconnection forming a spectrum of access and digital literacy. It was at this AMC that community leaders crafted a vision for a “healthy digital ecology,” a vision where Detroit Citizens have equitable access to ICTs; access is a need just as critical as the ability to acquire digital skills, and a right that will engender citizens to support their communities.

At their inception, the LJG chose to take a qualitative approach—or as information scholars would call it, a “human centered approach”—to solutioning by interviewing their members who were using media and technology for community organizing or grassroots economic development. They aggregated themes and formed what they refer to as Digital Justice Principles to guide their solutions. These Digital Justice Principles provide us clear criteria necessary for any designed solution. Their solutions and work since then have been centered around the immediate needs of Detroiters, specifically addressing the awareness and digital literacy gaps of the divide. One successful solution is their creation and implementation of "DiscoTechs" or

Discovering Technology Community Fairs. LJG describes them as events where people can discover and learn:

“[DiscoTechs] feature interactive, multimedia workshops designed to demystify, engage, and inform the community about issues of Internet use and ownership, and our communications rights on and offline. The LJG's DiscoTech model has spread far beyond Detroit as the model has been shared through sessions at the (Annual Conference) and through the 2012 publication of the How To DiscoTech zine.” (LJG)

The CTG is a member of the LJG, and their work addresses the aspects of the digital divide focusing on disparities in broadband internet access and IT skills development through their IAG and Data Justice programs. They do this work by also increasing their network and partnering with other community based organizations. According to their website, the IAG is a collaborative effort with CTG. They work across Detroit neighborhoods in partnership with three churches in addition to having another partnership in New York. One of IAG's goals is to increase Internet access through shared Gigabit Internet connections. Another initiative, the TechSkills program, strives for internet adoption and community-centeredness by training neighborhood leaders in skills needed to create and implement local wireless networks. This TechSkills program trains neighborhood leaders in skills needed to create and implement local wireless networks. Their work also addresses the skills gap of the digital divide by creating literacy pathways for residents so they can access more opportunity in Detroit's tech sector. Since their inception, CTG has implemented the TechSkills training with leaders from seven Detroit neighborhoods, and four IAG neighborhoods in both Detroit and Highland Park.

Nonprofits Tackling the Digital Skills Gap

Another nonprofit, DetroitData, is a leader in data organization and city wide public data access. The DetroitData mission is “to provide accessible, high-quality information and analysis to drive informed decision-making.” They understand the importance of data to better understand the community. They acknowledge that by “using data, we can have informed conversations about the current state of our community, how to best deliver resources, and create the deepest impact.” They have interactive data tools online known as their “toolbox” that includes projects that have downloadable accessible data open for public use. Sharon at DetroitData also said they host “in-person Ask DetroitData office hours, where we go in and we’ll meet with some people for 45 minutes in person and help them with data questions and stuff. And we have Data University there, which is a six class cohort model, where people walk through from like data 101, through some data basics, some data analysis basics and excel tutorial.” (Sharon)

This community outreach effort to demystify data for citizens may sound familiar, because it is very similar to the citizen-based approach that CTG takes with their DiscoTechs. These organizations realized their similarities and have partnered on several projects. There are two projects in particular that highlight the success of this partnership including the 2020 Census outreach and informational resources in partnership with CTG, and the Detroit User Testing Group. DetroitData defines this group as “a network of Detroit residents who participate and are paid for their participation in user tests of websites, apps, and tools that have been created by the City of Detroit. During these tests, residents evaluate and provide real-time feedback on the resource’s usability from the perspective of the intended audience.”

Their partnerships with the CTG and LJC have shaped the way DetroitData views digital inclusion now as integral to their work. Online, DetroitData has published that “in terms of the digital divide, DetroitData recognizes that “organizations need to come together and collaborate to design strategies to foster digital inclusion with the input of the Detroit residents who are largely affected by those solutions. Designing *with*, not *for* is a sure-fire way to ensure solutions are effective and sustainable.” (Sharon)

Other successful nonprofit partnerships exist within Detroit that follow this pattern. Shared values, goals, and a core understanding of the communities they serve are important. Leadership and partnerships are also formed outside of the non-profit sector as well. Recently, public leadership by librarians has been increasingly successful at identifying needs, implementing programs, and forming external partnerships of their own.

