

Leading innovation in US public libraries

Storm clouds and silver linings of COVID-19

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Abstract

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Under the direction of Marta Strumińska-Kutra, Ph.D.

This thesis examines how US public libraries are innovating to connect with their communities during the COVID-19 pandemic. The work pays special attention to the role of leadership in the innovation process. By examining two cases of US library systems, I trace crisis-driven innovation processes, uncover incremental and radical innovations, and aim to understand the role of leadership and multi-actor collaboration. This thesis studies the time period between March 2020, when COVID-19 emerged in the US, and January, 2021, when the pandemic was still very active in the US. I use two case studies based on semi-structured interviews, various documents, social media and websites. Through an institutionalist lens, this thesis finds that the majority of pandemic-born crisis-driven innovations are in the prototyping stage. However, some have reached the stage of ‘scaling and diffusion’, meaning they have brought significant performance improvement and can be replicated. Moreover, evidence suggests that during these processes, leaders act as conveners, facilitators and catalysts, and leverage multi-actor collaborations. The challenges faced by libraries and their leaders cannot be understated, the greatest being the effects of how the digital divide prevents a widening demographic of community members from accessing library knowledge and resources.

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1. Introduction

America's public libraries are enduring institutions that create various social impacts. As society changes, libraries are constantly challenged to evolve and adapt in order to fulfill the mission of advancing the public good, disseminating knowledge and engaging communities.

According to the State of America's Libraries 2020, the popularity of libraries is surging. This is reflected in an increased number of visits from patrons from varying demographics to public libraries by Americans. American libraries offer much more than books to their patrons. They act as community hubs and resource brokers. Many have even recently evolved to include libraries of things, offering nontraditional collections that include things like bicycles, board games, musical instruments and kitchen appliances. Some libraries have even partnered with beekeeping organizations to install rooftop hives (American Library Association, 2020).

Innovations like these are dependent upon leadership (Germano, 2011). Librarians and library leadership decide what to offer their populations by getting to know the needs of their community and identifying groups currently not making use of library resources. Library staff 'take the pulse' of the community, engage in community life, and build partnerships. The organizational structure of library systems, as well as library leadership, play integral roles in promoting and fostering sustainable, innovative practices to meet the needs of communities (Jantz, 2013).

The operations of public libraries are currently being challenged significantly due to the global COVID-19 pandemic which emerged in the United States during January 2020. During the COVID-19 pandemic, libraries in the US have had to choose between closing down, adapting services, or developing innovative practices to meet patron needs.

For some libraries these changes are radical, as they were forced to 'go fully digital' during the pandemic, completely changing their modality for service provision. Libraries across the country are offering curbside delivery, expanding digital platform access, and automatically renewing and issuing new library cards digitally so that patrons do not have to venture out from their homes. Rural libraries are identifying patrons lacking internet accessibility and are arranging 'dial-in' book clubs, 'dial-in' jam sessions, and making cold call welfare checks to patrons who

may be elderly or vulnerable (Public Library Association, 2020). Library leadership claim that some of these changes will remain in place after the pandemic resolves. For example, innovations such as hybrid programming, which offers both digital and in-person access to library events, and curbside delivery can be expected to become staples in the world of library science.

As library leadership across the country scrambles to meet the challenges of the COVID-19 pandemic, they do not do so on a level playing field with equitable resources. The context for America's public libraries is one plagued by complicated and inconsistent funding structures, a digital divide, and other problems.

Moreover, individual leaders that foster innovation are not enough to ensure transformational, innovative change within libraries or library systems. This paper argues that from an institutional perspective, a structure that fosters innovation must exist for innovation to continue in the absence of any particular dynamic leader. A successful leader needs not just lead, but rather facilitate dynamic teams within a sound structure that promotes innovative practices and allows employees space to collaborate with community partners, experiment with innovation and create lasting change.

The purpose of this research is to explore how public libraries in the US are adapting and innovating in response to the COVID-19 pandemic. This project aims to gain insight into innovations being implemented during COVID-19 by US library systems that were identified prior to COVID-19 as 'innovative' by the American Library Association. In addition, this research examines the role of library leadership in the facilitation of innovation.

This research attempts to answer the following questions:

- i. How are libraries innovating to connect with communities during the COVID-19 pandemic?
- ii. What is the role of library leadership in the facilitation of social innovations?
- iii. What impedes social innovation in libraries during the COVID-19 pandemic?

This thesis is organized into six chapters. The introduction, the first chapter, provides a brief summary of the impact of public libraries within the US context, and the challenges they face

and innovations as they have implemented during the COVID-19 pandemic. It also briefly touches on the implications of a library's organizational structure and leadership for its ability to innovate in a sustainable manner.

In the second chapter, I present the theories and other relevant literature that will form the framework to understand the findings of the research.

Chapter three, the methods chapter, delineates the steps taken to investigate the research questions. It also provides the reasoning behind the methods chosen, and reflects upon issues of reliability, validity and generalization.

The research findings can be found in chapter four. Chapter five outlines a discussion of the findings according to each research question. Chapter six offers conclusions and reflections, and also suggests future avenues for follow-up research.

1.1. Libraries and innovation

Public libraries, local or municipal institutions, offering free library services to the general public and supported by tax money date back at least to 1833 in the United States when Peterborough, New Hampshire, established its public library. From 1870 to 1930 libraries became widespread and enduring institutions, however, initially momentum to establish libraries was slow going. Kevane and Sundstrom (2014) state that libraries were, "...originally conceived as part of the nation's broader educational movement, and it was their educational function that provided the principal justification for public support."

The literature points out that patterns in the diffusion of innovations in US public libraries emerged between the 1960s to 1979 (Pungitore, 1995). The image of public libraries continues to change over time, and the days of a library just being a place to find books are over. Libraries are now "people-centered not collections centered". 200 librarians were interviewed to understand how the pandemic has affected them and were asked which attributes would "comprise the next generation of libraries." The attributes that ranked the highest were community and social services; decentralized library space; more pop-ups and bookmobiles; low-touch kiosks; drive-up pickup; webinar-based story times and programs; technology-

integrated conference spaces available to the community; and remote reference and information search services (Broz et al., 2019).

Research about innovation in libraries attempts to create typologies to classify various types of innovations. Potnis states that rarely does any primary research study the scope and interpretation of the term “innovation” by public libraries. This study elicits 80 innovations reported by the administrators of 108 award-winning public libraries in the United States, and proposes the first organic classification of innovations for public libraries, with the following four types of innovations: Program (access-oriented/use-oriented), Process (efficiency-driven/effectiveness-driven), Partnership (internal/external), and Technology (web-based technologies/assistive technologies/artificial intelligence) (Potnis, 2019).

Much of the literature about innovation in libraries today focuses on the integration of technology and digital services into library services and operations, as a means for libraries to continue working towards their mission. Katsirikou & Sefertz (2000) completed a trend analysis of Library and Information science which revealed that the library world is in the midst of technological restructuring. They state, “Every branch of library work changes continuously because of the technological facilities, although the missions and goals remain unaltered. The libraries belong to these professional divisions which involve innovation and technology transfer in everyday life.”

1.2. Libraries and COVID-19

Research around COVID-19 and libraries is somewhat limited, since the pandemic was identified in early 2020. However, some research focuses on the impact of COVID-19 on libraries. In Italy, an investigation was carried out by Tammaro (2020) which analyzed literature and online documentation, and administered a questionnaire to about 70 librarians regarding how their libraries adapted to the challenges brought on by the COVID-19 pandemic. This research cited examples of how Italian libraries experimented with creative strategies involving technology and social media to facilitate community engagement. The research concluded that the pandemic has encouraged the transformation of libraries and a new vision of service, with special focus on new relationships with communities (Tammaro, 2020).

Another study by Wang and Lund (2020) examines how public libraries in the United States have responded to the pandemic in real-time through their online announcements to the public from mid-March to mid-April, 2020. This study suggests that libraries can and do play an important role in providing reliable information about pandemics like COVID-19 for patrons (Wang & Lund, 2020).

2. Theoretical Perspectives

2.1. Broad theoretical approach

This research uses institutional theory to understand how public libraries are adapting and innovating to connect with their communities during the COVID-19 pandemic. Scott (2005) describes institutional theory as oriented towards examining

...the processes and mechanisms by which structures, schemas, rules, and routines become established as authoritative guidelines for social behavior. It asks how such systems come into existence, how they diffuse, and what role they play in supplying stability and meaning to social behavior (p. 409).

This perspective allows for an analysis of “institutional logics” that are implicit and assumed in institutions and shape policies and managerial decisions (Greve & Argote, 2015, p. 485). It is a prominent approach for studying institutions that can be traced back to Max Weber in the 1950s, but has recently developed (new institutionalism) an emphasis on institutional change (Greenwood, Oliver, Sahlin, & Suddaby, 2014). During times of crisis, institutional theory is well suited for assessing innovation and change in libraries during times of crisis (Harrison, Burrell, Velasquez, Schreiner, 2017).

New institutionalist theory provides several conceptual frameworks that are especially useful to this project, and has been used to trace the mutual shaping of institutional processes and ITC innovation (Avgerou, 2000). Also, this theoretical perspective moves beyond reviewing explicit organizational policies and rationalities to provide a conceptual platform to take into account ‘irrationalities’ stemming from the context of the organization as well as from cultural systems embedded in organizations” (Avgerou, 2000, p. 236).

At the same time, more traditional approaches to institutionalism explain how social dynamics between institutions can facilitate the diffusion of technological adoption and structural innovations, through the sharing of “institutional myths” about how innovations affect efficiency (Meyer & Rowan, 1977). Traditional approaches are also helpful to examine the role of library leadership in the facilitation of innovation through interviews aimed at uncovering their

experiences during the COVID-19 pandemic. Traditional institutional theory emphasizes how institutional constraints limit and enable the actions and activities of individual actors within institutions (Scott, 2005, p. 409). Taken together, this theoretical orientation provides a broad array of theoretical tools with which to pursue the research questions posed above. It will do so by relying on a number of more specific theories and conceptual frameworks, which are presented below.

2.2. Defining social innovation in public libraries

Public libraries across the US aim to continuously innovate to meet the needs of their communities and patrons. Over the years, research about innovation in public libraries has continued to evolve. In general, social innovations can be defined as new ideas, products, services, and models that simultaneously meet social needs and create new social relationships or collaborations (Murray et al., 2010). Gorham and Bertot (2018) suggest that innovations in public libraries consist of access to information, technology, services, support, and expertise for better serving patrons and diverse communities.

An authoritative source defined social innovation as, “innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly developed and diffused through organisations whose primary purpose are social” (Mulgan et al., 2007, p. 8). Sørensen and Torfing (2011) touch on two important novelties in this definition of social innovation. First, the purpose of innovating is not merely to make the public sector more efficient but rather to develop new programs and services that aim to meet unmet social needs. Second, innovation is not created merely by actors and processes internal to the public sector but involves deliberate attempts to tap into the creativity of charities, associations and social entrepreneurs in order to find new ways of meeting pressing social needs.

Garud and Karnøe (2003) add an interesting tie into institutional theory and state:

We understand this process as embedded and self-reflective, and that it may be coordinated and collaborative, or that it may be the emergent product of accumulation, collective bricolage and muddling through daily work (Garud & Karnøe, 2003)

Social innovation efforts depend both on the will of actors to see them through but also on the institutional conditions that frame them (Van Wijk, Zietsma, Dorado, de Bakker, and Marti, 2018). This extrapolation of social innovation fits the context of social innovation in public libraries well because it emphasizes the growing need for libraries to unmet social needs through creative and collaborative approaches.

This thesis will approach social innovation in libraries according to the perspective of Roberts and King, who claim that

Innovative solutions can be either the result of the invention of something entirely new or the result of the imitation of innovative solutions from elsewhere through a process of adoption and adaptation. Hence, it is not the source of innovation but the local context that determines whether something is an innovation or not (Roberts and King, 1996).

Sørensen and Torfing take a slightly altered approach and state

Innovation involves change, but not all forms of change qualify as innovation. Only step-changes that disrupt existing practices and common wisdom in a particular area are innovations. Step-changes can be small and incremental and merely change the form and content of particular products and practices, or they can be large and radical and transform both the goals and operational logic of an entire system of commodity or service production or a whole regulatory regime.” (Sørensen and Torfing, 2011).

Step-changes involve some degree of discontinuous change and that is what it takes to innovate, and to develop and implement new and creative solutions that somehow break with past strategies.

2.2.1. Incremental and radical innovation

Schumpeter (1942) stated that ‘radical’ innovations create major disruptive changes, whereas “incremental” innovations continuously advance the process of change. Radical innovations make a significant impact on the institution or environment they occur within. Schumpeter focused on the impact of innovations, as opposed to their novelty. In the case of libraries, a radical innovation could change the structure of an institution or completely change the way it

provides services. An example might be going from in-person programming to 100% digital programming in a short period of time.

Incremental innovation concerns an existing product, service, process, organization or method whose performance has been significantly enhanced or upgraded (The Innovation Policy Platform, 2020). In the case of libraries this could mean a particular service has been adapted to improve outcomes. For example, books that were previously reserved and picked up from a holding shelf in the library are now offered for curbside pickup.

2.2.2. Crisis-Driven Innovation

A paper by Bessant and Trifilova explores the role which crisis conditions play in shaping new innovation trajectories and enabling ‘radical innovation’. This paper shows how the experience of extreme conditions forces the search for new solutions which can bring significant performance improvements (Bessant and Trifilova, 2012). Social innovations can arise out of urgent needs and resource limitations; these being preconditions for ‘crisis driven innovation’ (CDI).

Existing solutions may not be viable in such situations for a number of reasons including (relatively) high cost, lack of entrepreneurial return, technological inappropriateness (e.g. lack of skills base to support and maintain), etc. Instead, new solutions emerge which are better suited to the extreme conditions; the process requires rethinking and recombination in creative ways and can be the crucible out of which novel innovation trajectories emerge (Dees 2009).

The reframing involved in CDI drives an active search and experimentation agenda which pushes into novel territory and has the potential for change at a systems level – ‘architectural’ rather than component level innovation (Henderson/Clark 1990).

User involvement in a process of coevolution is also highly relevant; such radical innovation systems emerge from a specific context and it is the regular interaction with users which shapes the emergent model in such a way as to permit rapid and widespread diffusion (Bessant and Trifilova, 2012). In this case of libraries during the COVID-19 pandemic, user involvement may include patron feedback loops.

This concept of crisis-driven innovation (CDI) fits well with the expediency in which libraries had to respond to the emergence of COVID-19 in order to adapt and change their services to meet public needs. This research will look for links between the following five-step CDI process within the data collected.

Bessant and Trifilova (2012, p. 238) provide a five-step process that illustrates how crisis-driven innovation creates performance improvements and systems-level change.

