



Leveraging Technology to Scale Up Small-Business Lending

A Guide for Community Development Financial Institutions and Their Funders

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Small businesses turned to government and financial institutions for the support they needed to keep their businesses from closing amid the existential threat of the COVID-19 crisis. At the front lines of meeting this demand for the smallest and most disadvantaged businesses were community development financial institutions (CDFIs), which collectively distributed more than \$30 billion in Paycheck Protection Program (PPP) loans, administered relief programs for small businesses on behalf of state and local governments, and offered technical assistance and other educational resources to small businesses struggling to stay afloat as they navigated the uncertainty of the pandemic (SBA 2021). Yet CDFIs face several capacity limitations (Seidman, Fazili, and Theodos 2017), including effective and appropriate technology tools, which can be key to scaling their impact on the small-business landscape. This brief explores how CDFIs can best leverage technology to increase their capacity to serve small businesses.

The PPP, as well as other federal government programs such as the Emergency Capital Investment Program and the CDFI Rapid Response Program, dramatically increased the volume of loans flowing to CDFIs. In the aftermath of George Floyd's murder in 2020 and the protests that followed, many philanthropic organizations also took action, providing considerable support to CDFI small-business lenders in their efforts to dismantle racial barriers and promote racial equity (Theodos et al. 2021).

In the context of this extraordinary infusion of capital and growing small-business demand for CDFI services and loans, many CDFIs have turned to technological solutions to better meet the needs of small-business borrowers, leveraging new funding to plan, implement, and scale these solutions. Early

findings from the Urban Institute’s research on Wells Fargo’s Diverse Community Capital (DCC) program¹ revealed that prepandemic investments in three small-business CDFIs’ technology helped facilitate millions of dollars in PPP loans as the CDFIs became more competitive lenders to a broader network of applicants (Theodos, González-Hermoso, and Park 2021). These investments included enhancing loan origination platforms, integrating different technologies within the loan processing workflows, and building out cloud-based processes for remote grant deployment. According to staff at one of these three CDFIs, “Had we not been able to invest in technology, there was no way we could’ve supported the volume [of PPP loans] we did...we would have had to turn many borrowers away during the pandemic.”

Having examined the increasing role that CDFIs play in the nation’s small-business ecosystem,² as well as the role of technology in helping them scale and grow (Theodos, González-Hermoso and Park 2021), this brief explores the different ways diverse small-business CDFIs engage with technology and documents challenges around designing, implementing, and deploying technological solutions. Our inquiry also explored the types of support small business–lending CDFIs need from philanthropic institutions and other partners to continue leveraging technology to enhance their capacity to support diverse small businesses.

We conducted 16 semi-structured interviews with technology providers, philanthropic representatives, and small business–lending CDFIs, including the seven DCC grantees. Our questions involved previous CDFI experiences and lessons learned implementing technology systems, the current landscape of technology providers and systems, and future technology needs for small business–lending CDFIs.

Our findings reveal that while technology systems and tools matter for CDFIs’ profitability, scalability, efficiency, and mission, CDFIs experience several barriers to investing in technology. These include a lack of financial and human resources for maintaining technological systems beyond implementation, a lack of awareness and understanding of available technological solutions, and difficulty obtaining and integrating technologies in a manner that overcomes issues surrounding digital literacy and cross-system connectivity.

Embracing Technological Solutions in Community Development Financing

Small-business CDFIs provide access to capital and, in most cases, technical assistance to small businesses and entrepreneurs that are underserved by mainstream lending institutions. Despite their mission, many of the actual functions of CDFIs are similar to those of mainstream financial institutions, as they seek to deliver their loan products and services to small businesses looking to start up, sustain themselves, or grow. Like any other lender, CDFIs manage processes for working with borrowers, financing loans, and overseeing loan servicing and repayment. Yet they do so at significantly smaller scale than commercially motivated lenders, which can lead to inefficiency and limited customer service capability. Some CDFIs also have grant applications, reporting, and grantmaking as regular functions.

As the demand grows for CDFIs' loan products and services, these institutions have sought solutions that allow them to simultaneously increase their efficiency, scale their operations, build their capacity to serve small-business borrowers, and maintain mission alignment. The status quo is challenging: "It's not sustainable to have [this] level of complexity in a CDFI that is unsupported by appropriate systems," one small business–lending CDFI explained. The lender went on to add, "You need the software to drive efficiency so that fewer of the organization's resources need to be spent on administration, [while maximizing] the amount of resources available to drive programmatic activity and impact."

At the same time, CDFIs' embrace of technology has allowed them to serve small-business borrowers in an increasingly diverse and competitive financing market. CDFIs must compete not only with commercial banks but also increasingly with financial technology (fintech) and other alternative lenders that are expanding their footprint in the small-business lending market, including firms such as Square, PayPal, Amazon, Stipe, Intuit, Biz2Credit, Funding Circle, BlueVine and others.³ Although only 14 percent of business borrowers with low credit risks turn to fintech, that figure jumps to almost 40 percent among borrowers with medium or high credit risk. These are some of the same borrowers that CDFIs seek to serve, but at present, only 4 percent of medium- or high-credit-risk borrowers apply for loans at CDFIs (Federal Reserve 2022). "Technology is important as organizations think about their self-sufficiency," one observer of the sector affirmed. "Suppose organizations are going to serve their customers well and compete with what is a very busy financial sector: in that case, the technology piece is really important to build efficiency and build scale."