How Detroit Libraries Are Closing the Skills Gap

Librarians like nonprofits in Detroit, are close to the public, specifically at a neighborhood level and have been able to address the issue of growing citizens' technology knowledge and digital literacy in their own way. The findings uncovered through these interviews support the scholarly assertion that “libraries, community centers and non-governmental organizations often provide support for accessing the Internet. They might also play a powerful role by encouraging and enabling individuals to help one another in their respective social networks, such as by identifying individuals who can coach others.” (Fernandez et. al, 2019)

One example of the important role librarians play in addressing the digital divide at a neighborhood level can be best illustrated by Qumisha's story. Qumisha teaches and develops technology literacy curriculum in Detroit to teach her patrons both young and old. She speaks to the importance of digital literacy as "at this point, life skills." She knows the desire and ability to learn new skills is present in her patrons. If there are opportunities and support for that learning to take place she has proven this with program success. In their library, they see that their Cyber Seniors Program and Youth Coders coding program have been successful at not only teaching skills, but attracting more citizens to grow the programs over time. "They (the kids) advanced very quickly" when learning how to code. They also enjoyed themselves. "Right after we did it, more kids came immediately, so we ended up running it (the program) twice in the same summer." (Qumisha)

The programs that these libraries have been created take a community-based, human-centered approach to solutions, a method shared by the nonprofit networks. Successful libraries identify needs and create solutions based on those needs. For example, with too many kids in the library wanting to use a computer, Qumisha identified the need that kids wanted to use computers. She also saw this as an opportunity for their learning to improve. She took the initiative to teach herself the skills she needed to support them in this way and developed the Youth Coders program so that they could both enjoy their computer time and learn skills. She has developed many other programs through similar observation of local problems and opportunities for solutions. Another example of innovative solution design is the Wash n' Learn project in partnership with an international library based nonprofit which focuses on bringing education to the public in a laundromat, a space that patrons need to frequent anyway. Librarians take turns

showing up at a Wash n' Learn with their own curriculum and activity planned for whoever is there that day. Other libraries followed suit and there are two other Wash n' Learns in other neighborhoods. There is no strict programming shared across each location, all librarians invent their own curriculum based on their knowledge of the neighborhood and what their patrons are interested in learning. This work isn't always easy and librarians acknowledge that there is a lot more they could do, but they need help to do it.

“I think the hardest thing for me in doing any of these programs and partnerships is getting buy-in from other people. You know, you have to get buy-in to make it work. As a librarian, I don't have the power to push a whole thing. I can start a program here and then when they see it successful, then it can expand.” (Qumisha)

A coalition of inclusion support for librarians would be helpful in making sure that each time there was a programming opportunity and idea, that it was able to be implemented, even scaled, to meet the needs of community members who need it.

The entrepreneurial savviness of Qumisha's branch has been extremely successful at gaining national attention and has gained partnerships with local organizations and Quicken Loans, as well as nationally recognized partners like Microsoft and the MIT Media Lab. When it comes to partnerships, Detroit librarians are very cautious to ensure that values align. *“They (prospective partners) can have \$1 million but if their values don't align with ours it's not going to work”* (Qumisha) A prospective partner may come in with certain program ideas that might be helpful to a community, but may also contradict its values. For instance, a “Code for Girls Program,” while well-intended, may not be a great fit for a library which values inclusion of all groups because it would exclude patrons who are not girls from learning. This doesn't mean this idea

—or any outside idea— can't be done in Detroit (and even reach the right people), but for a partnership to be successful, a partner needs to take a community-centered approach and align the project values with community values first, or find a different place to do it.

It is important to understand that there is a lot of opportunity in Detroit, but place, values, and missions are important factors to consider when embarking on program development. In addition to developing and implementing their own programs, librarians also keep in close communication with city leadership to continue to discuss their goals and future partnership opportunities. Qumisha says she is “always thinking of future partnerships, and keeps opportunities and connections open” when she sees a good fit.