- i. Crisis stage - Creation of a driving entrepreneurial vision which simultaneously articulates the need for change and for radically different solutions involving a new trajectory
- ii. Observatory - Extensive search in novel directions to find relevant approaches which could be adapted – requires ability to abstract problem and solution thinking to a higher level and brokerage mechanisms to make connections
- iii. Laboratory - Experimentation around core ideas and creating in context a new system through recombination of proven elements from elsewhere
- iv. Prototyping - Development of a scale version of the system which allows for testing and configuration in context with users. Also provides a ‘boundary object’ which can demonstrate potential and engage key agents in further development and diffusion
- v. Scaling and diffusion - Codification of core model into a ‘standard’ transferable package which can be replicated. Importantly this allows for further innovation and continuous improvement via channels which integrate emerging ideas into the ‘standard operating model’

2.3. Leadership for innovation and multi-actor collaboration

The literature acknowledges that innovation is dependent upon library leadership (Germano, 2011). There is scarce information related to the decision factors and actual activities administrators can undertake for fostering innovations in libraries. This section will look at how public leaders leverage multi-actor collaborations to innovate, and how leaders who assume the role of ‘conveners’, ‘facilitators’ and ‘catalysts’ mitigate barriers to collaborative innovation in the public sector.

Over the last two decades, the concept of ‘multi-actor partnerships’, also known as ‘multi-stakeholder partnerships’ have gained importance because of their ability to acknowledge the complexity and interconnectedness of social problems. Multi-actor partnerships (MAP) are collaborative processes involving a diversity of actors in order to address complex problems together (Dewulf, 2007, pg. 2). For the purposes of this paper, the term ‘multi-actor collaboration’ will be used, as used by Torfing (2018).

Sørensen and Torfing (2016) state that it is often in the meeting between different public and/or private actors that new ideas are developed, processes of mutual learning are accelerated, and joint ownership of new and bold solutions is built. This suggests innovation is a collaborative process. Torfing (2019) explains why and how multi-actor collaboration may spur public innovation. This is important to note because leaders are seldom responsible for innovations themselves, but rather sustainable innovation comes to be in organizations built to empower their staff to connect with the community to tap into pre-existing resources. This search for public innovation heroes fails to recognize that innovation is seldom the result of the efforts of a single actor (Csikszentmihalyi, 1996).

Torfing (2019) goes on to explain the actors within the multi-collaboration process.

The participants in collaborative innovation are public and private actors that either have relevant knowledge, ideas and resources or are affected by the problem or the innovative solution and, therefore should be included in order to ensure that the problem is properly understood and the solution is feasible and solves the problem.

Real life motivational problems and political power struggles tend to determine the inclusion and exclusion of actors, but ideally the actors are determined by the challenge that needs to be addressed (Torfing, 2019). Actors may include public managers and employees, civil society organizations, experts and professional associations, citizens and service users, which in this case would be patrons of the library.

The efforts of public leaders and managers to enhance public innovation through multi-actor collaboration call for a new type of leadership and management that is more ‘distributive’, ‘horizontal’, ‘collaborative’ and ‘integrative’ (Sørensen and Torfing, 2011). The most notable characteristics of these leaders is that they act as skilled facilitators, and their employees and

teams are allowed the freedom to lead themselves. This is a type of decentralized leadership that assumes if employees have the skills and knowledge to create and implement new solutions, they will achieve better results if their day-to-day activities are monitored by a decentralized style of leadership. A leader's role is to ensure that staff are trained, empowered, supported and coached, but ultimately given the freedom to innovate. The ultimate goal of distributive leadership is to facilitate self-regulation (Sørensen and Torfing, 2011).

The main premise of collaborative innovation is that the exchange of different experiences, ideas and opinions can disturb the established practices and trigger transformative learning processes while also building joint ownership over new solutions. This exchange of creative solutions between diverse actors opens up public bureaucracies (Torfing, 2019). In turn, these collaborations can lead to the integration of new ideas into new solutions, the testing of prototypes, implementation of new solutions, mobilization of resources, and diffusion of innovative ideas amongst ambassadors (Sørensen and Torfing, 2011).

Van Wijk, Zietsma, Dorado, de Bakker, and Marti offer up theory that further discusses the collaborative role of actors integrating micro, meso and macro level insights from institutional theory. First they examine the micro-level, and suggest that embedded actors become more agentic through their interactions with others.

They experience emotions which enable them to hear and understand others' viewpoints, stimulating reflexivity, challenging their taken-for-granted perspectives, and partially disembedding them from their governing institutional environment, creating room for new, innovative perspectives to enter their thinking and acting. The emotional energy of these interactive processes fuels their will to engage in agency (Van Wijk, Zietsma, Dorado, de Bakker, and Marti, 2018).

Next they focus on the meso-level and claim that increases in interactions among actors and their engagement in understanding each other's perspectives and interests and negotiating shared perspectives in "interactive spaces". Here we can observe how actors' interactions and framing can produce friction, tension and cracks required for new opportunities for social innovation. When this happens we begin to see renegotiation of structure, patterns and beliefs that can lead

to the co-creation of alternative proto-institutions that hold the potential to become institutionally embedded. (Van Wijk, Zietsma, Dorado, de Bakker, and Marti, 2018).

Lastly, the macro-level recognizes that institutional contexts often guide or ‘discipline the dynamics of the micro and meso cycles. (Van Wijk, Zietsma, Dorado, de Bakker, and Marti, 2018).

Leadership approaches to engaging teams are key for the process of multi-actor collaboration. Sørensen and Torfing argue that barriers to collaborative innovation in the public sector can be mitigated or overcome by public leaders and managers who assume the role of ‘convener’, ‘facilitators’ and ‘catalysts’ (Straus, 2002; Crosby and Bryson, 2010; Morse, 2010; Page, 2010; Ansell and Gash, 2012). Sørensen and Torfing (2011) explain that the role of the convener is to bring together relevant actors and spur interaction and the exchange of information, views and ideas. The role of the facilitator is to get the actors to collaborate by constructively managing their differences and engaging in processes of mutual learning that bring them beyond the common denominator. The role of the catalyst is to create appropriate disturbances that bring the actors out of their comfort zone and force them to think creatively and develop and implement new and bold solutions.

Table 1: A summary of the functions of conveners, facilitators, and catalysts (adapted from Sørensen and Torfing, 2011)

Role	Function
Convener	<ul style="list-style-type: none"> ● Select teams with relevant innovation assets ● Clarify roles and drawing up a process map ● Encourage interaction between actors by stimulating the recognition of their mutual dependence on each other’s resources ● Secure political support protecting the integrity of the collaborative arena ● Give direction and aligning the goals and expectations of the actors
Facilitator	<ul style="list-style-type: none"> ● Arrange good and effective meetings, ensuring smooth communication and activating actors ● Enhance and sustain trust between actors

	<ul style="list-style-type: none"> ● Develop a common frame of understanding by creating a common knowledge base ● Resolve or mediate conflicts ● Remove obstacles to collaboration by securing support from the executive leaders and negotiating how the costs and gains of innovative solutions are distributed among the actors.
Catalyst	<ul style="list-style-type: none"> ● Construct a sense of urgency ● Prevent tunnel vision by encouraging actors to change their perspectives where necessary ● Create open and creative search processes by changing the venue for meetings and the way that actors interact ● Facilitate the management and negotiation of the risk and coordinate implementation processes to enhance synergy and avoid overlap ● Ensure that participating actors assume the role of ‘ambassadors’ to diffuse explicit and tacit knowledge about the innovative solution.

2.4. Factors that impede social innovation

The following section aims to outline some of the challenges to innovation in libraries that have been identified previously in the literature. This is not a comprehensive review of all problems identified, but rather several were selected that may be relevant for this project. This literature review informs the research plan and provides a framework to compare the findings to.

2.4.1. The digital divide

A problem public libraries in the US faced prior to the COVID-19 pandemic is ‘the digital divide’. Libraries consider themselves inclusive institutions that offer free information and materials to all demographics within communities. Since the conception of the internet there has been a migration of information to the internet, and with that people’s preferences for how they access information has changed. In fact, in our modern world, some information can only be

accessed in digital formats. Those in the US without access to a computer with internet access at home often visit public libraries for computer usage.

Previous research has examined libraries' roles in expanding internet access and digital literacy and investigated the decisions and controversies across different digital information strategies. For example, one study focused specifically on results associated with libraries their loaning of hotspot devices to patrons as a means to bridge the digital divide gap (Stovner, 2019).

During the COVID-19 pandemic, one of the primary means by which libraries continued to provide services was through digital platforms and events. Thus, the digital divide during COVID presents a new, yet familiar, host of problems. Those who might have previously used digital services at physical library spaces due to lack of internet at home, are often no longer able to do so. Families and children face internet access issues when attempting to work or study from home.

Research during COVID-19 pointed out the significant problems schools have providing equitable educational access to students through digital means. Schools tackle challenges of providing equitable educational access by attempting to provide (internet) access for students, while even households with service available struggle to maintain sufficient speeds and/or can afford it. Essential activities moved online, yet sufficient Internet is an essential public service that remains unattainable for many US households (Lai and Widmar, 2021).

2.4.2. Funding problems

Public libraries aim to be the great information equalizer, but mission is not achieved in all US public library systems, in part, due to the fact that library funding varies significantly based on neighborhood income and urbanization levels. Income and urbanization have been widely associated with information equality and lack of funding in public libraries. A nationwide multivariate study of neighborhood-level variations by Sei-Ching (2011) revealed significant funding and service variations across the nation's 9000 library systems. Library systems in lower-income or rural neighborhoods were relatively less funded and offered fewer information resources.

The vast majority of US public library budgets come from local funding. Therefore, it seems a general rule of thumb would indicate that in some cases, people living within wealthier tax brackets may likely have access to libraries with more resources.

A typical annual budget for a US library is based mainly on city or county allocations, or property tax allocations. Contrary to popular belief, state and federal dollars usually make up the smallest portion of public library funding. While state funds sometimes help support local libraries, this funding source can be inconsistent and subject to budget cuts. All US public libraries are funded by some combination of local, state and federal dollars, this mix often greatly varies. Public library funding in the US is not based on use or demand (Advocacy in Action, 2015).

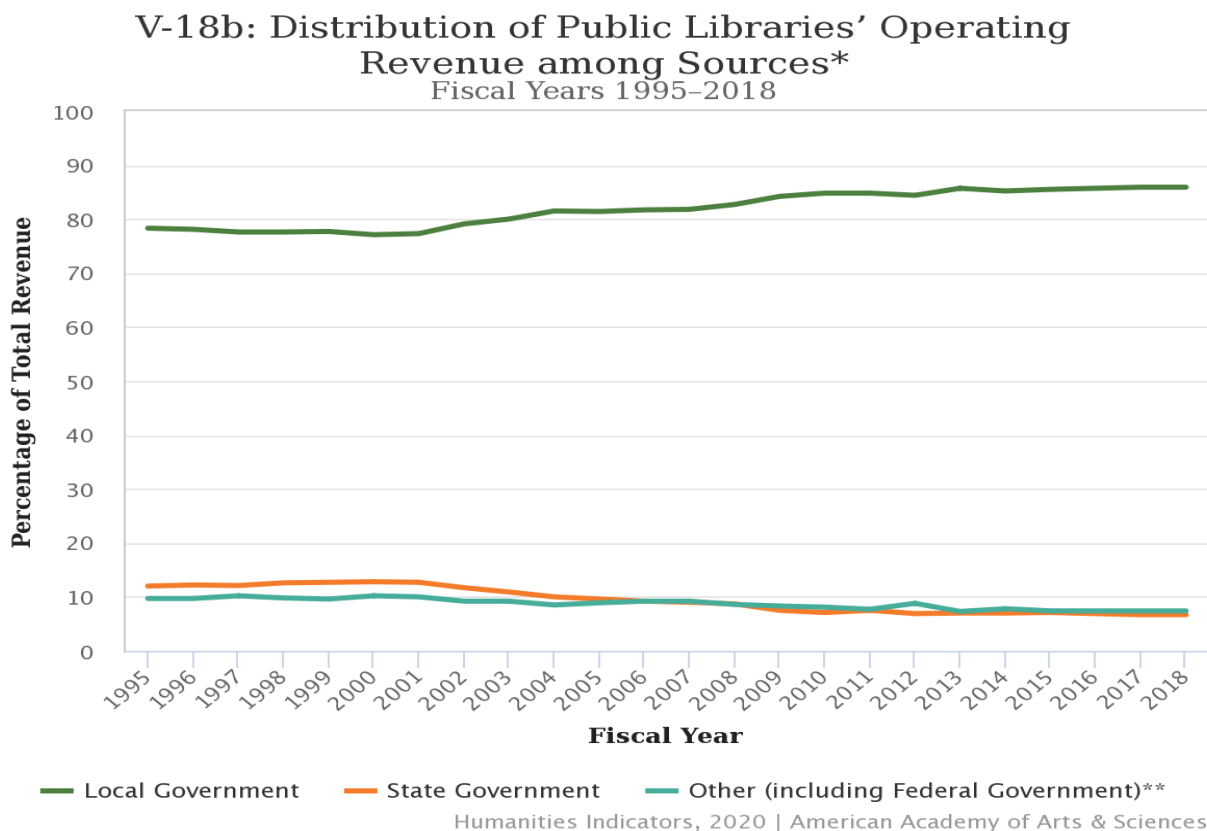
‘Humanities Indicators’ (2018), an American Academy of Arts and Sciences database, reported that public libraries received the large majority of their revenue from local governments. Local funding of public libraries began increasing in 2002, and by 2018 local funds represented 86% of all library revenues, up from 78% in 1995.

Over the 1995–2018 time period, the share of funding coming from state governments decreased from 12% to less than 7%. The share received from “other” sources—the federal government, donations, fees, and grants—decreased also, from approximately 10% to 7%.

During this same time period, the federal government was the source of a miniscule proportion, 1% or less, of library revenues. Federal funds came mostly in the form of Library Services and Technology Act grants distributed by state library agencies (U.S. Department of Education, 2018).

The following figure, an overview of public library revenue sources from 1995-2018, illustrates a trend of strong dependence on one revenue source, and in this case it’s clearly local government funding.

Figure 1: Library Funding Sources (American Academy of Arts & Sciences, 2020)



Public libraries are typically overly-reliant on one key source of funding. It is suggested that public libraries should rely less on traditional government funding, and more on alternative funding sources (Foundation Center, 2020). A review of research and professional literature by Agosto (2008) provides an analysis of the major arguments for and against alternative funding for public libraries and a consideration of the implications for public librarianship in the United States. Efforts to address this problem are a common trend in the literature. The Foundation Center has created ‘The Visualizing Funding for Libraries’ data tool, which aims to help libraries identify funding opportunities to support innovative projects and solutions for their communities (Foundation Center, 2020).