Fintechs typically charge higher interest rates, have more fees, and/or offer shorter terms than CDFIs do. The allure of fintechs, however, is the speed with which they approve and fund loan requests, because many, if not most, very small businesses highly value speed when seeking credit. This priority is further demonstrated by the explosive growth of the merchant cash advance industry coming out of the Great Recession. Companies such as CAN Capital and Rapid Advance have grown into multibillion-dollar businesses, providing cash advances to small businesses that are repaid by the lender taking a fixed percentage of daily credit card sales until an agreed-upon amount is reached. The lenders do not disclose APRs—only "factor rates"—but actual APRs on their products frequently reach the triple digits. Yet because they provide cash quickly, their disclosures are opaque, and they will lend to business owners with marginal credit, merchant cash advance companies are booming. Even if they offer a more affordable product, CDFIs face competitive pressures to speed up their loan approval times—especially on the smallest loans—if they want to help borrowers avoid these financing options.

Technological solutions that automate workflows allow CDFIs to deliver financing to small businesses in a timely manner, which in turn helps them compete with other lenders in the small-business space. "After we converted [to an automated technological solution], we were able to work very quickly to get loans out. If we didn't have that set up, and those systems were not talking to each other, it would have been even more challenging," one CDFI staff person shared. As one technological platform provider pointed out, "If you look at the average decision timeframe for a CDFI, it's upwards of 30, sometimes 45 to 60 days. You compare that to what you can get from an online lending marketplace

as a small business owner. CDFIs are just losing out competitively. In a lot of cases, [it's] because the business owner can't wait two months to get cash in the door."

The efficiency provided by technological solutions in certain areas of operation gives CDFIs more time to focus on providing the high-touch support to small-business borrowers that is critical to their missions. We explore this topic in more detail later in this report.

What's unique about CDFIs is that there's a high amount of relationship management that occurs during the loan application process. CDFIs spend a lot of time with borrowers. Therefore, having tools to help facilitate the other parts of the origination process—information gathering, efficient data collection and storage—are really helpful for adding capacity to CDFI teams so they can spend more time with the borrowers they're serving and less time dealing with where to store files or how to collect information.

—Technological service provider

The increased capacity that technological solutions give to CDFIs also gives borrowers an improved client experience. "If [small business CDFIs] leverage technology in the right way, they could reduce a lot of pain points and then use their staff capacity to focus on parts of process that actually need a human component," a philanthropic representative observed. As we illustrate in the following pages, examples include developing the capability for borrowers to access their loan balances and payoff amounts online, automated text reminders about late payments, or software that enables automatic uploads of bank statements.

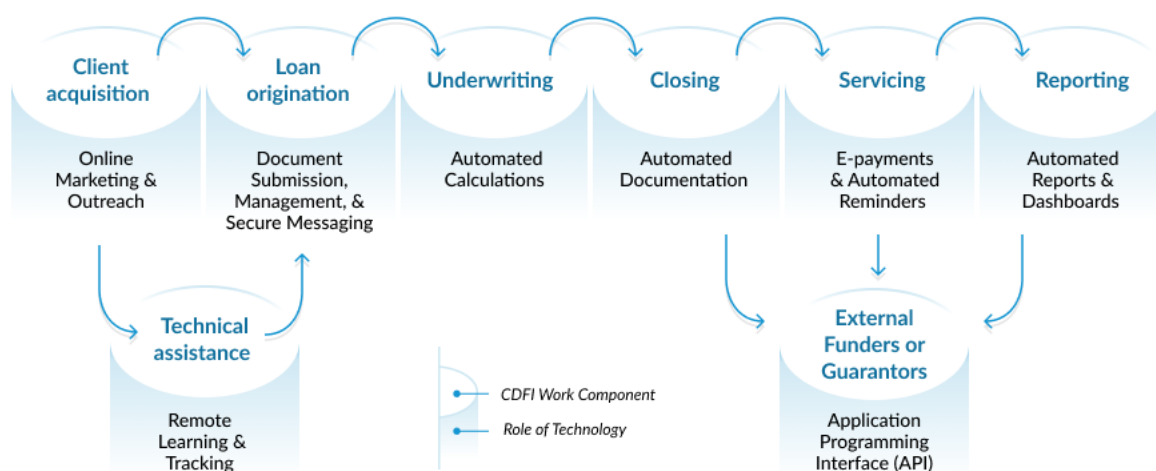
Lastly, technological solutions can add a level of sophistication to CDFIs' operations that inspire marketplace confidence in their capacity to serve small businesses. Although some small-business CDFIs have sophisticated technology systems, others do not and will need to adapt. "If CDFIs are really going to grow and scale and take up a piece of the market, they're going to need to recognize that they're financial institutions. Financial institutions need to evolve data collection and reporting, because you get to a point where you are bringing on larger investors into your operation. Those investors are going to require more information than, traditionally, a CDFI has been able to shell out. From a growth of investor relations lens, [technology] is going to be really important as they grow their lending," said an industry stakeholder. While accepting the notion that technology is important to grow lending capacity, one CDFI representative cautioned that not all CDFIs necessarily want to evolve to operate like a mainstream bank and attract large investors.