The City of Detroit's Digital Inclusion Efforts

The city has been making some progress over the past few years in increasing their digital inclusion efforts. The most evident action they took was forming a partnership with Poverty Solutions at the University of Michigan to fund and hire a Director of Digital Inclusion. This role is responsible for forming sustainable partnerships with technology companies, ISPs, and other organizations. The city's goal is to continue connecting and growing the local network of inclusion leaders among Detroit's nonprofit organizations, educational institutions, companies, and small businesses. They hope to achieve this goal and by continuing conversations with these stakeholders to raise awareness about the importance of digital inclusion and increase partnerships to grow in the city.

In just two years, since the formation of the role in 2018, the Director of Digital Inclusion has been extremely successful at forming partnerships and harnessing the attention of the private sector and the federal government. The Director's efforts included joining the Census 2020 Subcommittee, speaking at the 2019 Net Inclusion Summit, hiring native Detroiters as summer digital inclusion interns, and several/many other speaking engagements at universities, conferences, and summits. Most notably perhaps is his testimony to Congress to highlight the importance of Digital Inclusion work and to request federal engagement and assistance for Detroit in inclusion efforts. Building partnerships is key to the success of the City's inclusion efforts. "Partnerships are key to this working, we need all the help we can get, everyone is welcome to help" says the current Director of Digital Inclusion, Joshua Edmonds.

Challenges to Growing External Partnerships

However, external partnerships can be harder to build and sustain than internal partnerships due to their location, often outside of Detroit. Additionally, the further the distance from Detroit residential life a partner may be, the more difficult it might be for them to truly understand the needs of Detroit residents which is essential to digital inclusion efforts.

Community-based organizations need to know the partnership is honest, reliable, and sustainable if it is to form. Unless someone has been around for a long time building relationships and status by engaging actively in the community, a partnership will take longer to form or the offer to partner may be dismissed entirely.

This commitment to building foundational relationships is something that outside organizations and research institutions need to be aware of when they intend on contributing to digital

inclusion efforts in Detroit. Local leadership acknowledges the value gained from external partnerships like increased awareness, documentation of the problem, as well as fiscal sponsorship.

PM says that they are trying to do this by “creating more options for folks, so that we’re not the only options for funding for organizations,” and by “Figuring out how we can leverage and share what we’ve learned about fiscal sponsorship to help others develop fiscal sponsorship programs.” But it’s still a challenge for PM’s projects and the projects PM can’t take on because they don’t meet the organization’s threshold criteria. This research uncovered that the biggest desires of government, local organizations, and community leaders like librarians are for external partnerships which provide both fiscal sponsorship and increased research and documentation of efforts to bridge the digital divide.

Leadership across the board needs more support

A big challenge for leaders is being able to address all the outreach that they receive from citizens, partners, and companies. Currently, people hear about organizations through “word of mouth” and through local networks within the city. Often, leadership is connected to a potential partner through mutual contact. The potential partner wants to and can contribute assistance to their efforts. However, they don’t necessarily understand the work that a leader needs to do on the back end to make sure that assistance is appropriately placed, allocated, and sustainable. When asked how city leaders manage the influx of outreach, they mention things like, “it’s definitely hard, right now it’s just me” (J. Edmonds) and they have so many other things to do that those propositions can pile up easily. This trend of having a backlog of potential partners

exists among city leadership, libraries, and nonprofits. These lists of potential partners aren't always documented due to the overwhelming workload that these leaders experience. "It's in people's heads" says a community engagement manager. If the information to collect networks exists within people's heads, this can be a bottleneck when information is needed by many organizations and individuals from the same person at a time. If one person receives hundreds of outreach emails a month for example, and that same one person is responsible for replying, this is not sustainable. Leaders can get sick, go on vacation, change organizations, etc. and that causes further rifts in information networks.