If the majority of library funding usually comes from local dollars, it may indicate that those in rural areas with less tax payers, or economically vulnerable populations have access to less-resourced libraries. Rural libraries often have more limited budgets than their urban counterparts. They tend to have smaller book collections, lower bandwidth Internet connection,

and less staff (Bertot et al., 2008) If the purpose of libraries is to push forward knowledge and provide opportunities for growth and learning, this may present a double disadvantage for these groups.

2.4.3. Organizational impediments

Jantz (2015) pointed out the critical nature of the leadership team, decision-making and organizational structure that can affect innovation for better or worse, and in order to find success with innovation leaders must promulgate a corresponding vision throughout the organization.

Innovation is not dependent on individual creativity and can be systematized anywhere “because it has everything to do with organization and attitude and very little to do with nurturing solitary genius.” (Jantz, 2015).

Structure-related barriers are associated with hierarchical design within libraries. Lee (1993) states that a highly structured and bureaucratic organizational design renders libraries incapable of responding to rapid technological progress. Brundy (2015) speaks to academic libraries and suggests they should adjust their organizational structures such as to encourage and enable participation in decision-making to cope with the challenges of a changing environment. A recent study identified homogeneous workforces as a barrier to innovation (Suchá, Bartošová, Novotný, Svitáková, Štefek, Víchová, 2021).

2.4.4. Community connection

A body of literature focuses on the relationship between libraries and communities, and there is some limited information discussing community and what it means for innovation. This section touches upon these two topics.

An article from 2011 explores aspects of library community building, indicating that this topic has been up for discussion for at least a decade.

Through education, access, equity, inclusion, engagement, and simply by existing, public libraries are strengthening the communities in which we live. Understanding our role in community building and being able to articulate this role is essential to the work we

(libraries) do. Equally as important is our ability to listen to and meet the needs of our communities. The public library must adjust to meet current and future challenges (Scott, 2011).

One study identified five propositions that frame libraries as “cultural institutions that engage considerable physical, economic, and moral resources to improve the social and intellectual capacity of their communities”. This study proposes that (1) the public library is an interpretive organization; (2) the public library is *an asset that builds community*; (3) the public library is a center for community discussion and a safe space where individuals can find information they want and need; (4) the public library must be an ethical institution that projects trust; and (5) the public librarian is a public administrator (Arns and Daniel, 2007).

The literature establishes the libraries in general are important resources for and to the community. Recent research shows that libraries lacking connection to their communities face barriers to innovation. The authors comment, “The more successful libraries in social innovations are those with strong ties to the founder, other organizations and actors in the area, and readers. Ideally, these ties should not be based only on providing services, but also on mutual feedback (identifying and meeting the needs of the community members), collaboration, and co-creation” (Suchá, Bartošová, Novotný, Svitáková, Štefek, Víchová, 2021).

3. Methods and research design

This section will provide information regarding research methods and design, starting with a brief background that frames the methodical choices and explanations of the thinking behind methodological choices. Next, information is provided about case selection, data collection, and data analysis. The section concludes by discussing reliability, validity and generalization, and lastly, research ethics.

This study seeks to develop a better understanding of how US libraries are innovating to connect with their communities during the COVID-19 pandemic. To provide background for the methodical section of this thesis, the first case of COVID-19 was identified in the United States was confirmed on January 21st, 2020. The rise of this crisis forced libraries to innovate under pressure. In addition to learning what libraries are doing, a desired outcome of the study is new knowledge about the role of leadership in the facilitation of innovation of leadership and the barriers they face.

This is a qualitative research project that uses a multiple case study model, which includes evidence from semi-structured interviews, desk research, and document analysis. Multiple case studies can provide a better basis for theory building because having multiple cases allows for a comparison of those cases (Yin, 1994).

The phenomena of ‘innovation’ and ‘leadership’ are multi-faceted and therefore it is useful to investigate a specific case within a real-world context to understand the factors at play. This research benefits from a phenomenological approach that examines people’s statements, actions, perspectives and results to get an answer to the research problem and questions. This research focuses on the ‘how’ of a contemporary phenomenon within the real-world context and relies on multiple sources of evidence, so a case study is a well-suited method to obtain answers to the research questions (Yin, 2018, s.4)

The research questions posed match well with an exploratory case study, since there is no predetermined outcome. According to Yin (2014), in the exploratory case study, the questions answered are “how” and “what.”, and are appropriate when you wish to gain an extensive and in-depth description of a social phenomenon. A case study approach, that included semi-

structured interviews, desk research and document analysis, provides a strong overview of innovations and barriers, leadership strategies and barriers to innovation in public libraries during COVID-19.

3.1. Case Selection

This research focused on the cases of two public library systems located in the United States, the suburban and urban Orange County Public Library System (OCLS) in Florida and the primarily rural Southern Adirondack Library System (SALS) in New York.

The Orange County Public Library system (OCPL) is an association of fourteen library branches, coordinated by a main branch in Orlando, Florida, which includes the 26,000-square-foot Dorothy Lumley Melrose Center for Technology, Innovation & Creativity (OCPL, 2021).

Chartered in 1958 by the New York State Board of Regents, the Southern Adirondack Library system (SALS) is a consortium of thirty-four libraries that is provided support through an Integrated Library Systems (ILS). ILS systems are designed to help libraries with three primary duties: increase operational efficiency, provide access to a library's collection and provide access to external resources (Kochtanek and Matthews, 2002). In this case, the ILS coordinates delivery of interlibrary materials, offers professional development, and various other coordinated initiatives. When it comes to operations, each library is autonomous – they each have their own board, policies, directors, and budget (Southern Adirondack Library System, 2021).

Cases are selected through purposive sampling (Strumińska-Kutra and Kołodkiewicz, 2018). For this research, the cases selected, library systems, were chosen in part because both have been recognized for innovative practices in the recent past as winners of the Public Library Association (PLA) Library Innovation Award. The honor went to the Orange County Florida Public Library System in 2018, and the Southern Adirondack Public Library System in 2019. The PLA Library Innovation Award recognizes a public library's innovative and creative service program to the community. Their website states that any innovative, cutting-edge program, activity or service will be considered” (PLA, 2020). In terms of choosing cases, the process was straightforward, and it can be justified to sample cases that were recent winners of the Public Library Association’s innovation award. Although, later on in the research process it was discovered that the criteria that determines the winner of the contest is very vague and any

innovation, no matter how big or small, may qualify the library system for an award. Perhaps the case selection could have been stronger if the criteria for ‘innovative libraries’ were more specific.

In addition, the two systems have significantly different institutional frameworks, with the OCPL system being coordinated centrally through an administrative office, and the SALS system being operationally autonomous and providing limited resources through a consortium. These two library systems constitute a mix of urban, suburban and rural libraries in the United States, which provides greater diversity to the sample. The Table shows both systems benefit from similar funding sources, but their bottom lines would presumably afford them unequal access to resources.

Table 2: Comparison of cases

Cases	Number of branches	Urbanicity	Population served	Funding sources	Total 2021 Budget
Orange County Library System (OCPL, Florida)	14	mixed urban	One million +	property taxes (special taxing district) supplemented by fines and fee collections, grants and donations	\$52,500,000
Southern Adirondack Library System (SALS, New York)	34	suburban, rural	314,201	property taxes supplemented by state aid, fines and fee collections, grants and donations	\$2,139,115

3.2. Data collection

Using more than one method or source of data in the study of social phenomena (Bryman, 2016) instills greater confidence in the findings. Thus, this research employs a triangulation of methods. In this case, desk research, document analysis and semi-structured interviews are used to obtain data for all three research questions.

3.2.1. Documents

Document analysis was used as a means of capturing innovations taking place at library branches. Libraries are institutions with high levels of transparency and their work is visible to the general public. Preliminarily desk research showed that libraries reached their patrons via various social media platforms, however Facebook overwhelmingly was the most popular with the greatest patron following and engagement. To capture an overview of innovations being implemented at all forty-nine libraries, the researcher read all library announcements and events on each library's website and took detailed notes. Official reports and meeting minutes from library websites were reviewed as well. In addition, a thorough review of library Facebook pages was completed on all updates between March 1st, 2020 and December 31st, 2020. All data was captured on a spreadsheet.

3.2.2. Individual, semi-structured interviews

Bryman (2016) explains that during a semi-structured interview the researcher has a list of questions to be covered, an interview guide, but the respondent has a great deal of leeway in how to reply. This process is flexible, and semi-structured interviews have the capacity to provide insights into how research participants view the world (Bryman, 2016).

This research relied on semi-structured interviews with various levels of library leadership. The interview guide was designed with an opening section that described the research, six open, neutral and non-leading questions, and a closing section to provide the interviewer a consistent script. Suggestions for follow-up questions were listed under each of the main questions. The questions were simple so that the interviewee could easily address the main point. The interviews were aimed at lasting approximately forty-five minutes.

The respondents in the interviews were leaders within the library systems main office or individual branches at various levels. Leaders were identified via library system websites and representatives within each system connected the researcher with other leaders according to specific criteria. Each of the seven potential participants that were approached responded promptly and were eager to assist with the research. This might be an advantage of working with library types who are generally interested in furthering knowledge, or as one respondent said, “We talk, we share” (1/OC).

All respondents were chosen on the basis that they met three pieces of criteria. The first being that they held a leadership position within their respective library system or individual library branch, second, that they took part in decision-making processes, and third, that they were employed by the library system or branch when it was awarded the ALA Innovation Award either in 2018 or 2019. All potential respondents were screened to ensure that they took part in conversations and decisions regarding the library system or individual library response during the COVID-19 pandemic.

In order to gain more specific information about the effects of leadership on innovation, seven interviews were conducted with leadership from the two library systems selected. Four interviews were conducted with the OCLS leadership, as it is a larger system, and three interviews were conducted with leadership from SALS. All interviews were scheduled via email with the assistance of scheduling software. Special attention was paid to understanding the specific leadership role of each respondent prior to our interview.

Interviews were conducted with executive leadership who were employed at the system main offices and well as local library leadership at various levels. All interviews were conducted via secure video call within a one-week period during February. They lasted thirty to fifty minutes and were audio recorded with permission from respondents. During the interviews brief digital notes were taken on a copy of the interview guide to outline the highlights of our conversations. The interview audio files were professionally transcribed. Transcription helps to correct the natural limitations of our memories and allows for a more thorough examination of what people say (Heritage, 1984, p. 238), therefore it was helpful for this research project. Prior to sending the interviews to a professional transcription service, the researcher listened to the audio file and

supplemented the original written notes to get an overall picture of the data collected. Once the transcriptions were received back from the service they were reviewed for potential errors.

3.3. Data analysis

There are no clear-cut rules about how to conduct qualitative data analysis. However, there are some general approaches. The first step to understanding the data collected was to organize the data to provide a clear picture of how the data aligned with the research questions. Bryman (2016) reminds us that since qualitative data derived from interviews often takes the form of a large corpus of unstructured textual material and therefore, it is not straightforward to analyze.

In order to become familiar with the data, besides having listened to the original interview recordings twice, the transcripts were reviewed several times. In addition, all findings from texts, including those obtained from Facebook, library websites, reports, and meeting minutes, were reviewed.

The text was reviewed so that any text considered insignificant or non-relevant to the themes within the research questions were disregarded. Next, meaningful units were identified. “A meaning unit is a text fragment containing some information about the research question.” (Malterud, 2012, p. 797) Categories were chosen to sort meaning units based on both previously identified theory and from within the findings, according to the themes within the research questions.

The categories are: crisis-driven innovation, incremental and radical innovation, multi-actor collaboration, role of leadership/decision-making process, and impeding factors. Rationale for these choices is explained in Table 3.

It is important to note that despite the fact that the literature provides these research definitions of both incremental and radical innovations, categorizing the innovations identified during the research process requires some degree of subjectivity. In general, this research depends on the definition of an innovation by Robert and King (1996) to identify innovations. They state, “it is not the source of innovation but the local context that determines whether something is an innovation or not.” (Roberts and King, 1996).

Table 3: Justification for category selection

Category	RQ#	Justification
Crisis-driven innovation	1	This category was chosen from theory and was helpful to organize comments that may align with the five-step process from Bessant and Trifilova (2012, p. 238).
Incremental and radical innovation	1	This category derived from theory and all examples of innovations from document analysis and interviews were captured and color-coded according to whether they were ‘radical’, ‘incremental’, or ‘undetermined’.
Role of leadership/decision-making process	2	This category was derived both from theory and from the dataset. The adapted chart based on Sørensen and Torfing (2011) presentation of conveners, facilitators and catalysts was used to sort comments and actions from interviews that aligned. In addition, all information related to decision-making processes that emerged from interviews was included.
Multi-actor collaboration	2	The category is derived from theory and allows for examples of multi-actor collaboration from document analysis and interviews to be captured.
Impeding factors	3	This category emerged from theory and captured all conditions that impeded social innovation. Subcategories under impeding factors included digital divide, which was derived from theory, and ‘other’, based on the various conditions that came out of the findings.

It had to be determined whether the innovation at hand caused major disruptive changes (radical), or incrementally enhanced an existing service, product or process (incremental). Since some of the literature used indicates that incremental or radical innovation is dependent on the impact of the innovation, this complicates the sorting process, as this research did not measure the impact of innovation implemented. In some cases, it’s easier to distinguish between an incremental and radical innovation based on the basic definitions in the literature review. Therefore, the findings do not always label the innovation identified as ‘radical’ or ‘incremental’, but may speak to impact as shared by the respondent.

Each meaning unit was attached to a code to clearly label it within a category. Codes were sorted by color within a spreadsheet so it was easy to differentiate between them.

Once all relevant data was coded, quotes that reflected the findings and provided clear examples regarding the phenomena were extracted. At that point, patterns and stories within the data started to emerge. From the coded data and quotes, written summaries of text were produced that would provide the basis for findings and discussions around themes revealed and research questions posed.

3.4. Reliability, validity and generalization

This section provides a narrative regarding how reliability, validity and generalization were ensured. A summarizing figure (Table 4) is provided at the end of the section.

Mason (1996, p.21) argues that reliability, validity and generalizability “are different kinds of measure of the quality, rigour, and wider potential of research, which are achieved according to certain methodological and disciplinary conventions and principles.” These concepts are widely considered prerequisites for the creation of new knowledge through qualitative research.

Quality qualitative research requires both external reliability, the degree to which a study can be replicated (Bryman, 2016), and internal reliability, that when there is more than one observer they agree about what they see and hear during the course of the research process (Bryman, 2016).

In order to ensure internal and external reliability, I took detailed notes regarding the research process. In addition, I developed a case study database and maintained a chain of evidence through coding my data. As explained earlier in the methods section, categories were identified to sort meaning units. All data was tagged and sorted under the categories with color codes. If another researcher wished to replicate this study, they would be able to by using these tools.