Regardless of their aspirations, CDFIs regularly work with mainstream banks to obtain capital and customers. In this context, technology plays an important role in gaining the confidence of larger financial institutions. A large small business–lending CDFI representative commented, “One of the things that [banks] worry about is do CDFIs have the infrastructure...to deploy what they say they’re deploying? When [our CEO] says, ‘We use [an off-the-shelf technological solution],’ that’s the end of the conversation. Because they know what that is, so they know what they’re going to be getting, and we come with credibility because we’re not saying we use an Excel spreadsheet anymore. We’re using stuff that they know.”

How Technology Plays a Role in a Small-Business CDFI Workflow

Each component of a CDFI’s workflow has opportunities for standardization, integration, and (in some cases) automation that software can fulfill. Figure 1 illustrates these workflow processes, and we describe their opportunities for technological improvements in more detail below.

FIGURE 1
CDFI Workflow and Corresponding Role of Technology



URBAN INSTITUTE

Source: Authors’ analysis based on interviews with stakeholders.

Client acquisition. CDFIs serve a diversity of borrowers differentiated by geography, personal or financial background, and business industry and size. As such, CDFIs must maintain a marketing and outreach strategy that reaches new clients and communicates new loan products and service offerings to existing ones. CDFIs must also have the capacity to organize referrals from other small business–supporting organizations. Client acquisition requires proficiency in social media strategy and management, as well as a customer relationship management (CRM) platform to manage all client

interactions and outreach in a centralized location. These needs are especially apparent where CDFIs bring in large referral partners online, as Accion Opportunity Fund did with Lending Club (Boyer and Brown 2017).

Loan origination. The process of origination includes the transfer of a borrower's financial information and documentation, including credit history, bank statements, tax returns, and intended use of the loan. This process requires a technological interface for the lender to communicate directly with a borrower and to facilitate filling out an application or other online forms, uploading documents in a secure manner, and providing digital signatures. The CDFI must have the back-end technological capacity to securely store and manage this information and documentation.

Loan underwriting. Using information collected during the loan origination process, CDFI underwriters determine whether to accept or reject a borrower's application for a loan. Technological solutions can automate portions of the underwriting process and automatically calculate some indicators of borrowers' risk. The largest CDFIs use data collected over their years of lending to develop scoring models to speed up and improve underwriting. Unlike fintechs, CDFIs do not tend to make all lending decisions based on scoring alone but rather use scoring to identify obvious approval or decline cases. The underwriter can then devote their time to the applications that require a judgment call by a human being.

Closing. After approving a loan application, CDFIs need to prepare the documentation necessary to close the loan agreement. Technology can make this process more efficient by automatically producing prepopulated closing documents and allowing for digital signatures.

Loan servicing. To service their loans, CDFIs ensure compliance with their active loans' terms of repayment and other conditions. Servicing requires communication with borrowers and clear guidance and information for making loan repayments and fulfilling other loan terms and conditions. Technology can facilitate this process through automated systems, such as email or SMS, that communicate with borrowers when loan payments are due or when other servicing activities must take place. Technology can also improve the process through online and/or automated payments.

Tracking and reporting. Auditors, funders, and government and other financial institutions often require CDFIs to report out data on the distribution and performance of their loans. However, report recipients may have different requirements, leaving CDFIs with the responsibility of collecting, sorting, and organizing data to fulfil multiple requirements. Technological solutions can set up dashboards or other automated processes for organizing loan and performance data by each partner's specific reporting requirements or the CDFI's own performance measurement framework. These solutions may also enable direct interfacing with the data with the funder or other external organizations.

Application programming interface (API). APIs can improve multiple stages of CDFI technology processes, such as internal systems communication—a type of program that connects a bank's system to an online store to make online payments or that connects a social media page to an email provider for logging in. CDFIs also often interface with other institutions including federal agencies, private funders, banks, and other loan buyers to manage loan servicing or to report on loan distribution and

performance. CDFIs need staff with the skills to use APIs to connect with partners' servers and those of other organizations for an efficient exchange of information.

Technical assistance. CRM platforms can be useful in managing clients that participate in CDFIs' technical assistance programs by tracking interaction and engagement and communicating the logistics of technical assistance services. Hosting a platform that offers remote learning capabilities may also help CDFIs reach a wider range of customers through technical assistance services.

Other technology systems. Finally, all CDFIs also conduct back-end operations such as accounting, human resources management, and legal services that allow them to maintain their lending and technical assistance activities. Myriad technology systems, such as accounting and human resources management software, can assist CDFIs in these functions. Some CDFIs also use software to monitor compliance and loan policies and procedures.

Together, these processes represent the work CDFIs undertake daily to provide capital and other types of support to small businesses. Investing in technology and ensuring that these processes are connected technologically is important for achieving CDFIs' missions and expanding their capacity to serve small businesses.

A Look at the State of the Field

Our research reveals that small-business CDFIs across the country possess varying levels of technological sophistication. In table 1, we illustrate example CDFI technological capacities for limited and high-performance technology systems. It is important to note that CDFIs exist on a continuum, varying by size, loan production volume, and technology sophistication; for that reason, it may not always be feasible for small or emerging CDFIs to have the same level of technology systems or integration as larger CDFIs. Additionally, CDFIs may require different technology capacities for different tasks. The matrix below intends to help CDFIs and their funders better understand the role that technology can play in supporting and advancing their work.