Multiple participants expressed a desire to have some sort of collective or network database so that those who want to help and contribute to inclusion efforts can be directed to the right people so they don't bombard the wrong people with asks. Participants also acknowledged that they often feel overwhelmed and that they could use help organizing all of the communications they receive. Some of them have their own websites they can point people to for information, but there are currently no existing online portals where potential partners can see an aggregated directory of organizations contributing to this work, request information, and find the proper point of contact. This would be helpful for companies reaching out to donate money and hardware, but it would also be helpful to connect inclusion based organizations with academic institutions to get research assistance. Poverty Solutions at the University of Michigan expresses that although they are very connected in Detroit, there are potential partners that don't know about their services "some of the more grassroots groups still don't know we exist." (Stephanie)

There's a city-wide need for more research and data collection

There is a need for more data to be collected to uncover more contextual information and continuously understand what the actual needs of Detroit citizens are and why they occur so leadership can better address them. “Honestly, at this point, anything helps” a city leader says when asked about research priorities and data collection that is needed. Nonprofits are mostly aware of the assessments that need to happen to understand how they are progressing, but they don’t always have enough resources to meet their desired timelines for this work. “We get asked about it (our impact) because the city needs that information, I was just asked about it and I have to say right now we just don’t know” one non-profit leader says. She explains the desire and opportunity to form strong research partnerships is there, especially pertaining to qualitative research, but it isn’t as strong of a priority as getting the resources and skills to the people who need it. “We haven’t been able to fully measure our impact yet, it is something we absolutely want to do, we know we need to do it, we just haven’t gotten to that yet” a nonprofit leader mentions. Measuring impact is important for nonprofits and city leadership in particular because it uncovers the true root causes of the issues they are working to solve.

DetroitData also acknowledges that they also have a need for more research. Their desire is for more qualitative work to uncover the thoughts, feelings, and behaviors that are often missed in their current qualitative data collection methods. DetroitData acknowledges that often the lack of qualitative work puts their projects at a disadvantage because without the voices of community members, the dataset is incomplete. They know this because they have been able to do qualitative work before as a check on their visualizations, in partnership with CTG and Detroit residents, and they saw how valuable it was.

“Having those community organizations that are on the ground and working directly with residents is really helpful 'cause they were able to, early-on in the design phase, test at DiscoTechs...We got some really good feedback from community members...and we were able to adapt those resources to better serve residents. Consistently having that feedback from community members is something that we don't always have in DetroitData on projects.” (Sharon)

This is an example of a successful research effort between nonprofit organizations within Detroit. The DiscoTechs (short for discovering technology) run by CTG have been successful at reaching Detroit citizens because they come from community leaders themselves. Their programming constantly relies on citizen needs and feedback. DetroitData saw this as an opportunity to strengthen their own work and reach the residents that were their end users for their project early on. While this effort was successful, it was one project, in one space, with one group of people. This collaborative effort can serve as an example for other collaborative research opportunities to occur in the future.

The Role of Academia in the Digital Divide

A 2010 project between Michigan State University and the LJG exhibits a successful partnership between academics and Detroit community leaders. They submitted a joint proposal to the Broadband Technology Opportunities Program and were awarded two grants - one to support improvements to public computer centers at LJG member organizations and another grant to fund digital media training programs and a youth media network. This funding enabled The LJG to launch an initiative focusing on educating Detroit's Youth and empowering citizens

through media. This shows the financial support that an institution can provide to Detroit inclusion based organizations so they can achieve their goals.

Before committing to research efforts on the digital divide in Detroit, researchers must understand the complexity of the digital divide, be willing to build and keep trust over a long period of time by continuing to show up, even when they mess up, with partner organizations in Detroit in order to prove a worthy partner. Additionally, Detroiters should be involved in any research efforts whenever possible to ensure that the research accurately addresses the needs of the biggest stakeholders in the divide.

Academia has been involved in some research efforts around digital inclusion in Detroit, (such as the Wayne State and MSU survey of residents and internet use) (Fernandez et. al) but there is a lot of untapped information that would help city officials make decisions. In particular, there is a shortage of research coming from within Detroit. Although partnerships have been formed between Detroit academia and outside institutions, there are not nearly enough partnerships and sustaining relationships to continue this work and capture the various contributing factors to Detroit's digital divide.