Validity can be defined as “the extent to which an account accurately represents the social phenomena to which it refers” (Hammersley, 1990, p.57). “Internal validity is concerned with the question of whether a conclusion that incorporates a causal relationship between two or more variables holds water” (Bryman, 2016, p. 41). Although the triangulation of methods provides data that can be cross-referenced to provide a more accurate picture of the phenomena being

studied, sometimes there are weaknesses that emerge from the use of documents. Bryman (2016) argues that documents are written in order to convey an impression, one that will be favorable to the authors and those they represent. Therefore, they should not be taken at face value because they represent their own reality, which may differ from the reality of phenomena being researched. For this research, library websites, Facebook pages, reports and meeting minutes were reviewed to search for information related to innovations being produced by libraries. One limitation of this process is that websites and Facebook pages often provide very brief information about potential innovations and could easily be misunderstood by a researcher. In this case, I was able to follow up with library leaders to confirm what had been viewed on the library’s website or Facebook page.

External validity, or generalization, is concerned with the extent to which the findings from a case can be applied to other cases. Yin suggests that the research should think of a case as an opportunity to shed empirical light about some theoretical concepts or principles, rather than a sample. He explains that

the theory or theoretical propositions that went into the initial design of your case study, as empirically enhanced by your case study’s findings, will have formed the groundwork for an analytical generalization.”

Therefore, the theoretical findings in this research, such as support of crisis-driven innovation and multi-actor collaboration theory, can provide some lessons to be generalized beyond immediate study (Yin, 2018).

Table 4: Overview of reliability, validity, and generalization

<i>Concept</i>	<i>Measures</i>
Reliability	<ul style="list-style-type: none"> ● Maintained a case study database, created categories and corresponding codes to clearly label data, and kept detailed notes about research process
Internal validity	<ul style="list-style-type: none"> ● Triangulation of methods ● Following up with respondents to verify meaning and accuracy of digital documents from websites and Facebook
External validity (generalization)	<ul style="list-style-type: none"> ● Theoretical propositions can be generalized beyond immediate study

3.5. Research ethics

To ensure an ethical approach, the four main areas of transgression discussed by Deiner and Crandall (1978) were reviewed, which include: harm to participants, lack of informed consent, invasion of privacy and deception.

In order to avoid these ethical blunders, the research was designed to adhere to the following guidelines:

1. The participants were provided detailed information about the project when they were first approached and asked to participate in the project. This included the purpose and objective of the research and what participation would require from them (Appendix). They were encouraged to ask any questions they may have about the research to ensure they fully understood the request.
2. Participants were ensured that they would remain anonymous so that they felt comfortable speaking freely about their experiences.
3. It was made clear to all participants that participation was voluntary and they had the right to withdraw their participation at any time.

Special attention was paid to protecting confidentiality and participants' data. Guidelines from Holmes (2012, p. 88-90) were followed. Information about the participants' work experience, position, and other pieces of information that might reveal their identity were removed from the transcripts. Instead, a numerical coding system was used to keep track of participants. A separate document that contained the participants' contact information was created, should follow up have been required after the interviews.

The research project was approved by the Norwegian Center for Research Data, the Privacy Ombudsman for Research (NSD). This was necessary because the research used human research subjects and included recorded interviews. NSD provided guidelines for storing and processing sensitive data. All data was saved on a password protected computer. After the interviews were transcribed, all audio recordings were deleted from the computer they were stored on. As soon as the project is complete and the thesis has been approved, all project-related data will be permanently deleted from the computer.

4. Presentation of findings

In this chapter, the key findings of the study are presented, based on evidence uncovered through case study. The findings are organized according to the categories identified through analysis and listed in Table 4.

The categories identified are: crisis-driven innovation, incremental and radical innovation, multi-actor collaboration, role of leadership/decision-making process, and impeding factors. The findings will provide the basis for answering the research questions posed regarding how libraries are connecting with communities during COVID-19, what is the role of leadership in this process, and what facilitates and impedes the process.

4.1. Crisis-driven innovation

The following section provides evidence and examples of crisis-driven innovation discussed during interviews with respondents. Respondents from both systems supplied evidence linked to the theory of crisis-driven innovation, fitting within the process as laid out by Bessant and Trifilova (2012). Respondents often mentioned rushed timelines when they referred to their library's response to the pandemic.

So most places like in mid-March, pretty much all of New York shut down for a couple weeks. Like absolutely only essential services and so no libraries. They had to close their buildings and everybody began to transition to virtual services and people moved really quickly. (3/NY)

Evidence showed libraries also created practical solutions to address the situation at hand.

So last year in March the news started trickling in that this was happening and we started to put away some of our toys and things that we keep in the library so that we wouldn't have kids in contact with so many different things. We definitely ramped up our cleaning, and then started canceling programs. We stopped booking our meeting space because we just couldn't have the people in the building anymore, and then we had to close. (2/NY)

Another respondent from OCPL spoke to the urgent need to readjust plans when the pandemic hit.

It greatly affected us (the pandemic) because we do an event every year called the Orlando Book Festival. The pandemic hit about two weeks before we were supposed to have this festival. We had an author coming in from New York City and everything got shut down. So it was a very quick transition to the virtual environment. We had to quickly cancel all in-person events, contact all these outside presenters, because we did about forty to fifty programs a month just in my department. (1/OC)

At the time interviews were conducted, respondents mentioned various incremental and radical innovations within different stages of the crisis-innovation process. One respondent said, “I think innovation comes out of having to struggle a little bit sometimes.” (3/NY)

The majority of those innovations were in the prototyping stage, as libraries were still trying out their new ideas at scale to see what worked and what didn’t. In general, respondents made little mention of patron feedback when it came to most of the innovations in the prototyping phase.

The following Table shows examples that were provided by respondents of innovations at various stages of the crisis-driven innovation process.

Table 5: Evidence of crisis-driven innovation, descriptions adapted from Bessant and Trifilova (2012)

Stage	Brief Description of Stage	Anecdotal Evidence
<i>Crisis stage</i>	Creation of vision articulating need for change and radically different solutions	“We were forced to close. The obvious decision was to somehow go virtual with what we do.” (1/OC)
<i>Observatory</i>	Search in novel directions to find relevant approaches	“So we heard about a thing called Streetyard...basically it's an online broadcasting studio and we figured out...we could broadcast online and then it would push to our social media pages...” (1/OC)
<i>Laboratory</i>	Experimentation around core ideas and creating, recombination of proven elements from elsewhere	“We were able to quickly get some events up and running because we have this online studio where we could invite outside presenters to come in.” (1/OC)

<i>Prototyping</i>	Development of a scale version of the system which allows for testing and configuration in context with users	“Teachers have told us, even if you have the option to do in-person field trips, I would still choose the virtual option because it's just easier for them to schedule. We have had some programs that have had higher attendance virtually than they did in person.” (4/OC)
<i>Scaling and diffusion</i>	Codification of core model into a ‘standard’ transferable package which can be replicated; allows for further innovation	<p>“In June, mid-June, we went back and started a curbside service, which is something we had never done. A lot of libraries around us started doing that, so we followed suit. It went well.” (2/NY)</p> <p>“We were helping libraries come up with policies for delivering curbside service.” (1/NY)</p>

4.2. Incremental and radical Innovations

The following section provides an overview of innovations identified throughout the research process. Through interviews and document analysis, both incremental and radical social innovations were discovered as a means for connecting with the community during COVID-19 at both library systems. Respondents indicated that libraries were prompted to take actions in ‘mid-March’ 2020. Soon libraries could not offer the usual in-person events, like story times, book clubs, cultural events, etc.

The methods section outlined the research process for identifying and categorizing innovations, whether they be incremental or radical, and discussed that this required some degree of subjectivity. In general, this project used this statement and the perspective of respondents to determine what and wasn’t an innovation: “It is not the source of innovation but the local context that determines whether something is an innovation or not.” (Roberts and King, 1996). The findings do not always label the innovation identified as ‘radical’ or ‘incremental’, but may speak to impact as shared by the respondent.

The most significant innovation discussed was how the OCPL system transitioned from limited digital programming and all in-person events to a digital format which all library branch patrons could access. The transition to digital services required radical change in operations and staff,

use of technology and user involvement. One respondent, who took part in the decision spoke to this.

The obvious decision was to somehow go virtual with what we do. We did close down as a library system when the pandemic first hit, but we're able to get virtual programming up and running within weeks. (1/OC)

One respondent mentioned that they have had a YouTube channel for years where they post videos of live events and they had a videographer on staff, so they had some of the experience and tools needed to make this transition. The same respondent elaborated, "I think by June we were offering about 70 virtual events, and in the last probably six months we've been right at about one-hundred. (per month)"

Another respondent from OCPL explained some of the virtual options that were offered at their branch.

We started offering virtual story times, recorded story times for our YouTube channel, started virtual book clubs, virtual genealogy classes, virtual ESL classes, virtual fiber arts classes, all kinds of options. (2/OC)

An OCPL respondent provided an example of a radical change in services from the previous year due to technological capabilities.

We just had a writer's convention (online) basically over the weekend...We do an event every year called the Orlando Book Festival, and the pandemic hit about two weeks before we were supposed to have this festival....so it was a very quick transition to the virtual environment...(1/OC)

Another respondent spoke to the fact that the OCPL system did not offer any virtual programming for children prior to the pandemic. Since the pandemic started, they have been offering virtual field trips to classrooms, which a respondent described as 'very popular', and has allowed the library to involve more Title One (low-income) schools. (4/OC)

They've already done eighteen virtual field trips and we have twenty-four more that have been requested. We're soon going to double the number of virtual field trips. (4/OC)

A respondent from the OCPL system spoke to an added benefit of virtual programming and noted that the range and quality of presenters the library can commission to participate in programs has expanded significantly.

We're doing the African-American read and we always have local luminaries present.

This year we were able to expand out and Carla Hayden, who is the librarian of Congress in DC, is going to be our keynote because we're virtual. (1/OC)

The respondent saw the situation as since many people are working online anyways, they are more willing to engage with partners in different geographic locations.

In addition to live virtual programming, a respondent explained that the OCPL system is currently planning some 'on-demand' programming that could be accessed online at any time. The respondent explained that these could be various series of short videos used for instructional purposes, like teaching patrons different ways to cook eggs (1/OC).

Within the first few months of the pandemic, some libraries within the SALS system went from zero to one-hundred by offering some virtual events as well, others did not. The virtual events were organized and planned by each individual library. Although some libraries within the SALS region advertised each other's events to patrons via social media, there was no coordinated effort arranged so that patrons of all SALS-affiliated libraries could take advantage of any one library's virtual events.

One respondent from SALS explained that some pre-existing in-person programs, like book clubs, were adapted to virtual versions, but other pre-existing programs had to be discontinued (2/NY).

Speaking of strategy to connect digital with specific populations, the same respondent mentioned that virtual programming for children and teens at one SALS library focused on socialization.

I found that kids just really weren't interested in coming to a program to see a bunch of live animals or something. They wanted to interact with each other. We've been using Discord channels with our teens, which lets them communicate. We have a Dungeons

and Dragons online program, just anything where we can get them talking and interacting again. That seems to be really what the younger generations want right now.
(2/NY)

The SALS system also relied heavily on offering pre-existing digital materials to their patrons. One respondent mentioned a tool called 'Read Squared' which allows people to track their reading and library activity online. This tool is provided to all New York libraries by the state. Commenting on the data obtained by the SALS system from Read Squared, the respondent said, "For 2020, we were at 13000 unique users, whereas in 2019 we had under 10,000, so...the number of people that we're using our virtual materials was astronomical." (1/NY)

A respondent from SALS explained that their library moved to curbside service in June for the first time, after witnessing other SALS libraries doing so. This respondent also mentioned that during warmer months some SALS libraries offered limited outdoor programming (2/NY).

Prior to the COVID-19 pandemic, the SALS system required new patrons to apply for a library card by filling out a paper application to obtain a physical library card. This card provided access to in-library materials as well and digital materials, like e-books. Once physical libraries were closed, the SALS system moved to a system where new patrons could apply for a library card online, which enabled them to access digital materials from home. An OCPL system respondent mentioned that their system provides virtual library cards for all students within Orange County, and adults can also register for a library card online (2/NY).

One incremental social innovation of interest is how the OCPL Melrose Technology Center adapted their 3D printing services to provide COVID-19 aid to the local community. One respondent explained this initiative.

They did some research and they found designs for parts of a face shield visor... I think about eight hundred of these were distributed to Orlando healthcare workers in nursing homes. By midsummer, the team started to create the entire face shield. We bought some high-grade Plexiglas, so they continue to 3D print...They cut the shields on our laser cutter in the Melrose Center. They made about three hundred actual full face shields.
(3/OC)

A respondent from OCPL mentioned incremental innovations, like how they were substituting in-person crafting classes, offering craft kits for pickup that can be completed by watching videos provided online by the library (4/OC).

Interestingly, the OCPL library system has been offering home delivery of books and other library materials for years, but this service became much more popular during the pandemic (3/OC).

Most respondents mentioned incremental innovations in how library staff manage their in-library spaces to ensure health and safety. A respondent from SALS mentioned that they do daily questionnaires about their health every time they work in the building (3/NY). Many respondents mentioned the installation of plexiglas in workplaces, new cleaning routines and holding as many virtual meetings as possible.

4.3. Leadership role and decision-making processes

This section reviews data collected about how leaders acted as conveners, facilitators and catalysts, and provides evidence and examples of how leaders participated in the decision-making process.

4.3.1. Conveners and the professionalization of innovation

During interviews multiple respondents revealed the importance of hiring for dynamic teams. Selecting teams with relevant innovation assets falls within the role of conveners (Sørensen and Torfing, 2011). Respondents from OCPL spoke to hiring for the professionalization of innovation, and the importance of the human element.

I can't reiterate enough how important it is to, if you are trying to develop resources like this (technological innovations) in a public library, to reach into the community of people who do those sorts of things rather than just relying on your existing staff. I think it's the difference between creating something that can be transformative in a public library and creating something that ends up being maybe a watered down version of what you intended to do because you didn't invest in that in the human resource side of it. Now, the technology is fantastic, but the people are the key. (3/OC)

Another OCPL respondent explained that their library was so dynamic because their ‘talented team really makes sense’. The respondent provided an example, “I do have an author on my team, so she has her pulse on what’s going on in the writing community.” (1/OC)

A SALS respondent spoke to hiring practices and explained that they always ask about applicants’ personal interests because these interests could lead to new library programs or services. They stated, “You learn about their interests and we see how we can fit them into the library world. I had someone who was really into cooking, so she was right away wanting to start a cookbook club.” (2/NY)

A respondent from OCPL spoke to team members' relationships with one another, which implied they were encouraged to interact, and especially during the pandemic which can feel isolating to employees working from home.

They are a really good group and they're also friendly with each other. I think that helps. They have each other too, and when they need that leadership or that guidance on something, sometimes they'll work together. (1/OC)

A respondent spoke of encouraging her staff to participate in the decision-making process, another attribute of conveners.