CDFIs also have many options for vendors that offer the types of technological services needed to maintain their workflows. In table 2, we provide a nonexhaustive list of vendors identified during our research and the types of operations and functions they can support (albeit, in some cases, with additional costs and integration work).

TABLE 1

Illustrating Technological Capacity in Small Business CDFIs

	Limited Technology Capacity	High-Performance Technology Capacity
General	Organizations do not have technological systems for managing their loan processes; they may use paper or office suite systems such as Google or Microsoft for documentation creation and information management.	Organizations operate with multiple “off-the-shelf” technology components that may be partially or fully integrated or use their own designed system.
Client acquisition	No consistent use of targeted social media marketing or systematic processes for collecting client referrals.	Consistent use of social media marketing and a systematic process for collecting client referrals, such as a CRM.
Loan origination	Loan officers and borrowers communicate over email or phone. Documentation is sent via email and internally saved and shared using file-sharing services such as Google Drive or Dropbox. Documents need to be printed to be signed and reuploaded after scanning.	Communication can happen via email, phone, or secure portals. Borrowers can give permission for the lender to obtain documentation directly from a credit reporting firm or bank. Borrowers upload documents using a secure, encrypted portal. Digital signature software is embedded into the portal so borrowers can sign digitally.
Underwriting	Loan officers manually add information provided by the borrower during the loan origination process into a credit memo and other documents, which they ultimately present to a loan committee for review.	Information that the borrower provided electronically during loan origination automatically populates documents for loan committee review and financial analysis, including ratio calculations. In some cases, the software will be able to process calculations to produce indicators of risk or approval.
Closing	CDFIs must produce and fill closing documents from scratch. Only wet signatures are used.	Software prepopulates documentation with borrower and loan information. Borrowers and lenders can sign digitally in the same portal used for origination.
Servicing	Loan officers manually add servicing conditions and repayment information to a document or Excel spreadsheet. Loan officers or portfolio managers monitor the servicing document to know when to remind borrowers about upcoming payments or other loan conditions. Borrowers must send checks or make in-person deposits to the lender.	Servicing software sends out automatic reminders and instructions to borrowers about collecting payments. Borrowers can make payments online in a secure manner or automatically via the Automated Clearing House network.
Reporting	CDFI staff analyze and pull data to fulfill each partner’s reporting requirements.	Software arranges dashboards that prepopulate with the data needed for each reporting requirement. Partners that need access to this information have direct access without requiring involvement from CDFI staff.
Technical assistance	No platform exists for structuring interactions with clients digitally or tracking their engagement with technical assistance service offerings.	Consistent methods for structuring and/or tracking technical assistance and client engagement with services.

Source: Authors’ analysis based on interviews with stakeholders.

TABLE 2

Technological Vendors Supporting Small-Business CDFIs

	Client Relationship Management	Document Collection and Management	Origination	Underwriting	Servicing	Tracking and Reporting	Technical Assistance	Accounting
Abrigo	X	X	X			X		
AccuFund								X
Box		X						
Constant Contact	X							
DocuSign		X						
Downhome						X		
File Invite		X						
Fiserv					X	X		
Finastra			X	X	X			
Hubspot	X					X		
Initiate							X	
Lender Fit	X	X	X	X		X	X	
Meridian Link			X	X	X			
MMS			X		X		X	
NetSuite					X	X		X
Next Gen			X					
Nortridge					X	X		
Outcome Tracker						X		
Portfol						X		
QuickBooks								X
Sage Intacct								X
Salesforce	X	X	X	X	X	X	X	
Spark		X	X	X		X		
Tabs			X					
Ventures	X	X	X	X	X	X	X	

Source: Authors' analysis based on interviews with stakeholders.

Note: While Salesforce can support most of the essential functions of a CDFI, these components may require additional costs and integration work with other peripheral software systems. We explore this in the following section of the brief. DocuSign can also support CDFIs during the loan closing process by prepopulating documentation with borrower and loan information and facilitating the signature process.

Lessons Learned from How CDFIs Are Embracing and Investing in Technology

In this section, we distill lessons learned about investing in and using technology from our conversations with CDFIs and other stakeholders. We offer examples of some of the ways CDFIs have taken on ambitious technological investments and improvements through case studies from DCC grantees.

The Gold Standard Is a System that Seamlessly Connects the Entire Loan Lifecycle

In our interviews, CDFIs most frequently cited the compartmentalization of systems by activity as a significant challenge to implementing and using current technology. Whether through a central engine or a series of connected systems that are “talking to each other,” CDFIs aspire to a seamless workflow, from client acquisition to servicing and reporting, without needing to migrate data from one system or platform to another and with minimal burden to the borrower or client. One CDFI representative summarized their current challenges in this area: “It would be so great if the number of systems that we had to use were fewer and if those could talk to each other. HubSpot is not necessarily talking to Tabs, and Tabs can't automatically upload things into Ventures, and Ventures can't talk to Downhome.”

There are several issues that arise with systems fragmentation. One supplier of technology solutions explained how this problem hinders CDFIs' overall capacity: “What we've seen so far is that there are a lot of software solutions built for some of those [components of a workflow], but oftentimes they're very highly tailored to one of those. For capacity-constrained organizations, the fragmentation of this set of tools that they use can continue to create capacity challenges rather than solve them.” A different CDFI representative explained that, in their experience, software vendors do not have strong incentives to create integrations because it would make it easier for clients to migrate to other systems.