It is rare to find researchers in institutions outside of Detroit who are from the city and actively engaged with community leadership there. Projects such as the University of Michigan in the Taubman College of Architecture + Urban Planning study (Peñarroyo et. al) often start and stop after one round of data collection and analysis. This may be due to funding efforts, but ultimately this is an unsustainable form of data collection for Detroit community leaders to rely on when

tracking progress. Additionally, if the researchers are based outside the city of Detroit and do not frequently keep in touch with Detroit leadership, it may be difficult for their research to reach the right people and be interpreted correctly. However, there are some examples of successful research partnerships between the city and academia that include Detroit citizens in the process. For example, the work of the Ginsberg Center and Poverty Solutions at the University of Michigan in collaboration with the city both are successful at partnering university students, faculty, and staff with community organizations.

A Detroiter and employee at Poverty Solutions said that in order to have their work be successful, they need to be “finding who those people are that get it, get research and get community is important, those are the people that usually have existing relationships with U of M, Wayne State, MSU, they have existing relationships because either they're alumni and they work in the city and they live in the city or they just work for so long and didn't just cut ties with research educational institutions.” This is hard to do, and it takes a long time to build trust between research institutions and residents so they do not feel exploited and then left without a useful deliverable. “I think the biggest, or one of the biggest challenges is access to information.” There is an opportunity to form more research collectives in Detroit that are dedicated to this work to ensure that the proper information gets recorded and it reaches the correct recipients.

The voices of Detroiters are imperative to the success of inclusion efforts

Having Detroiters and those who deeply understand the Detroit communities at academic institutions is important because not only can they provide the most accurate information about their experiences, but they can also act as translators of research to different audiences who need

to be educated. If these voices in leadership are missing, it is seen as a research based organization's weakness and challenge. "Striving to just figure out how to frame things and talk to people is challenging especially because Detroit is a very diverse place...There's no one aspect to all-answer. I think it is the challenge of figuring out how to narrow that communication effort in a way that targets somebody, but also doesn't exclude somebody else who might haven't heard it." (Sharon)

Poverty Solutions has one Detroiter in particular on their leadership team who is very successful at translating research into various forms based on the audience. They stay constantly engaged with organizations who might need support, and acknowledge that to be successful at getting information to the right folks, the format matters.

"A lot of times when we have done some sort of research...but it's in a policy brief, and the policy briefs are really great for a particular audience, but when I'm trying to connect that research to Detroiters, it gets lost in translation. A lot of times I have to be that translator of the takeaways to explain it to them in ways that they can understand. Being that connector and the translator to kinda connect it to what people are truly experiencing in their lives and in their homes has been key." (Angie)

In-person engagement from trusted sources who can provide deliverables that are easily digestible and accessible are critical to educating Detroit residents and stakeholders on the complexity of the divide and how it affects them.

Academic research can be translated into varying deliverables. Poverty Solutions produced a Home Repair Guide as a pdf that could be printed off and distributed because they were getting

so many questions about how Detroiters could fix their own homes. A Detroit and university employee was critical in making sure that this work got to the right people. “What a lot of residents are experiencing is like, “Okay, I know they (assistance services) are out there but like how do I connect to it? And I think that’s why the Home Repair Guide was so key because people were like, “Oh wow. Like you guys did all the scraping and just put all the resources in this, in this guide.” She mentions that now after learning that, publishing work pertaining to the digital divide may take the same form.

Another example of how translation can be important is that during the census work between DetroitData and CTG they realized that they needed to contextualize the importance of the census in relation to how it would actually impact the Detroiters they were trying to reach. They determined that getting citizens to understand the value of the census would mean phrasing marketing/outreach material in the form of “if, then” statements. Such as “if you fill out the census, then it will help people be able to access healthcare, or fix roads, etc.” To model future solutions off of the success of the census, it can be concluded that Education around digital inclusion needs to be similarly centered around tangible and actionable examples and be available in forms that people can access without a computer. Information needs to meet Detroiters where they are at. Detroit organizations need research that can be effectively communicated to solve their problems. “A challenge is qualitative data collection, and then it’s just like our normal challenge of how do we actually effectively communicate what we’ve created.”(Sharon)