I empower them to be a part of the decision-making process. We have weekly staff meetings where we just get together and we talk about policies, procedures, et cetera. We also have a focus group meeting, and in that focus group meeting, they're able to bring their ideas to the fore. (2/OC)

4.3.2. Facilitators, trust and changing communication patterns

Multiple respondents spoke to actions and attitudes that aligned with characteristics of ‘facilitators’. One such characteristic mentioned was enhancing and sustaining trust between actors (Sørensen and Torfing, 2011).

One respondent from OCPL emphasized the importance of, “really trying to listen and take stock of what my staff has to say about their particular areas of expertise.” This respondent elaborated on the importance of relying on the staff, and noted, “As simply as I can put it, I’m

just trying to put people in the best position to be successful doing their jobs.” This respondent provided an example of trust invested in staff. When staff started working from home the respondent told the staff that he would trust that they were putting in their time (3/OC).

That's a big difference in the way we operate. In the long run, it does wonders for your staff to feel like you have trust in them and you believe that they're just going to get the job done, and they do. They deliver. (3/OC)

Another respondent from SALS referred to trust being central in their role as a leader.

I leave a lot of the programming up to the staff. I have a lot of really talented people on our crew. They have the ideas and run them past me if it's something new and unique. I usually just give them the green light to go because I trust them. (2/NY)

This respondent elaborated by explaining that when staff create programs aligned with their passions and interests that it makes for better programming.

Due to the fact that many library teams worked or are working virtually during the pandemic, respondents often spoke about changes in communication patterns amongst teams. Several respondents believed that their communication with their staff had increased during the pandemic through virtual channels. Respondents from OCPL spoke to an increased number of meetings, formal and informal.

I have a weekly meeting with my staff now that we all get together to make sure we're having that face to face with each other. And then I have one on one meetings with every single one of my staff members every week. So it can be anywhere from like fifteen minutes to an hour. But I want them to check in with me, just to see how they're doing mentally. (1/OC)

A respondent from SALS mentioned that meetings were becoming faster and easier due to their virtual nature, and described them as ‘more efficient’. This respondent also reported an increased number of meetings.

We used to only have like four staff meetings a year, but we've been meeting almost once a month now this past year. I feel like since we're not all together in the building at

all times now, it's important to touch base. I always tell people that if they ever want to talk one-on-one, they can get a hold of me. (3/NY)

Another SALS respondent spoke to an increased number of phone calls during the pandemic.

I think pre-pandemic, no one liked to call people on the phone. We preferred email because then you could just get to it in your own time. Everyone likes to talk on the phone now it seems much more than they used to. Now they're just so sick of typing that people really want to talk on the phone. (1/NY)

4.3.3. Leaders as catalysts

Limited evidence was presented as to how leaders acted as catalysts for innovation. Several respondents spoke of charging their team members to act as ambassadors for the library in the community and 'scouts' for determining the needs of community members. Another respondent spoke of how their team members were responsible for sharing the library's latest services and programs with patrons, which could be interpreted as an ambassador behavior.

In addition, leaders spoke of how they quickly mobilized their teams to take action when word of the impending pandemic came to their libraries.

4.3.4. Outlying Statements

There was one outlying response when it came to how a leader described their leadership role. In this instance, the respondent described their leadership role as all-encompassing, and explained a process which seemed inverse to what other leaders had explained with their staff taking more initial action in creating opportunities for services and programming within the community.

I'm in charge of the day-to-day functioning of the branch to include payroll, building maintenance, customer service, customer satisfaction, creating events and classes for the branch, marketing, the branch activities and creating partnerships with the community leaders and businesses. In my role, I can bridge that gap between the community and the library. So that means going out to the community, getting involved in events. Laying out the needs of the community so that I can work with my team to design events and classes that are in line with the community needs. (2/OC)

The following section provides an explanation and examples of how leaders engaged in decision-making processes. Leadership provided insight into decision-making processes, leaders acting as collaborators, facilitators, and catalysts, as well as evidence of multi-actor collaboration. Decision-making processes were critical to gather insight about how libraries connected with libraries during the pandemic and how leadership and staff shaped these activities. Some respondents provided evidence of their role in decision-making processes regarding innovations that took place during various points during the time period in question.

This respondent indicated that the decision-making process included leadership at the main branch, but also included leadership from other branches. The respondent described the consideration of technology in the planning process.

So we heard about a thing called Streetyard... basically it's an online broadcasting studio and we figured out ...we could broadcast online and then it would push to our social media pages... We were able to quickly get some events up and running because we could have this online studio where we could invite outside presenters to come in. We would take care of...being their producer, and then we were able to broadcast on YouTube and Facebook live. (1/OC)

Several respondents explained that continued monthly planning efforts for events are centrally coordinated by the main branch but leadership and staff alike from other branches take responsibility for parts of the monthly calendar. Working groups decide on themes for the month, and leadership and staff at libraries take responsibility for planning and presenting a share of the monthly digital programming.

Multiple respondents at SALS indicated that leadership at each individual SALS library was largely responsible for making decisions with how to operate during the pandemic. Evidence suggested that ideas for operational plans were often discussed between the thirty-four libraries during SALS consortium monthly meetings and this activity had seemed to increase during COVID-19.

A respondent indicated that a few of the SALS libraries kept in loose communication about their operational plans during COVID-19 (2/NY).

Multiple respondents indicated a degree of confusion from a lack of New York State directives during some points of the pandemic that led to a barrier in the decision-making process.

4.4. Multi-actor collaborations

The following section provides an overview of multi-actor collaboration taking place both within libraries and library systems and with community partners. As mentioned previously, literature suggests that multi-actor collaboration strengthens and improves the innovation process. The findings here suggest that multi-actor collaboration is taking place at two levels within the social innovation process at libraries during the COVID-19 pandemic.

First of all, there is evidence of multi-actor partnerships within various levels of library systems. These actors include local library staff and leadership from individual branches, and library system staff often located at a main branch or affiliated resource office.

At OCPL, prior to the pandemic, there was a pre-existing process for collaborative work between library branches. These pre-existing relationships show evidence of strengthening during the pandemic.

A respondent from OCPL described a well-organized process that facilitates internal collaboration.

I actually have an adult programming committee and each branch has a representative on that committee which has quarterly meetings. My staff are assigned to like three different branches that they can touch base with. We also have weekly meetings with our Youth Services Department and with our marketing team. We all meet as a group to find out what's going on and share ideas. (1/OC)

Working together as a system was mentioned by several respondents from OCPL.

Many of the events and classes are coming from a system-wide level. They will send out a master calendar and allow us to choose whatever we want to teach this month. Each branch chooses three or four (topics) and so we fill the calendar with the things that we'd like to teach. So we're working together. (1/OC)

Another respondent explained that software systems and databases are used to help coordinate staff from different branches, as well as the central office. They described the process for tagging programs so they are always aware of the content they have about any particular topic and can bring it back for years to come (2/OC).

Lastly, a respondent spoke to how other branches reach out to their branch for recommendations.

They reached out to us to see if we could recommend some ideas. They've done this a few times now. For example, other departments feel comfortable reaching out to see if the audio team can help with running the sound for an event. (3/OC)

AT SALS, some aspects of a pre-existing collaboration framework existed, but showed evidence of new communication patterns during the COVID-19 pandemic.

We're not totally coordinated in a lot of our efforts, but we have a directors' council meeting once a month where we all come together and talk about what's on our minds and issues that are coming down the road. Like right now, we all have to come up with a continuation of operations plan for our state... (3/NY)

One respondent spoke to a spirit of closer collaboration between the resource office and SALS libraries, and how some services libraries previously paid the coordination office for we're now seen as statewide initiatives. The respondent explained,

We are helping everyone as a community of library systems instead of being like...this is our thing. It was just interesting because someone asked me to do a workshop with them the other day and they asked if there would be a fee involved. And I said, no, because I kind of think this is a statewide initiative, like we're trying to help all of New York State residents. (1/NY)

One respondent provided an example of looking to another larger SALS library for support when it comes to creating new policies (2/NY).

Secondly, both systems showed evidence of multi-actor partnerships with various community partners, some of these were newly formed in response to the pandemic and other relationships existed prior to the pandemic and were utilized to solve new problems.

The OCPL system coordinates presenters from the community for their virtual programming. One respondent explained the process.

I oversee the event planners and they reach out to the different partners in the community and come up with ideas for programs. They always run their ideas past me. We have a vetting committee where we will get together as a group and fit ideas into our monthly plan. (1/OC)

One respondent emphasized how their department aims to target a diverse variety of presenters, including musicians, cooks, historians and targets topics “that would be appropriate for an adult audience”. The same respondent stated that during the pandemic, “we really try to get (form partnerships with) those mom and pop places to support local”. The respondent provided an example of how the library recently coordinated a virtual chef recipe demonstration with a new local Filipino restaurant to bring attention to cultural awareness. During the pandemic, virtual events, such as this one, have been available to patrons at all fifteen library locations within the OCPL system. The respondent spoke of how these partners often continue their collaboration with the library by creating new programming, like the healthy cooking series that community chefs are providing digitally. (1/OC)

OCPL respondents spoke of targeting specific groups affected disproportionately by the pandemic.

We are also trying to reach out to senior centers and talk like an adult story time for seniors since they can't really leave home. We are working with their coordinators to do a private story time just for their group. So if they're able to gather in like a community room, they can broadcast just like on YouTube or something like that. (2/OC)

Respondents spoke to reaching low-income patrons who are affected by the digital divide.

We work with one laundromat, it's a national program called Laundry Cares. This guy opened a new laundromat here in Orlando, learned about this program and he contacted

us to work with us. He set up a little kids' area with a bookshelf. We gave him books in English and Spanish, and library promotional materials, coloring books and things like that. (4/OC)

OCPL system is also targeting children through a partnership with Orange County Public Schools.

We have a liaison assigned to every school. One of the major changes we had to do this year was a digital school library card drive. Teachers sent library card forms home in the kids backpacks, and we created a URL for each school that they could share on social media newsletters through any way that they communicate with parents. I think we got at least eight hundred library cards generated through that one school library card drive this year. (4/OC)

A respondent spoke to their role as a leader connecting and contributing to community organizations and success she has had collaborating with them. Emphasis was placed upon the importance of going out into the community, accessing the needs of the community and tailoring services to meet those needs.

We were able to work together to host a national night out for the community, and that's where we invited all of the businesses to showcase what they had to offer. The police department was involved; the fire department was involved. All of the stakeholders in the community came together for one night of festivities, food and activities. It was great. The people in the community got to know the businesses more and the police officers got to know the people more. (2/OC)

Another respondent spoke to OCPL's success with promoting their initiatives through the local Public Broadcasting Service (PBS) and other local newspapers, and how this has allowed the library to inform the community about the full extent of their offerings (3/OC).

A respondent from SALS mentioned how joining the Small Business Association and the local Town Chamber of Commerce was an effective strategy for getting the word out about the library's services and for establishing partnerships. This involved volunteering at local events, getting to know local residents and being a presence in the community. This respondent

commented, “It's just a matter of connecting people to the resources they need. Yeah, and that's, I think, a key role that libraries can play.” (2/NY)

In addition, a respondent at SALS spoke of an ongoing community partnership with a food bank and local farmers that provided fresh fruits and vegetables at libraries, as some patrons resided in food deserts that lacked healthy options. During the pandemic, some locations were able to keep this service afloat in an adapted manner (3/NY).

Leader respondents spoke to their actions and attitudes that aligned with criteria outlined by Sørensen and Torfing (2011) as ‘conveners, facilitators and catalysts’.

4.5. Impeding Factors

This section outlines factors that impede innovation, as discussed by respondents. This section is organized according to the significance of the research findings, and reframes some of the topics highlighted in the theory section. First there is a discussion of evidence related to the digital divide, and then there is a discussion of evidence related to how libraries are addressing these issues. Next, observations of organizational impediments are discussed, followed by additional challenges identified through interviews, some of which were not previously mentioned by the literature.

4.5.1. Aspects of the digital divide or digital inequalities

Interviews revealed various aspects of the ‘digital divide’ challenging libraries efforts to implement and share innovations with their patron bases.

Respondents from both library systems spoke of patrons who lacked internet access or access to a computer, and generally cited economic reasons as the barrier. A respondent from the OCPL system explained that the system had a seventy-five percent increase in our Beanstack users. Beanstack is software that allows patrons to create, manage, and measure reading challenges. However, when this data is broken down by branch there are significant usership disparities at branches located in lower socioeconomic areas (4/OC).

One respondent from OCPL stated part of the problem as, “Often the problem is that our customers do not have access to digital formats, like if they don't have the equipment at home to log on to, or they don't have internet, then they can't attend our classes.” (1/OC)

Another respondent from OCPL mentioned that they are still not reaching as many people as they did prior to the pandemic and attributed this change to most services going digital. “I think the people that are missing out the most are lower income people, people who don't have Internet, or don't speak English yet.” This respondent followed up, “If you don't have broadband at home, are you really going to spend all your data watching a kids’ program for an hour?” (4/OC)

Libraries within the SALS system experience similar problems with patrons lacking internet access. One respondent stated, “The biggest challenge for the communities we serve is digital inequity, because we're in such rural areas, the library is often the only place to access broadband.” (3/NY)

Lack of skills or familiarity with technology was also cited as a barrier to patrons accessing library services. Respondents from both systems discussed seniors lacking technological skills. One respondent from OCPL stated, “Seniors need hands-on help, which we're not able to provide (during the pandemic).” (3/OC) Another respondent provided an example,

We have an elderly lady that comes into the branch on a weekly basis. She gets frustrated because we're not able to get as close to show her how to use the mouse. We have to try to work with her six feet apart, and that just does not work as well. (1/NY)

A respondent from OCPL mentioned that it's not only patrons that lack skills for using technology, but also some of the presenters invited to share content digitally lack these skills (1/OC).

4.5.2. Responding to digital inequities

Respondents discussed various responses to these problems. Both OCPL and SALS systems discussed applying for grants to address issues related to the digital divide, and a respondent from the SALS system recently received the ‘Libraries Transform Communities’ grant from the American Library Association.

We're going to start a conversation about digital inequities in our community with the goal of hopefully bringing it to the attention of some state representatives and local representatives to see if we can increase Internet access. (3/NY)

Libraries from both systems have extended internet access in library parking lots of sometimes other community locations. This way patrons can sit in their cars or walk up and use the internet with their cell phones or personal computers 24/7. A respondent from the SALS system explained that they are working with the local village to install a secondary wireless system, sponsored by the library, in a local youth center and park area where team sports are played, with the idea that families would benefit from wifi there (2/NY).