The need to divert staff time and effort to manually move information from one system to another significantly affects lender capacity. As explained by one CDFI officer, “We need to automate more of the interactions between systems to ensure timely data. For example, we currently have to manually upload [data] from Nortridge [a loan servicing software] twice a month into Salesforce.” Fragmentation affects things in the back end, but also on the front end. “We have eight or nine different systems, and only maybe two or three actually talk to each other...and some vendors are like, ‘Oh, well we have all these online portals.’ But then you're still separating our experience. We want the experience for [our clients] to be ‘you're here at [our CDFI]. One look, one feel,’” explained a CDFI representative.

Integration also affects what happens after a loan is made. Connecting front-end and back-end functions can create important efficiencies, particularly when it comes to loan servicing and CDFI accounting. “You've got servicing activity that's happening in a siloed system. You've got accounting happening in a siloed system. How do you then calculate notes receivable? How do you deal with write-offs?” questioned one CDFI representative attempting to integrate these two functions.

Some developers are currently working on developing technology solutions tailored for CDFIs that can carry the entire loan lifecycle, but others have attempted other solutions. One small CDFI, for example, has been able to develop its own solution through Salesforce alone: “From the initial inquiry through underwriting, and through closing into servicing, [the process] is all pretty much encompassed in Salesforce.” And this technology is not limited to loan-making, as CDFIs also use the platform to drive their coaching and technical assistance delivery.

According to this CDFI representative, piecing together Salesforce functions for a seamless system is not as daunting as some interviewees may suggest (see the human capital section of this report): “You don’t necessarily need a programmer to do a lot of stuff. The growing [software model] that you’ll hear is low-code or no-code programming. Basically, you’re just creating apps in different functions, different flows within Salesforce to perform certain functions, both internally and for the customers.” One of our interviewees cautioned, “Salesforce is great at the CRM part of things, but it’s funky when you get into a document collection and then doesn’t really touch at all underwriting and closing.” However, another CDFI has been able to solve some of these issues by purchasing add-ons, with a representative citing “the add-on to generate documents—so notes, security agreements, stuff like that—I think was \$500 per year. I mean, gosh, just in the time that it saved, it probably paid for itself within the first month of COVID.”

Despite the seemingly low requirements of Salesforce, many CDFIs will still need to devote staff time and effort to figure out how to properly design and integrate CRMs to meet their needs. “The ability for Salesforce to make that more accessible to less-technical-inclined companies is continuing to grow, but it’s still quite a learning curve...you do want to really understand the back end of it so that you can use it to its full potential...I came in with some tech background, but even I had a bit of a learning curve to pick up on all its intricacies,” explained a representative at a CDFI.

BOX 1

A Custom, End-to-End Lending Platform: DreamSpring's Innovation for Small-Business Success

In 2019, DreamSpring acquired a proprietary lending platform to host all loan applications, processing, and servicing. The platform was supported by a \$2.7 million grant from Wells Fargo and financial commitment from JP Morgan Chase. The internal platform integrates and automates the loan origination, underwriting, and closing processes, providing both front- and back-end efficiencies. It is currently designed for use by DreamSpring, but continued innovations will soon enable marketing to peer CDFIs.

DreamSpring has used this platform to fully automate workflows for its microloans and small-business loans. It has increased DreamSpring's staff capacity, creating new opportunities to deliver technical assistance and guidance to small-business owners throughout the lending process (Theodos, González-Hermoso, and Park 2021). Thanks to the continued development of the platform, DreamSpring has expanded its lending operations, scaling to serve entrepreneurs across 27 states. Throughout the PPP, and by leveraging this technology, DreamSpring deployed three times its usual annual amount in loans in just six months.

Source: Brett Theodos, Jorge González-Hermoso, and Jein Park, "Improving Capital Access for Small Business Owners of Color" (Washington, DC: Urban Institute, 2021).

Adopting and Maintaining a New System Has Important Human Capital Requirements

Even after adopting powerful and user-friendly platforms, CDFIs will still require dedicated staff to manage, tailor, troubleshoot, and maintain these systems, as well as to onboard and educate other staff (such as loan officers and underwriters) on the technology and infrastructure. This task goes beyond general information technology (IT) support staff that many organizations already have on payroll and requires both additional capacity and specialized knowledge. As one CDFI representative said, "Many CDFIs do not understand that 'IT' is not the same as 'business systems technology.'" Another noted, "We have one or two people in the IT field, but they don't have the expertise to make changes to the systems...[to] help upgrade or finetune the software for us. So, we have to go to the vendor and request [help]...Our IT team also was not only helping our loan team, but it also helps other internal departments." Echoing this gap in knowledge among CDFI staff, one large CDFI representative said, "[The industry is] so far behind. I mean, there's nobody in our space working on artificial intelligence, blockchain, etc. Very few people even understand the concepts, and these are the foundational elements. They are what financial innovation is going to operate on in the future. That's a recruitment issue. It's a talent issue."

A system is only as good as the people and workflow using it.