Detroit organizations have a strong desire to employ more Detroiters with the skills to do this work, and they want them involved which is why addressing the skills gap is so important. “You have a meeting... room full of people who work in the city department, but you don't necessarily always have the average resident.” (Sharon) This can change, and like the nonprofit solutions, the city wide initiatives can better reach people if they are included in the decision making process. “One of the big challenges (DetroitData) has run into is that we're a very stat heavy, technologically driven organization. And it's really hard to find talent that is from Detroit. We would love to hire Detroit residents and things like that. But it's really hard to find people who have the technical skills to fill the positions that we need.” DetroitData leadership has been intentional in thinking of ways to create a pipeline of talent from schools in Detroit to companies like theirs. “Making sure that we have a resident voice at the table for every discussion we ever have, would be really great.” (DetroitData)

Summary of Findings

In summary, nonprofit and public leaders are at the core of digital equity and inclusion efforts in Detroit. This leadership best understands the vast complexity of the digital divide spectrum and the work needed to reach equity and inclusion goals. In order for them to be the most successful in reaching their goals, they need sustainable research support and financial partnerships both within and outside of Detroit. Partners must be in consistent collaboration and alignment with all stakeholders to be properly helpful and supportive of their efforts. There is a strong need for more research to be conducted in this space so leadership can keep track of their impact and have strong reference points to act on. Identified needs of future work must be clearly

understood, clarified, and revisited to appropriately drive the work. The research and the work is important, but what is most important is that those doing the work truly understand Detroit.

Discussion and Future Opportunities

This research highlights a wide range of opportunities for new partnerships to form and existing ones to deepen both within and outside of the city to continue Detroit's digital inclusion work. According to the NDIA guidebook for building a successful digital inclusion coalition, the insights of this research show that there is a foundation of a coalition already existing within Detroit. For example, nonprofit organizations have provided the groundwork for a larger coalition to form by already establishing digital justice principles, defining their goals and vision for digital equity, and by publishing literature on how to teach community technology workshops etc.

Interviews with librarians and community leaders proved not only that they are providing support in Detroit for internet access and skills development, but they have the trust and capabilities to increase their networks by identifying, coaching and helping others. This insight reinforces Fernandez's assertion that librarians, community leaders, and nonprofit leaders hold power as community encouragers (Fernandez et.al, 2019) and can be looked to as leaders and strong contributors to a digital inclusion coalition.

Perhaps the greatest opportunity is not only for an official digital inclusion coalition to form, but that the coalition create a publicly available resource of aggregated information to reach the Detroit public as well as outside organizations and research institutions seeking to develop

partnerships with or be allies and sponsors of said network. Based on the findings from interviews with leaders asserting their overloaded schedules, it may also be useful for this resource to serve as a location for FAQs to live, as well as a digital intake form to organize outreach and information requests to alleviate their workloads.

These findings also determined that there is both opportunity and desire for academic researchers to contribute more to digital inclusion efforts in Detroit as partners and potential coalition members to support and track the city's progress. Previous research from MSU and Wayne state as well as the City of Detroit's Department of Digital Inclusion summary report highlight the need for more academic research in order to track and document progress of the digital divide in Detroit. In particular, these interviews uncovered that there is a strong need for evaluative (and primarily qualitative) research of inclusion based organizations in Detroit. This echoes Rhinesmith's findings that digital inclusion based organizations recognize the importance of evaluation based frameworks, but they have not been able to implement them.

Insights from organizational leaders in search of more partnerships with other leaders echo the notion that "a coalition's leaders should include local voices that lend trust, credibility and a community-centric perspective to the coalition's efforts." (Callahan, 2020) Thus, if an inclusion coalition forms and academic institutions lead research efforts, it is crucial that they include the voices and perspectives of Detroiters as much as possible. Something that future researchers and hopeful external partners can learn from this study is how to better support the existing efforts, needs and goals of Detroit in their work. They can do so by familiarizing themselves with the

community history and needs of each area as well as collaborating closely with community leaders and meeting them in Detroit as often as possible.