Respondents from both library systems mentioned some of their libraries lending out mobile 'hotspots' so that patrons can access the internet from their homes. However, a respondent from the SALS system explained that some of their communities are so rural that they do not have any cellphone towers, which are needed for mobile hotspots to work. They said, "We could buy all the hotspots we wanted, but it doesn't help, because we don't get a signal. So that has been a huge challenge." The same respondent mentioned that lack of reliable transportation continues to be a problem for rural library patrons (3/NY).

Respondents from both library systems mentioned some simple approaches to coaching patrons on how to use digital services. One respondent from OCPL stated, "We came up with clear instructions on how to login to Zoom and things like that. Then we did an online video of how you register for a class and get online, just trying to give them (patrons) some tools." (1/OC) Another OCPL respondent mentioned that some kids are unable to access reading program badges online so they are distributing paper versions at their branches or at other community locations that low income patrons frequent (4/OC).

4.5.3. Organizational Impediments

There were limited findings to suggest organizational impediments to innovation, as outlined by the theory section. However, evidence did suggest that SALS libraries, since they are not centrally operated, tend to make decisions in organizational silos. Many of the library branches are rather small and each individual library's leadership is responsible for their own decision making. The lack of data in this area might be a fault of the design of the interview guide.

4.5.4. Additional challenges

Many other direct and indirect barriers to innovation were mentioned during interviews. Several of those that hold significance, lack of state directives, lack of materials, digital fatigue, and other problems related to the virtual nature of services, are briefly touched upon.

Several respondents from SALS mentioned that New York state lacked clear directives for libraries in the beginning of the pandemic during spring of 2020. A respondent states that, “confusion really set in because there was not clear guidance and because libraries often aren’t considered when plans are being made...” (2/NY).

Another respondent mentioned that at one point, New York state directives required libraries to close down, but since then the state has left it up to individual boards and organizations to figure out what to do. In response to this barrier, the respondent explained that the SALS system, “came up with a numerical system that if our positivity rate went to a certain percentage for 10 days or more, that we would go to curbside or shut down.” (3/NY)

Digital fatigue was mentioned by one respondent from the OCPL system. They stated, “We have noticed that attendance is up and down, just because I think, being online for everything does get a little draining for people.” (1/OC)

Nearly all respondents from both systems mentioned that even though digital services were beneficial, they are simply not the same because they lack a physical, social component. One respondent said, “There's not as much opportunity for the customers to interact with each other.” (2/OC) Another stated, “There is just nothing to replace the experience of being there.” (3/OC)

Another respondent believed that many moms come to the library to talk to other moms, which is not currently possible. This respondent mentioned a noticeable lack of parental engagement during virtual events for toddlers and babies.

I've seen kids in high chairs just put in front of the screen and you can see the parents walking by in the background. I've seen a kid in a recliner during story time and she falls back in the recliner. You don't know where the parent is necessarily. (4/OC)

Other respondents briefly mentioned how virtual services often do not meet the developmental needs of babies and toddlers (2/OC, 2/NY).

Respondents from both OCPL and SALS spoke to actions they had taken to make library spaces safer, like physical modifications and cleaning routines, in response to the COVID-19 pandemic.

We have Plexiglas on our front desk and we have a table in front of our desk so people don't come right up to the desk. (4/OC)

Office space was changed, we added Plexiglas to a lot of our workspaces, and we are cleaning after we use each computer station. We moved things around. (2/NY)

At the time of the interviews, some respondents were working from home and others were working in the office at least some of the time. Respondents were curious about the future of virtual work in libraries.

Now we're still going into the office, but only as needed because our office is very small and it is hard to social distance. Maybe each of my team goes into the office about once a week, then I'll go in as needed because we're still having to send things out and, you know, equipment and supplies and stuff like that. (1/OC)

I think it'll be interesting to see (what happens with distance work) because a lot of public library positions are public facing, but for those who don't need to be, what will happen? I think we're like every other industry, asking 'what work needs to be done together in an office and what work can we continue to do remotely?' (3/NY)

5. Discussion

This section aims to build connections between the findings and the theory to come to a better understanding of what is happening in US public libraries during the pandemic, and how it is happening.

5.1. Connecting with communities through innovation

This section addresses the primary research question, ‘How are libraries innovating to connect with communities during the COVID-19 pandemic?’ The findings from initial desk research, document analysis and interviews provided ample evidence that libraries are connecting with their communities by engaging in needs-based processes of crisis-driven innovation to implement both incremental and radical innovations.

It was striking how quickly libraries moved, within a number of days or weeks, to take innovative actions to maintain a standard of service and address community needs when the COVID-19 pandemic hit the US. Evidence from interviews and document analysis revealed actions that fit within all steps of the process outlined in the theory of crisis-driven innovation as explained by Bessant and Trifilova (2012), in which extreme conditions force solutions that bring significant performance improvements. In the literature, Dees (2009) explained that in these crisis situations, existing solutions may not be viable for a number of reasons, and thus new solutions emerge which are better suited to the extreme conditions; the process requires rethinking and recombination in creative ways and can be the crucible out of which novel innovation trajectories emerge. In these cases, the pandemic made existing solutions, which took place at the library’s physical location unviable, thus new solutions suited for physical distancing and digital platforms were created.

The idea from theory that ‘it is not the source of innovation but the local context that determines whether something is an innovation or not’, (Roberts and King, 1996), rang true when discussing innovations with library leadership. Leaders regularly referred to adaptations and new initiatives as ‘innovations’. During the time of interviews, during February of 2021, both library systems described projects that were beyond the crisis stage of innovation, and working within

the observatory, laboratory, prototyping, and scaling and diffusion stages of crisis-driven innovation.

Perhaps one of the most intriguing themes to emerge involves crisis-driven innovative changes that will remain in libraries after the COVID-19 pandemic has resolved, and what this means for how crisis-driven innovation can lead to improved practices with staying power.

For example, multiple respondents commented on the popularity of curbside pick-up services. It seems that this innovation appears to be in the ‘scaling and diffusion’ stage of crisis-driven innovation, as it is able to be replicated and improved upon. Informal patron feedback shows curbside pick-up is especially convenient for parents, often with multiple children, who lost precious time by having to corral their kids in and out of the car only to pick up a few books (4/OC). This saves parents both time and energy and possibly frees them up to read more with their children. This innovation came to be because it met immediate needs during a crisis, however it has exposed a weakness in traditional service delivery and provided an efficient and effective alternative.

OCPL libraries have experimented with digital after-hours programming and have found that they target different patrons. This is especially helpful for those wishing to take courses through the library after school or work. A respondent indicated that this innovation stands in the laboratory stage of the crisis-driven innovation process, as it’s currently in an experimental phase (2/OC).

Customers have said how convenient it is for them (after-hours digital programming), Before we had to be out by a certain time when the library closed, but now parents say things like, “When my kids go to bed I’ll watch a program you guys are doing instead of turning on the TV.” So by adjusting the times, we’re offering things that work best for customers. I really don’t see that going away. I just think the convenience of virtual learning is something they really appreciate (1/OC).

Additionally, the popularity of virtual field trips in the OCPL system has suggested that libraries will be able to reach more vulnerable students.

Teachers have told us, even if you have the option to do in-person field trips, I would still choose the virtual option because it's just easier for them to schedule. We have had some programs that have had higher attendance virtually than they did in person. (4/OC)

Thus, crisis-driven innovation has provided libraries space to experiment with potential solutions for expanding outreach and targeting unmet community needs. This innovation also appears to be in a laboratory or experimental phase at this point.

Hybrid programming is another concept mentioned frequently by library leadership as a potential new standard in the library world post-COVID-19. Hybrid programming was not an option offered by either the OCPL or SALS systems at the time of the interviews, but both systems are exploring ideas to implement hybrid programming when conditions allow for patrons to visit libraries.

Libraries are acknowledging that for a variety of reasons like lack or cost of transport, difficult parking, health problems, and childcare responsibilities, patrons cannot always attend physical events. Hybrid events will allow patrons to enjoy the social experience provided by attending live events, a flexible option for those at home, and may increase the overall opportunity for participation.

Attendance is as good (with digital programming than before) or sometimes better. Our library is downtown in the center of Orlando, and parking is not the easiest thing for some people. Some people have an aversion to coming downtown, and so I think we're reaching people virtually that we may not have otherwise reached. So we come back, you know, whenever that is, we're probably going to do a hybrid programming so we can teach virtually. (4/OC)

Hybrid programming is not currently being implemented at either OCPL or SALS, but both systems have plans for this innovation post-pandemic because of the perspective gained being forced to provide digital services during the pandemic.

The challenges associated with innovating in a time of crisis should not be underplayed, as respondents spoke to the many challenges they face during COVID-19, however it appears the pandemic has provided a learning experience for libraries which will sometimes leave them with

more effective and sustainable programming that include patrons that might not have otherwise connected with the library system in the same ways. Although this has not been proven with hard data, it's important to note that several respondents mentioned that they were afraid they may have lost connection with some previous patrons during the pandemic due to issues related to the digital divide, so we cannot assume that gaining access to new patrons means that libraries are reaching greater numbers or demographics of patrons.

The types of incremental and radical innovations identified through document analysis and interviews align with Mulgan (2007, p. 8), which discusses that innovative activities undertaken by organizations that are social in nature, are motivated by the goal of meeting a social need. In the case of both library system, the innovative practices and how they came to be varied greatly and thus Garud and Karnøe's explanation of how social innovation occurs fits well with the findings, as they

...understand this process as embedded and self-reflective, and that it may be coordinated and collaborative, or that it may be the emergent product of accumulation, collective bricolage and muddling through daily work (Garud & Karnøe, 2003)

In addition, the literature on step-changes can be applied to the findings, as Sørensen and Torfing (2011) claim that only step-changes, incremental or radical, that disrupt existing practices and common wisdom in a particular area are innovations. This is exemplified in the findings by the both OCPL and SALS libraries making step-changes to go digital within the first weeks of the COVID-19 pandemic. Additional examples include step-changes like the move to curbside pickup, virtual field trips, and grab-and-go craft kids accompanied by videos.

Evidence points to the fact that libraries within these cases are relying heavily upon technology and digital resources to innovate, both radically and incrementally. This makes sense because much of the literature about innovation in libraries today focuses on the integration of technology and digital services into library services and operations, as a means for libraries to continue working towards their mission. This supports research from Katsirikou & Sefertz (2000) who say that the library world is in the midst of technological restructuring. They pointed out that the missions and goals of libraries remain unchanged, but every branch of library work changes continuously because of the technological facilities. The research findings in this study,

from both OCPL and SALS, support these statements and confirm that libraries belong to these professional divisions that involve innovation and technology transfer in everyday life.

During interviews, OCPL staff spoke about how their patrons can now apply for and receive their library cards online, browse and check out digital books and magazines, access digital resources for educational and vocational needs, and much more. In addition, libraries are ramping up their live events and pre-recorded events, making use of platforms like Facebook Live, YouTube and Streamyard to connect with community members in cyberspace. Libraries are increasingly accessible, as patrons can access digital resources twenty-four hours a day. Whilst this provides many patrons a plethora of resources and opportunities, it has the opposite effect on those affected by aspects of the digital divide. This will be discussed in detail later on.

There was also limited evidence to suggest that libraries appear to be skilled at fashioning practical, incremental and frugal innovations, such as curbside delivery and providing paper library card applications to teachers for their students lacking internet access (4/OC). Frugal innovations do more with less, and use creativity and resourcefulness in the face of institutional voids and resource constraint (Bhatti, Basu, Barron & Ventresca, 2018).

The data collected about innovative activities and services that came out of the pandemic are reflective of the recent history of public libraries. As stated earlier, the image of public libraries continues to change over time, libraries are now “people-centered not collections centered” (Broz et al., 2019). In a previous survey by Broz et al., the items that librarians named as being the attributes that would comprise the next generation of libraries were: community and social services; decentralized library space; more pop-ups and bookmobiles; low-touch kiosks; drive-up pickup; webinar-based story times and programs; technology-integrated conference spaces available to the community; and remote reference and information search services (Broz et al., 2019). The evidence confirmed that many of these attributes were present in innovation attempts by the cases presented. For example, there was a heavy emphasis on community and social services; evidence of this included reach out at local laundromats (4/OC) and fresh food distribution within libraries (3/NY). Both systems provided information regarding their use of drive-up pickup (curbside pickup), web-based story times and programs, and remote reference and information search services. Some of these attributes were already in progress prior to the

pandemic, but often were subject to accelerated prototyping due to crisis-driven needs during the pandemic.

5.2. Collaborating and leading for innovation

This section aims to answer the research question, ‘What is the role of library leadership in the facilitation of social innovations?’ Interviews uncovered that leadership played several roles in the facilitation of innovations, including engagement in planning and decision-making, coordinating multi-actor collaborations, as well as acting as conveners, facilitators and conveners as defined by Sørensen and Torfing (2011).

One of the most prominent themes included the expectation that leaders engage in planning and decision-making processes for innovation. In the case of the OCPL system, leadership pointed to the fact that all leadership, from central office or branches, were regularly and actively engaged in decision-making processes. This was far less-evident within the SALS system, as there are limited formal organizing structures in place between system libraries, which will be elaborated upon later in the discussion.

Within the OCPL system, leaders appear to benefit from a collaborative spirit. Based on information provided by respondents, the system appeared to value its staff, as the respondents in this sample from OCPL had notable years of service within their positions and appeared to project pride and happiness in their roles, which may contribute to their self-proclaimed success with adjusting well to the conditions of the pandemic.

I've been with the library 15 years. I've been in this role for eight years now. My mom was a librarian so I grew up in libraries. I'm really happy with it. (1/OC)

Based on respondent information, OCPL seemed to benefit from a strong organizational structure which included an alignment of policies, processes and practices that provided stability and collaboration of actors resulting in the smooth coordination of innovation. This aligns with Torfing's (2019) explanation of why and how multi-actor collaboration may spur public innovation. The case of the OCPL system organizational structure may qualify as the ‘better’ according to Jantz (2015), who pointed out the critical nature of the leadership team, decision-

making and organizational structure that can affect innovation for better or worse - in this case, for the better.

The evidence seemed to align with Germano (2011) who saw innovation as dependent upon library leadership. Leaders seemed to have flexibility with their management style, but benefited from pre-existing structures that assisted them and their teams to engage in planning, decision-making and implementation of innovations. Each position had an established role in the organizational structure of the system, and it seemed as though if any specific leader left their role, the well-organized structure of the system would facilitate a replacement's ability to maintain the expectations of the role. It appears that the well-organized and collaborative nature of the OCPL system are helping with the rapid dissemination of innovation.

Another notable finding was that the majority of leaders at OCPL spoke of the importance of trusting and relying on their staff, and often provided supplementary evidence of their actions supporting this claim. Trust had not initially come up when the literature was reviewed, however, it appears to be a critical factor in leadership for innovation. Riggs (2001) backed up this evidence and stated, "In addition to being consistent in action, the library leader must listen to followers and trust them. Trust is a two-way street and it should never be taken for granted."