—CDFI representative

To fill this need, many organizations have hired consultants either to carry out the programming work for optimal operation of platforms and systems or to perform other IT tasks that free up time for in-house staff to work on the systems related to loan-making. Some CDFIs have also engaged consultants to assess their technology needs and opportunities, as explained by one interviewee: “What [the consultant] has helped us do is map out this really long process and identify which areas can have a tech solution or be streamlined and more efficient, and which really don't...a human being has to look at it.”

Strong leadership is another area of human capital that is critical to successful implementation of investments and innovations in a CDFI’s technology infrastructure. One software vendor who has spoken with several CDFIs about their needs explained, “When new leadership comes in, it’s a good time to consider changes in terms of process.” He also added, “When the team is hiring people who have experience working in other industries that are more digitized, they can bring enthusiasm and expertise in managing physical limitations within the lending team.”

CDFIs have Affordable Options for Technology Systems

A start-to-end, comprehensive loan-making technology infrastructure for a CDFI can cost, at the high end, \$1 million to \$2 million dollars a year to maintain—and the cost is typically more for systems developed in-house. At the very low end, interviewees reported that they can bootstrap “off-the-shelf” solutions for a few dozen thousands of dollars annually. This wide cost range is mostly explained by differences in the level of customization, add-ons to perform specific tasks, and the use of off-the-shelf platforms compared with systems built from scratch.

In addition to annual maintenance, adjustment, and license fee costs, the initial build can be expensive. According to one CDFI that implemented an origination-to-servicing integrated system built from scratch, the design cost was “anywhere between \$6 to \$10 million, just to be able to come up with the complete end-to-end baseline platform.” On top of that, critical functions such as web hosting, credit checks, and identity verification are not included in this baseline cost. Although this price point is likely too high for the average CDFI, most of our interviewees who are pursuing this model are doing so to build platforms and tools that can then be licensed to other CDFIs, and thus have different value propositions: “The software that we built, we built for the industry. We’re not building the software just for [our CDFI],” clarified one CDFI representative.

One official from a CDFI that was able to build its entire loan-making process in Salesforce explained, “To date, nothing that [they’ve] seen is exorbitantly expensive for what you get and what you

can do with Salesforce...we're a pretty small CDFI...and we've been able to more than afford Salesforce.” An interviewee from a different CDFI that has explored using Salesforce in a similar way said that the baseline set-up of this platform could cost between \$75,000 and \$100,000, which the CDFI still characterized as “a high cost for [us] to implement,” underscoring the wide divergence in different CDFIs’ budgets.

Every technology solution requires a certain amount of throughput—the number of technical assistance clients or borrowers using the system—to justify its cost. Although an a la carte approach to technology systems is cheaper than developing a fully integrated, comprehensive system, one CDFI official explained that the core platform they are using is still “expensive, so it wouldn't make sense for us to continue using that unless we're able to scale the applications coming in quite drastically.” A representative from a different CDFI with a similar model cautioned that not all off-the-shelf software products are easy to integrate with others: “For our data collections we used Qualtrics. For our size, that was doable. But it did not allow for interface with other systems. Now, with Salesforce, if somebody fills out a survey, it gets pushed to the record and links it with all the account data and information. It's just a night-and-day difference.”

Upfront Investments in CDFI Technology Will Require Philanthropic Support, but Those Opportunities Are Rare

In most cases, our interviewees explained that CDFIs’ operating budgets cannot absorb the upfront costs of setting up a new technology infrastructure and therefore require external funding. However, internal funds could cover yearly maintenance and license fees if the CDFI’s lending scale is adequate. As one CDFI representative explained, referring to how the CDFI manages to cover its technology expenses, “We are not receiving that many applications like [during PPP], but it's just a matter of time when we will break even and we won't feel the pinch as far as the monetary aspect is concerned.” Even so, some CDFIs struggle to keep up with annual costs given that they usually operate with small margins. “A lot of times, the licensing fees that software providers charge come from the operating budget. And carving out space in that is always difficult,” explained another interviewee. Another CDFI representative cautioned that CDFIs should consider the different types of licensing fees: “Flat fee structures, versus a ‘per use’ structure, are often good only if you are a larger CDFI.”

Most interviewees agreed that philanthropic grants, including those from large banks, were imperative for smaller CDFIs to adopt new technology systems. “Having external funding as a catalyst to reduce the hesitancy around the upfront investment, while then allowing the business case to mature over time, is something that I know a number of CDFIs have leveraged,” explained a software developer who has spoken with several organizations on this topic. “Especially when you're onboarding a new technology, it's a pretty big burden, and we've almost always fundraised for it,” explained one CDFI representative.

However, grants specifically for investments in technology appear rare. As one CDFI representative commented, “In the foundation space, coming across a capacity-building grant is uncommon. Props to Wells Fargo that did this [with the DCC Activator Grant].”

“At least we have not come across funding where a major portion covers for technological advancement,” echoed a different CDFI interviewee. “It’s great that that there are now philanthropists and grants available specifically for technology, but there are probably not enough of them,” added another CDFI.”⁴

Grants do not need to be specifically written for technology investments—they can be flexible or unrestricted—but even those are hard to find, according to our interviewees. “Any funds that can be given to a CDFI or nonprofit lender that are unrestricted will allow us to use them for operations, loan capital, loss reserves, *and* tech solutions freely, versus going after opportunities that are only geared towards building capital, which happens a lot,” explained one CDFI representative.