I realize that not being from Detroit, or Michigan for that matter, is perhaps my greatest weakness as a researcher in this space. I realized this when I was reading through the history of Detroit as well as when I was interacting with participants. I wish that I had much more contextual knowledge when I embarked on this work. However I now realize, and my findings confirm this, that the context I desired could only come from a long time trusted partnership with the city, or from being a resident myself. Although I was acting in partnership with leadership, I did so without an established history serving Detroit or strong community ties, two key qualities of an ideal partner. Luckily, this research leaves the door open for more research to follow, preferably by or in close partnership with someone who embodies the qualities that I lack to make a more ideal partner.

Based on the insights from librarians and organizational leaders in what they look for in an ideal partnership, it can be suggested that an ideal research partner would be one based in Detroit, where the researchers are Detroiters themselves, and/or employ other Detroiters to conduct and interpret the research, especially the evaluative research that needs to occur at the nonprofit level. This ideal suggestion isn't to say that academic partnerships outside of Detroit are not important or that their contributions might be helpful. At this point, they have the ability to and are publishing research that can be useful for city decision makers and more work is publicly desired by the city. However, there is also talent in Detroit with the presence of universities and colleges that can be leveraged in this research effort. Given the desired traits in partnerships by

community leaders in this study, outside researchers might not always be the best candidates to be leading research efforts if they don't have the long standing community relationships built as well as the lived contextual experience of a Detroitite. While it may be that the ideal research scenario is not always attainable, striving for this ideal would ensure that any future work would best serve Detroit residents, the primary stakeholders in this effort.

Based on insights from the survey data analyzed by Wayne State University and Michigan State University, research efforts and data collection particularly qualitative work in speaking directly with residents is essential for understanding and putting more language to the issues of the digital divide in Detroit. The need for evaluative research presents an opportunity for academic institutions to support the city and local nonprofits in Detroit. Researchers can discuss and create a collective set of goals in direct alignment with the research needs of public and nonprofit leaders. They can create research protocols and initiate the first round of evaluative research at each organization and bring Detroit residents in and train them in best practices to carry on the work without future assistance. One example of this might be for an academic researcher to implement a data collection system where there is a follow up with attendees of workshops

Bountiful opportunities exist for academic institutions to sponsor Detroit talent and support local organizations by creating more data skills workshops, coding programs, and by providing more scholarships for students to pursue secondary degrees in IT, Information Science, and Computer Science programs, among others. As we learned from the Sponsored Projects Director at PM, and as NDIA highlighted in their inclusion coalition guidebook, there is also an opportunity for

inclusion-based nonprofits to increase their capabilities through increased fiscal sponsorship. A strong digital inclusion coalition requires continuous financial support.

In summary, the leaders of nonprofits and public focused groups have been filling a much needed gap in the technical infrastructure in Detroit for decades, acting as vigilant protectors of their community. While their community organizing efforts are seemingly effective, many of these leaders still acknowledge the need for help in the forms of research support, financial sponsorship, and amplified messaging of their needs and goals. Partners who answer this call from Detroit's leaders for support must be attentive and understand the unique needs of Detroiters in order to prove helpful and effective. Research partners in particular must be a part of creating a sustainable research collective within and surrounding the city that can continue to support and evaluate inclusion efforts in the future. New city leadership and sequential partnerships still continue to form around digital inclusion efforts in Detroit, bringing more hope to the existing leadership in the space and inching closer to the creation of a strong digital inclusion coalition within the city. As Mr. Edmonds has asserted: “the goal is to make Detroit a national model for digital inclusion...the recipe for successful digital inclusion in every city boils down to four things: partnerships, funding, engaged residents, and political will. I believe Detroit has every one of those points in excess.” Leadership believes that their desired goal of digital equity can be attained. However, in order for this to happen, it is critical that the work of Detroit’s inclusion organizations and leadership be recognized, that they are leading the charge, and that a coalition develops around them to financially and documentarily support them. To make strides toward a successful inclusion-based coalition, all stakeholders –government, large and small businesses, community organizers, non-profits, and the citizens of Detroit– need a

commitment to understanding each other and alignment to Detroit's values and needs. If such stakeholders can form an inclusion coalition that not only aggregates and publishes their work for public consumption, but that also has supportive financial backing, shared language, aggregated information, increased people power, and resident-centered research efforts, inclusion and equity efforts can be successful.

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