The work of Sørensen and Torfing (2011) further supports the findings in this research, as they indicated that innovation is not created merely by actors and processes internal to the public sector but involves deliberate attempts to tap into the creativity of charities, associations and social entrepreneurs in order to find new ways of meeting pressing social needs. In this case, the data matched with theory that suggests that multi-actor partnerships are collaborative processes involving a diversity of actors in order to address complex problems together. (Dewulf, 2007, pg. 2) Multi-actor collaborations, from within the library systems themselves, and more importantly, with community partners, appear to be key strategies for libraries to connect with communities.

The findings showed evidence of multi-actor collaboration at two levels, within library systems, which consists of interlibrary collaborations, and at the community level, where the libraries or systems work together with various community partners, such as non-profits, businesses or other public institutions. It proved to be true in these cases that the participants in these collaborations

are public and private actors that either have relevant knowledge, ideas and resources or are affected by the problem (Torfing, 2019).

In terms of multi-actor collaboration within libraries and library systems, the OCPL system showed high levels of collaboration. It seemed from interviews that the micro-level operations at OCPL aligned well with theory that suggests that embedded actors become more agentic through their interactions with others (Van Wijk, Zietsma, Dorado, de Bakker, and Marti, 2018). It seemed as the OCPL leaders also aligned with the emotional components that an Wijk, Zietsma, Dorado, de Bakker, and Marti (2018) point out, which include hearing and understanding others' viewpoints, stimulating reflexivity, and challenging their taken-for-granted perspectives. All of these behaviors help them to gain agency and consider new novel solutions.

Although this analysis is not definitive, it appears there may be a relationship between the degree of multi-actor collaboration and the reported success of initiatives, as well as the greater variety of innovative services and programs libraries offer to meet patron needs. Many of the library leaders spoke of their and their teams' relationships with local businesses, organizations and institutions and how those relationships lead to ongoing opportunities in the way of programs and services for patrons.

The planners are really in the community. So if they hear of a new restaurant or a new business opening up, they'll try to reach out to them and see if they want to do an event. We keep a database of partners so that we can keep in touch (1/OC).

In some cases, these relationships were maintained through defined processes, like the use of databases and inclusion of community partners in occasional meetings, that added to the sustainability of the partnerships.

There was special emphasis put on the need for libraries to make themselves present within community life, and respondents echoed that only from within the community can a true assessment of needs occur.

In my role, I bridge that gap between the community and the library. So that means going out to the community and getting involved in events, laying out the needs of the

community so that I can work with my team to design events and classes that are in line with the community needs. (2/OC)

Respondents seemed to understand their role as accessing and responding to the social needs of the community, beyond providing them books and other resources. For example, a respondent spoke to communities with many Spanish speakers that required specific programming aimed at childhood development.

Spanish is very commonly spoken in our areas and it's especially important for children's programming before kids start school. We really want to empower parents to engage in literacy behaviors with their kids in the language that they're most comfortable in. (3/OC)

Another respondent spoke of a partnership with a laundromat that targeted low-income children with books and other materials. "If they (families) have to go to the laundromat then that's a great place to reach them where they're at." (4/OC) This is interesting because it speaks to a high degree of community outreach which seems to indicate that libraries are becoming increasingly community-integrated.

Document analysis revealed fewer community-needs based innovations at some rural libraries with the SALS system, as SALS libraries are not centrally connected and coordinated and span a vast geographic area. This seems to show that geographic isolation can limit opportunity for multi-actor collaboration, however, there may certainly be other factors at play. Clearly, some of these smaller libraries have limited operating budgets and this could also pose constraints on outreach and collaboration. However, they did have one critical program that provides fresh vegetables to patrons at some of their libraries. It is coordinated by a leader responsible for outreach who partners with a local food pantry and a network of farmers.

We distribute fresh food, which is all fruits and vegetables, and tend to be very expensive if you have to purchase it. Now we're up to six of our libraries that are located in rural food deserts, so those are areas where there is not great access to food. We have very limited public transportation and a lot of farms. There's no public transportation. So for people who live 20 miles away from a grocery store and if you don't have a car, or if the one car that you're using is getting somebody to work, you may not have regular access

to go grocery shopping. A lot of people are doing their shopping for food at places like a dollar store or 7-Eleven. It's not good quality food and there's very limited fresh food options, and those that exist when they exist tend to be very expensive. So the idea that we can just share food that we've rescued from local farms that would have otherwise been plowed under. We're managing to help take a bite out of our local food waste, which is a huge environmental issue, and instead share that with people who need the food. So that's one of the ways in which I get to think about what sort of initiatives make sense for our communities that are going to help our communities thrive. (3/NY)

What is especially interesting about this collaboration is that it shows how library leaders are collaborating to provide services to communities that may have been seen in the past as out of the scope of library work. Traditionally, providing food to needy communities falls within the world of social services. It is now true that libraries hire social workers and address psychosocial needs of community members. Recent research backs up the trend of typically social work related services being coordinated in part by libraries.

With the overlapping goals of serving the public, there is a natural connection between social work and the work of public libraries. With some intentional effort on the behalf of both professions, partnerships can effectively be developed to adequately meet the needs of public library patrons who have complex psychosocial needs and increase the capacity of the library systems that serve them (Wahler, 2019).

Nearly all respondents, both in rural and urban locations, made some mention of patron needs that fall traditionally within the world of social work, and how partnerships with community organizations are key for addressing these needs. The rise of social work in US public libraries is an interesting dynamic that warrants further research.

5.3. The ups and down of innovation in public libraries

This section aims to address the research question, 'What impedes social innovation in libraries during the COVID-19 pandemic?' Issues addressed most prominently by respondents are discussed first. This section makes an effort to highlight libraries' responses to these challenges and associated future implications.

5.3.1. Shining light on the digital divide

By far, issues related to the digital divide were raised by respondents as the greatest challenge in terms of access to innovation provided by the libraries. These are not only impediments to the creation of innovation, but to accessing innovation, which one may argue is just as important of a problem. If you build it, digital innovations in this case, they may *not* come...because some of them lack an internet connection, broadband service, hardware or skills.

Findings aligned with previous research that informed us that essential activities moved online, yet sufficient Internet is an essential public service that remains unattainable for many US households (Lai and Widmar, 2021). Respondents from both the OCPL system, primarily urban, and the SALS system, primarily rural, reported that households, especially in low-income communities, lacked internet access, computer, and technological skills.

Nearly all respondents discussed how it was common in their observations that those living in primarily low-income households, and seniors lacked either internet access and/or technological skills. They indicated that many of these demographics may have previously visited the library to use computers to seek employment, education, or recreation, and have been disconnected from the library since their doors closed during the pandemic. This was mentioned as being especially problematic for small children who need internet access to participate in school.

I think the people that are missing out the most are lower income people, people who don't have the Internet, or don't speak English yet. If you don't have broadband at home, are you really going to spend all your data (mobile) watching a kids' program (by the library) for an hour...? (4/OC)

Some of the solutions suggested by previous research were also mentioned by respondents, such as libraries and loaning hotspot devices to patrons as a means to bridge the digital divide gap (Stovner, 2019). However, these findings suggest that this isn't enough because some of the geographic areas in communities from both library systems, especially within the SALS system, do not have access to broadband service, and therefore cannot access the internet (4/OC, 3/NY). Libraries from both systems reported solutions such as extending wifi into parking lots, setting up wifi in other public locations in cooperation with community organizations, and providing patrons paper copies of items that might usually be accessed digitally (4/OC, 2/NY, 3/NY).

The digital divide was a problem that affected libraries and their patrons long before the pandemic, but the pandemic has amplified the effects of digital divide on communities. Without access to computers and the internet, people cannot apply for work, complete education, or engage in digital commerce, all of which are deemed as essential during a pandemic. This has prompted libraries to take additional actions to address these issues. Both library systems spoke to various strategies they are employing to tackle issues related to the digital divide, including applying for grants.

One of the concerns on all of our minds the past year has been digital access, internet access for people. We're a rural community, and a lot of times people don't have transportation. So we leave our wifi on in the building. Twenty-four, seven. So if people wanted to come in their car, or walk up, they could definitely use that. We've added wireless hotspots this year so people can check those out to bring home. We're looking at trying to add some more of those with some grants. And I've just received the American Library Association grant. It's called Libraries Transform Communities. (2/NY)

Like I said, we used to have 200 in-person programs like before Coved, then when we went online. So you (patrons) had to do everything online... Online participation at our branches that are in lower socioeconomic areas is terrible. It's way less than it was in-person, and so that's something that we're focusing on for this summer. We've applied for a grant (4/OC).

This research did not manage to look at how organizations like the American Library Association, and other funders, are addressing issues related to the digital divide during the pandemic, but seems like a critical piece of the puzzle in determining whether or not the COVID-19 pandemic will accelerate efforts to combat the digital divide within communities. The amplification of this national problem may garner additional attention to the cause which could lead to more funding and better solutions, and could provide additional examples of crisis-driven innovation. One respondent spoke to an example of possibilities they saw if the digital divide was addressed more effectively.

Like all the virtual programming and stuff has been incredible, and if we had better equity around connectivity, like, it would be huge for seniors in our communities who do

suffer from social isolation because they can't attend programming. And we wouldn't have to worry because where we are we don't have any public transportation.

The majority of respondents made mention of the fact that more of life's activities continue to be digitized and it's critical that all citizens have digital access in order to keep up with the demands of daily life and take advantage of the opportunities presented in a digital format.

5.3.2. A gathering place matters

Evidence seems to indicate that although digital services and innovations that bring library services into the communities and homes are effective, they are not sufficient for providing the social or technical experience many library patrons need or want. All respondents mentioned themes of 'things not being the same' since patrons could not physically be in the library for at least some of the pandemic, and when patrons were allowed in, it was often very limited access that did not allow for socialization.

These findings are related to the theory explored in the section 'community connection', that highlights the importance of libraries as community builders, and how relationships with the community are important for social innovation. The findings here support the work of Arns and Daniel (2007) who identified the public library as an asset that builds community and a center for community discussion and a safe space where individuals can find information they want and need.

The physical space the library provides appears to be necessary for the socialization of babies and small children, and their caregivers, for example. This makes sense when you look into research on development stages of child development, babies and toddlers are not designed to be staring at screens for hours on end, and some may argue other children are not either. A 2005 review found that television viewing consistently failed to teach kids age 2 and younger as much as live interaction (*American Behavioral Scientist*, Vol. 48, No. 5, 2005).

In addition, mothers often gain parenting insight from other mothers, and the library provides the environment and social lubricant to foster this process. Socialization and learning with peers in a stimulating 4-D environment is an advantage libraries traditionally provide, and this remains important for these demographics. This was discussed as a barrier in one interview (4/OC).

Some libraries offer technology, such as computers, professional video and audio equipment, 3-D printers and more that are best used with the assistance of trained library staff. For example, OCPL's Melrose Center for Technology, Innovation and Creativity that offers state-of-the-art technology is designed for in-person learning. This center affords patrons the opportunity to gain valuable new skills.

I mean, there is just nothing to replace the experience of being there (Melrose Center). And, you know, we can talk about all the great things virtually, but it's just more important that one day when we get back there, you'll be able to do this (use the technology in person). (3/OC)

When it comes to basic technology training, respondents indicate that seniors benefit from both in-person one-on-one assistance. A SALS leader spoke to assisting seniors with learning how to use technology is difficult during COVID-19.

Especially with the holiday season and people getting new readers like Kindles or iPads or things like that...Someone gets a new device and they're like, well, how do I use this? One woman was having problems and then she would call me. So then I have to help her over the phone, which isn't really easy. (1/NY)

For these reasons and more, respondents believe that physical libraries and the face-to-face socialization they provide are here to stay. The literature supports this finding as well, and as mentioned in the introduction, libraries are often considered community 'hubs'.

Efforts to reinvent themselves as 'hubs', 'makerspaces' and co-located community centers offering enriched spaces for social gathering, targeted learning, and new forms of creative production, including entrepreneurial activity and innovation, are strategies for maintaining and extending the traditional remit of the public library (Leorke, Wyatt and McQuire, 2018).

However, according to respondents, the design of those spaces may look different than before. Several respondents spoke about how the pandemic had them questioning the layout and design of their library's physical space. This issue had not been identified originally in the literature,

but emerged as after the findings had been analyzed. It appears that issues of designing physical spaces and protocols for safe social distancing is a topic researchers have begun to explore.

Due to the unpredictable nature by which the pandemic is unfolding, the standard operating procedures also change, and the protocols for physical interaction require continuous reconsideration. Consequently, the development of an appropriate technological solution to address the current challenge of reconfiguring common physical environments with prescribed physical distancing measures is much needed (Ugail et al., 2021).

A respondent from SALS explained some of the ideas being discussed within the world of libraries.

I think it's also going to make a huge difference down the road in thinking about the design of our buildings, because we've tended to go towards these like big open plan spaces where now we know that the challenge with having a big open plan space is that there's no way to stop the transmission of airborne viruses. We also have to think about whether we should start incorporating drive-thru windows for a library.

At the time of interviews, some libraries had limited operating hours and some staff in-office for at least part of the week. Leadership explained how meeting rooms and open spaces were being refashioned as offices, aimed at maximizing distance from other employees. Respondents imagined libraries of the future with flexible floor plans that would allow for social distancing and efficient cleaning. Libraries also spoke of modifications they were making, like installing Plexiglas, moving around computers and instating new cleaning routines.

This finding was intriguing because one insight gained from this pandemic is that new pandemics may emerge and libraries want to be ready.

5.3.3. Funding issues

Research by Sei-Ching (2011) revealed significant funding and service variations across the nation's 9000 library systems, concluded that lower-income or rural neighborhoods were relatively less funded and offered fewer information resources. This research reflects the Sei-Ching's finding, as the rural SALS library system which serves approximately 314,201 in 34

locations receives \$2,139,115 annually (2021), whereas the urban OCPL system that serves approximately one million citizens receives \$52,500,000 annually (2021). This research was not able to obtain per capita spending per resident, but it can be assumed that a fifty-two-million-dollar budget can provide resources far beyond that of a two-million-dollar budget. Their funding sources are very similar, however the OCPL system receives its funding through a special Library taxing district formed in 1980, which works to its advantage.

The literature and the nature of the cases chosen showed that rural libraries often have more limited budgets than their urban counterparts. They tend to have smaller book collections, lower bandwidth Internet connection, and less staff (Bertot et al., 2008). The SALS system fits the definition of primarily rural libraries and their overall budgets (see Table 2) likely lag far behind OCPL system when it comes to per capita spending. Respondents explained that some SALS libraries are run out of homes and have staff with limited library science educational backgrounds. The research findings correspond with Bertot's research.

It appears that in this case that urban dwellers in Orlando may have increased access to knowledge and other library resources compared to their counterparts in the Southern Adirondack region. For example, an interview with OCPL leadership discussed how the Melrose Center, which is a library facility with state-of-the-art technology, came to be.