For most CDFIs, relying on philanthropic dollars to adopt critical technology systems will be a difficult endeavor. As one industry observer put it, “Philanthropy is never going to be able to support every single organization in adopting technology and maintaining technology.” In this sense, CDFIs and other nonprofit lenders will need creative solutions to fund their investments in technology. One software vendor offered, “CDFIs will need to think about ways to either align pricing with fee structures charged, or with the origination process so the costs are shared, perhaps between the CDFI and the borrower.” In contrast to this idea, one CDFI representative said, “[We] believe...these activities must be subsidized. There is no way to innovate your way out of this high cost.”

The Business Case for Investments in Technology in CDFIs

Even with varying costs, the interviewees felt that technology advancements are mostly worth the financial and time investments. Technology improvements allow CDFIs to process and approve more loans in less time and with less effort, increasing not only their social impact but also their fee revenue. As one vendor put it, “A better and more delightful process will lead to higher inbound and faster decisionmaking, which allows you to learn more and therefore grow your business as a lender.” A CDFI representative explained that better technology has reduced their turnaround time for loan approval from four to six weeks to two to three. (This interviewee also reported that they have not yet seen a significant increase in the number of loans approved after implementing the technology improvements, underscoring the ongoing challenge of customer acquisition for many CDFIs.) Another interviewee shared that even smaller-scale improvements—such as add-ons to generate auto-populated documents—can shave time from loan application and approval processes.

BOX 2

An Integrated Loan-Processing Software for the Field: CRF's Spark

With the support of a \$2.7 million grant from Wells Fargo's DCC program, the Community Reinvestment Fund (CRF) developed a new loan origination software for small-business lenders. Spark is a cloud-based platform to manage loans from prescreening through disbursement. CRF currently uses this technology to originate its own Small Business Administration 7(a) loans, but the platform is also available to other CDFIs. Other lenders can brand and tailor the platform to their own needs, as well as integrate it with existing systems.

The PPP put this new system to the test when CRF had to manage an unprecedented volume of small-business loan requests. Through Spark, CRF disbursed \$500 million in lending. To put this in perspective, CRF made on average 58 loans totaling \$27 million in 2018 and 2019.

Sources: "Spark Loan Origination Software," CRF USA, accessed June 7, 2022, <https://crfusa.com/solutions/technology-solutions/spark/>; Brett Theodos, Jorge González-Hermoso, and Jein Park, "Improving Capital Access for Small Business Owners of Color" (Washington, DC: Urban Institute, 2021).

It is difficult to quantify a return on investment for technology systems, as this will vary by organization, loan type, borrower type, and existing technology infrastructure. One CDFI representative anticipated a 10x multiplier in loan-making as a result of their investment: "[With a \$7 million grant investment], I could easily see \$70+ million worth of lending happening." Technology systems provided critical infrastructure and support during implementation of the PPP, particularly for some CDFIs that participated in the Wells Fargo's DCC program, as explained in boxes 2 and 3. Another CDFI representative reflected on how investments in technology represent, in their opinion, the most efficient way to scale CDFIs.

If you're looking to scale a CDFI, it's far more cost-effective to have those variable expenses than to try to staff up and hire more loan officers and underwriters who have a far higher upper limit [cost] per person... We can just quickly add a new computer or a new server and add resources in that setting to get more capacity through.

—CDFI representative

Our interviewees also shared that the payoff from technology improvements not only involves efficiencies in the loan-making process but also engenders intangible impacts such as better user experience, credibility, and accountability. One CDFI representative explained, "[They] can grow from

30 to 40 loans to 1, 3, or 5,000...but still give [clients] the same [CDFI] experience,” noting that this was especially important for the CDFI’s mission compared with that of regular financial institutions.

For another CDFI, the greatest impact has been greater accountability through the ease of running reports. One interviewee explained that the ability for everyone in their organization to access the same data “keeps everyone accountable... transparency all across.” This same CDFI representative also explained how technology-aided reporting helps them enhance their credibility among external funders and partners: “Banks have choices about where to put their CRA [Community Reinvestment Act] money. When we can tell them, ‘this is how you’ll be able to track the money you invested in us...this is the reporting we can provide...how many loans, industries, sizes, gender and race of borrowers, reasons for decline’—when we can put this in a succinct report, it changes everything. Also, with our public sector clients, the tech has provided a perceived value-add to work with [us] to administer their programs and deploy capital.”

BOX 3

Integrating Off-the-Shelf Software into Seamless Loan Management: MEDA

The Metropolitan Economic Development Association (MEDA) leveraged a \$1.5 million grant from Wells Fargo to integrate different off-the-shelf software products into one seamless loan management system. MEDA’s bank enterprise system connects Salesforce for CRM; Abrigo (previously Sageworks) for its underwriting and decisionmaking process; and Fiserv and Finastra for accounting, finance, and general ledger management.

The new bank enterprise system uses an algorithm for decisionmaking and underwriting that double-weights cash flows and reduces reliance on credit scores and collateral for decisions. It was critical for the new system not to depend on traditional analysis methods for loan approval processes, as 98 percent of MEDA’s clients have already been turned down for a loan at a commercial bank, according to our interviewees. The system classifies all loan requests as green, yellow, or red in terms of risk, which then helps a credit committee make the final decision.