As you can imagine, it's a very unusual place for a public library to have all this technology in one place....but it was partly due to a rather sizable donation of a million dollars that the Melrose Family Foundation gave the library in 2012 to build a technology space that would that would encompass all of the things that we have. (3/OC)

This aligns with the theory discussed above and the researcher's earlier hypothesis that people living in urban environments may have access to libraries with more resources.

However, there was little to no discussion of budgetary or resource limitations during interviews with either SALS or OCPL. This is one weakness of this research project, as more data could have been collected to accurately capture data related to this theme. This is likely a weakness of the interview tool.

5.4. Theoretical Model

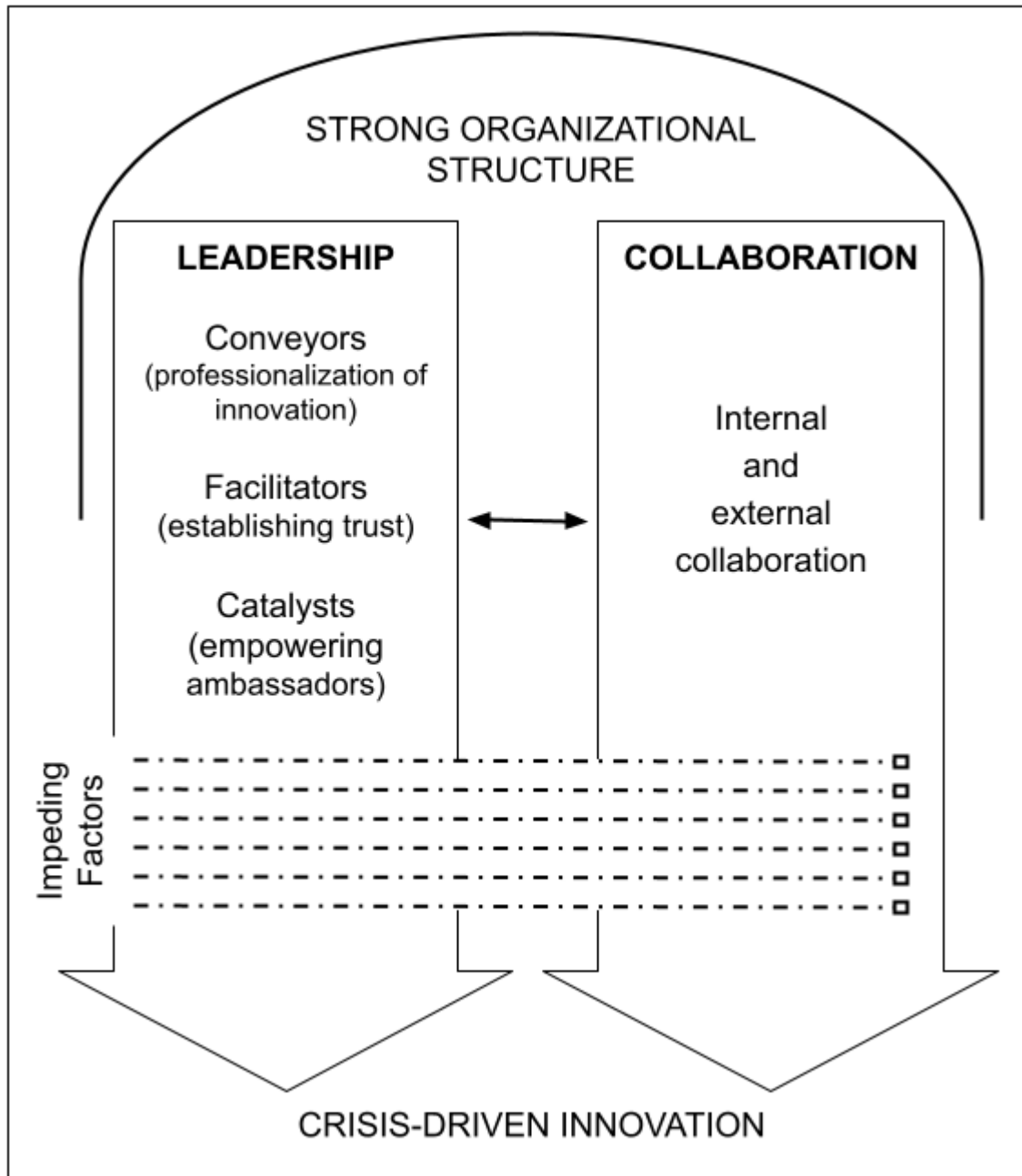
The above insights suggest a theoretical model, displayed in Figure 2, which highlights the interdependencies between the factors that lead to crisis-driven innovation within US public libraries. According to this model, a strong organizational structure is necessary for creating and upholding factors that are critical to the innovative process. The evidence for a strong organizational structure in the findings included an alignment of policies, processes, practices, and high organizational value of leadership and staff.

Leadership and multi-actor collaboration accelerate the innovation process during times of distress. The critical factors of leadership and multi-actor collaboration are interdependent upon each other, and feed off of each other to thrive. Findings showed the combination of these factors, where leaders acted as conveners, facilitators, and catalysts, and internal and external multi-actor collaboration were present, led to innovations.

In the case of leadership, the findings showed that conveners focused on the professionalization of innovation by hiring experts in various fields to support library work. Facilitators were noted to exercise trust and instill trust in their employees. Lastly, catalysts were evidenced to empower their employees to act as community ambassadors. Multi-actor collaboration was evidenced both within libraries and their systems (internal), as well as within the community (external), in partnership with civil society organizations, businesses, and local governments. These relationships appear to provide libraries critical insight into community needs.

Collapse of leadership, collaboration or other impeding factors may challenge the crisis-driven innovation process at any point in time. This analysis found various impeding factors, from funding problems, to a lack of state directives, to the digital divide. In this case, the digital divide is not necessarily an impediment to the creation of innovation, but to accessing innovation, which one may argue is just as important of a problem. These barriers may shut down or slow down the innovative process, but can be mitigated by the factors that support innovation.

Figure 2: Theoretical model



6. Conclusions and reflections

As stated earlier, libraries are constantly challenged to evolve and adapt in order to fulfill the mission of advancing the public good, disseminating knowledge and engaging communities. These qualities that libraries possess make them intriguing institutions to study innovation within, and the COVID-19 pandemic is certainly a significant test of the adaptability of US public libraries.

In summary, this thesis finds that many pandemic-born crisis-driven innovations are in the prototyping stage of the crisis-driven innovation process. However, some have reached the stage of ‘scaling and diffusion’, meaning they have brought significant performance improvements and can be replicated. This is exciting news because it provides evidence of change for good in US public libraries that came out of a very difficult time in general.

Moreover, evidence supports that during these processes, leaders act as conveners, facilitators and catalysts, and prioritize multi-actor collaborations. The challenges faced by libraries and their leaders cannot be understated, the greatest being the effects of the digital divide and how it prevents a widening demographic of community members from accessing library knowledge and resources. The silver lining here is that it appears libraries are taking steps to bring awareness and action in order to address the problem of the digital divide.

The findings of this research support multiple theories, including that of crisis-driven innovation, the leadership theory involving conveners, facilitators, and catalysts, as well as multi-actor collaboration. In terms of theoretical implications, the support this research provides these bodies of literature increases their visibility, which can eventually help others to spur innovation and increase collaboration in the public sector, specifically in public libraries.

In general, this thesis adds to a greater body of literature that focuses on innovation in public libraries, and is strong because it offers rich and detailed data. It benefits from two in depth cases that are representative of the diversity of geographies and communities in the US. As noted throughout the project, several areas for improvement were found, specifically when it came to a lack of questions in the interview guide related to library funding. In addition, Perhaps the case selection could have been stronger if the criteria for ‘innovative libraries’ were

more specific, as during the research process it was discovered that the criteria that determines the winner of the Public Library Association innovation contest is very vague and any innovation, no matter how big or small, may qualify the library system for an award.

The completion of this project brings to mind several areas for further research. Some of the more interesting findings for follow-up include that during interviews, several respondents from the OCPL system shared they believed that prior to the pandemic, libraries were making incremental steps towards becoming increasingly digital, and the pandemic was the catalyst that pushed them towards institutionalized change. This is interesting because it indicates that leadership from within the OCPL system observed and participated in incremental innovative activities and changes prior to the pandemic. In this case, the COVID-19 pandemic, a crisis, sparked more radical innovations that appear to be leading to lasting institutional change that will provide more efficient and effective services to library patrons. It would be interesting to learn more about how a wider sample of library professionals view innovation during the COVID-19 pandemic. If time and the scope of the study would have allowed, adding a national survey may have yielded interesting results.

The crisis also shed additional light on the already widely discussed topic of the digital divide, and evidence shows new efforts being made to tackle these challenges out of necessity. It is too early to see how these efforts will work to increase the inclusivity of access to libraries and their technology for community members. This research did not manage to examine how other organizations and governments are addressing the digital divide during the pandemic, and what this means for public libraries in the US. This type of research seems like a critical piece of the puzzle in determining whether or not the COVID-19 pandemic will accelerate efforts to combat the digital divide within communities, and is recommended for further research.

Patron feedback on the changes that libraries have made during the pandemic briefly came up during interviews. It would be very interesting to survey patrons for their feedback regarding library responses during the pandemic throughout the US, and learn more about what that means for the future of libraries and their service provision. In addition, it would be beneficial to learn more about the different ways in which libraries utilize and operationalize patron feedback. This is another recommendation for future research.

Lastly, one of the most striking themes that came up during this research is how libraries are going far beyond their traditional roles as they work to meet community needs. In some cases, libraries have social workers, provide fresh food to communities through partnerships, and much more. A respondent provided perspective on why they believed libraries were going ‘above and beyond’.

The US government has systematically been gutting social services. The reason why public libraries kind of step in and offer all these ‘innovative’ services is because they are what our communities need. These are the populations we're dealing with. We're dealing with people experiencing homelessness and mental illness. We're dealing with hungry people and hungry kids. We have to address it because that is what is in front of us. I'd be curious to see what precisely I do if we weren't always responding to crises.

(3/NY)

This quote suggests that at least some library leadership feel like they bear a heavy burden when it comes to responding to community-based social problems. The question the respondent poses, “What would libraries be doing if they weren’t always responding to crises?” is another intriguing angle for future research. In addition, it would be interesting to conduct more research about the emerging role of libraries as actors in responding to an expanding number of social problems.

Lastly, I find it timely to focus on the needs of groups that are often left out, like socially vulnerable populations. This research briefly touched on how people in low socioeconomic geographies within the US are hurt by the physical closing of libraries and lack of internet access, but it did not focus on socially vulnerable populations in general. It’s fair to say that the COVID-19 pandemic has accentuated inequities and as a result, public libraries face exacerbated barriers in serving socially vulnerable populations. Further research should focus on how libraries’ responses to the pandemic are affecting dynamics of social inclusion for socially vulnerable populations and what libraries can do to strengthen social inclusion.

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Attachments

Information Letter

Research Background

Innovation in US Public Libraries during the COVID-19 Pandemic: What's happening and what does leadership have to do with it?

Background

This research is being conducted as part of a Master's Thesis project at VID Specialized University in Oslo, Norway. Results will be shared and may be published on the VID Specialized University web portal.

Objectives

The purpose of this research is to explore how public libraries in the US are adapting and innovating to connect with their communities and provide services during the COVID-19 pandemic. This project aims to obtain an overview of innovations being used by libraries previously identified as 'innovative' in the US during the COVID-19 pandemic. As a secondary goal, this research takes a look at how leadership affects libraries ability to innovate within the national context of libraries in the United States.

Interviews aim to understand how library leaders relate with innovation during the COVID-19 pandemic.

Interviews are planned with two library leadership staff from two separate libraries in the US.

Interview participation

Interviews will last approximately 60 minutes and will be conducted over Zoom, skype, or telephone at your convenience.

You will not be asked to represent official library positions, but only to reflect on your personal impressions and thoughts.

Interviews will be recorded so that the interviewer can review the recording during analysis.

Notes and recordings will be stored without identifying information and will be destroyed within 6 months of conducting the interview. No identifying information will be published.

Consent

You may withdraw your consent to participate at any time via email or phone, at which point notes from your interview will be destroyed.

Questions may be sent to Holly Flickinger at hollyraeflickinger@gmail.com or by phone at +47 923 28 840.

Interview Guide

Interviews should last approximately 45 minutes, loosely structured as follows:

- An opening section that describes the research,
- 6 questions, some of which are followed by bullet points that may require follow up questions to make sure an answer is recorded.
- A closing section.

Grey boxes are for reading. The questions and script below can be read verbatim, or adapted to individual interview contexts, as long as all content is included.

White boxes are for taking notes.

General rules of thumb for interview questions:

- Ask open, neutral and non-leading questions
- Ask simple questions that only address one point

PART 1: Opening

Presentation of the research:

Thanks for speaking with me today. I'm conducting research for my Master's Thesis at VID Specialized University in Oslo.

The purpose of this research is to explore how public libraries in the US are adapting and innovating to connect with their communities and provide services during the COVID-19 pandemic. This project aims to gain insight into innovations being implemented during COVID-19 in US library systems identified prior to COVID-19 as 'innovative' by the American Library Association. As a secondary goal, this research examines the role of library leadership in the facilitation of innovation.

Your library received an innovation award from the Public Library Association (PLA) in _____. Since you work in a leadership role at _____ library, I want to speak to you about your experience with innovation and leadership.

Consent:

Participation in this research is voluntary. The information you provide will be stored and analyzed until the end of the research project, at which point it will be deleted.

You may withdraw your consent to participate at any time via email or phone, and the information you have provided will be deleted.

You have received an email with this information in written form. Do you consent to participate?

PART 2: Questions

1. Could you tell me about your role at the library.

2. As a leader in your organization, to what extent are you responsible for designing and implementing new programs or initiatives?

- Could you walk me through a recent experience you've had developing and implementing a new initiative at the library?
- How do you interact with those you supervise and your supervisors when planning and implementing new initiatives?
- Is there a specific process in place for decision-making at your library branch?

3. How has your library been affected by the COVID-19 pandemic?

- What were your main goals when planning for COVID-19?
- Were changes made to services provided to patrons? Please describe.
- Were changes made to internal processes? Please describe.

4. What challenges or barriers has your library branch faced during the COVID-19 pandemic? If any, please describe.

- Can you speak to any challenges regarding communication with communities, service provision, or staff management?

5. How would you describe the working relationship your library branch has with other branches within your system?

- To what extent are these relationships coordinated by a central office or at the discretion of the library management and staff?

6. Can you describe the process through which your library creates and manages community partnerships?

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PART 3: Closing

Do you have any additional information to share that you think might be useful for this research?
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May I send you an email if I have any other further questions?

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Thank you for your help, and don't hesitate to let me know if you have any questions.
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