The integration of different technologies through its bank enterprise system helped Meda provide 89 loans totaling \$2.5 million over just five weeks during the pandemic, whereas it had made, on average, 58 loans totaling \$6.9 million per year in 2018 and 2019.

As with CRF’s Spark, MEDA’s Bank Enterprise System was developed with the purpose of being licensed for use by other mission-driven CDFIs.

Source: Brett Theodos, Jorge González-Hermoso, and Jein Park, “Improving Capital Access for Small Business Owners of Color” (Washington, DC: Urban Institute, 2021).

Conclusion and Recommendations

In our interviews, there was clear consensus among our interviewees that improving technology systems is critical and highly beneficial for CDFIs. There is a strong business case for automating tasks and integrating functions with technology to reduce the variable costs of lending and position CDFIs to

scale their operations. Interviewees also agreed that pursuing these efficiencies does not compete with CDFIs' missions of serving the least-privileged businesses and entrepreneurs, as technological innovation will free up staff time for the high-touch human interactions that distinguish CDFIs from traditional financial institutions.

CDFIs can leverage a rich array of financial technology tools and services, as well as learn from the experiences of their peers. However, there are several gaps in funding and knowledge-sharing. The upfront costs CDFIs must absorb to implement new technology processes are nearly impossible to cover with their operating revenues, and even ongoing maintenance costs can be hard to meet for smaller CDFIs. However, most grant and funding opportunities are restricted to loan capital and loss reserves, with few that are either flexible or specifically tailored to investments in technology. With respect to knowledge-sharing, our research also shows that CDFIs are, for the most part, navigating the technology ecosystem with limited visibility. There are myriad vendors and experts that CDFIs can turn to, but many CDFIs have little understanding of their own needs and the most cost-effective ways of addressing them through technology.

Based on the findings from our qualitative research, CDFIs are well-positioned to **assess their own strengths and limitations** when it comes to developing processes and identifying the role technology can play in addressing them. Given their scale, some CDFIs may not require sophisticated platforms or tools to manage their loan-making processes. The scale of lending or technical assistance provision should determine the level of investment required to address that specific need. They can **talk to other CDFIs** about their own platforms and investments in technology to avoid reinventing the wheel and explore opportunities to **share the platforms** these CDFIs may have designed and developed. And they can **ensure that new software can seamlessly integrate with other existing systems**. While CDFIs may not need the most sophisticated and automated software for every component of their workflows, integration is critical. For example, when acquiring and implementing a new CRM platform, the CDFI should confirm with the vendor that the platform can connect with the CDFI's loan origination, underwriting, and closing systems (where applicable).

Vendors should **consider tailoring their services to CDFIs and, where possible, recognizing and accounting for CDFIs' social benefits**. CDFIs are mission driven and help the least-privileged entrepreneurs. This should be a consideration during price negotiations, especially for large vendors. Indeed, some vendors offer differential pricing for nonprofit organizations.

Finally, public sector and philanthropic funders have an important role in **setting aside flexible funding**. CDFIs agreed that more flexible grants, such as the DCC Activator Grant program, are necessary to improve their technology systems and keep up with the needs of the market. Additionally, funders can **offer more opportunities to connect CDFIs that are facing similar issues**. Funders have a privileged position in knowing which CDFIs have tackled technology improvements and how. Lenders should make this wealth of knowledge available to CDFIs so they can learn from each other and find the most effective and efficient ways to address their needs.

Notes

- ¹ From 2016 to 2021, the DCC program distributed \$175 million in capital to CDFIs that serve diverse small businesses. The program consists of two distinct grant opportunities: capacity-building grants to help CDFIs increase lending and technical assistance offerings to diverse small businesses, and activator grants to support CDFIs that are formulating and ready to make “active” strategies with the potential for industry or market replication. The Urban Institute reviewed and documented the impact of the program on the seven activator grant awardees selected during the seventh round of the program in 2018. See Theodos, González-Hermoso, and Park (2021).
- ² Beth Bafford and Patrick Davis, “Scaling Community Finance to Fill a Growing Market Gap,” *Stanford Social Innovation Review*, June 23, 2021, https://ssir.org/articles/entry/scaling_community_finance_to_fill_a_growing_market_gap.
- ³ Ruben Izgelov, “How Fintech Lending Trends Benefit Small Businesses,” *Forbes*, November 5, 2021, <https://www.forbes.com/sites/forbesbusinesscouncil/2021/11/05/how-fintech-lending-trends-benefit-small-businesses/?sh=278801bf68fa>.
- ⁴ The Opportunity Finance Network (OFN) recently launched the CDFI Technology Grant Program with support from Google. The program provided \$11 million to support 55 OFN member CDFIs across the country. “OFN CDFI Tech Grant Program Supported by Google.Org,” Opportunity Finance Network, accessed September 23, 2022, <https://www.ofn.org/ofn-cdfi-technology-grant-program-supported-by-google-org/>.

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Errata

This brief was revised on January 3, 2023. On page 9, the rows for Lender Fit, Spark, and Ventures in table 2 have been corrected to reflect which services or functions each vendor provides to CDFIs throughout the loan-making process. On page 12, the language in box 1 has been clarified to more accurately describe DreamSpring’s acquisition of the Abacus platform and automation strategy.

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