



Report by the International Federation of Library Associations and Institutions (IFLA) and Electronic Information for Libraries (EIFL), for the Dynamic Coalition on Public Access in Libraries (DC-PAL)

Impacts of Public Access to Computers and the Internet in Libraries

2021-2022

This report has been prepared within the framework of the Internet Governance Forum (IGF) [Dynamic Coalition on Public Access in Libraries](#) (DC-PAL). It follows DC-PAL network consultations held in April 2021, which identified evaluation of public access to computers and internet in libraries among priorities for the DC-PAL working agenda for 2021-2022. Hence, the report offers libraries and other stakeholders an easy-to-use overview of recent evidence, good practices, and methodologies for public access impact assessment. A working version of the study was presented at the DC-PAL session of the 2021 Internet Governance Forum, on 9 December 2021, and shared for feedback and contributions from the broader internet governance community, libraries, and other stakeholders interested in public access to the internet and the role and potential of libraries for provision of public access to computers and internet. Thank you to everyone who contributed, gave feedback, and made suggestions.

The Dynamic Coalition on Public Access in Libraries provides a space within the IGF to facilitate policy dialogue and action to leverage public access – shared, low-or no-cost access to the internet and ICT in libraries and similar facilities – to power digital. You are welcome to join the DC-PAL mailing list for updates and news on further work and discussions: <http://lists.apc.org/mailman/listinfo/pal-dc>.

Special thanks for leading the preparation of this report go to Valensiya Dresvyannikova (IFLA), Ugne Lipeikaite (EIFL) and Ramune Petuchovaite (EIFL).

Impacts of Public Access to Computers and the Internet in Libraries

Table of Contents

Introduction	3
Key definitions	4
Chapter 1. Impacts of Public Access in Libraries: A Summary of Recent Evidence	5
1.1. Who are the users of public access in libraries?	5
1.2. How has the use of public access in libraries changed over years?.....	8
1.3. How do people use public access in libraries?	9
1.4. What are the outcomes of public access in libraries?	11
1.5. How does public access change library services?	13
1.6. What is the economic value of public access in libraries?	16
Chapter 2. Evaluation of Public Access in Libraries: An Overview of Methodologies	17
2.1. Physical access to computers and internet for the public	18
Public access inventories	18
Surveys of public access managers and staff.....	19
Interviews with public access managers and staff.....	21
2.2. Public access use and impacts	23
Surveys of public access users	23
Interviews and focus groups with public access users.....	25
2.3. Perceptions and impacts of public access among non-users and the public	26
Surveys of non-users and general population	27
2.4. Software-based evaluation solutions for multi-focus surveys of public access	27
2.5. Studies of the economic value of public access	29
References	31

Introduction

Policymakers, library authorities and managers, and many others who have invested in **public access to computers and internet in libraries** ('public access') have a strong interest in understanding the usage of ICT in libraries and the impact of public access on digital inclusion. It may be particularly important for them to know, for example, the extent of computer and internet use by groups that are more likely to be underserved or digitally excluded, such as senior citizens, rural communities, those with lower income, and others. They may also want to better understand what social and economic benefits public access generates for users, and society at large.

At the same time, public access providers – such as library managers – may need more data on how well the library's public access infrastructure is working and about how it is being used; on staff competences and ICT training abilities; on digital skills of the local community, and about library users' needs and expectations in regard to digital content and services. To encourage further investment, they will need solid evidence about the demand for and value of library digital infrastructure and services to their communities. Thorough assessment of the impacts and value of public access computers and internet in libraries is therefore a key task.

This report summarises learnings on the impacts of public access from recent studies and suggests how libraries (and other agencies providing public access to ICT) can go about assessing the impacts of their public access services. It is based on both recent reports and publications in this field, and a selection of good practices for public access-related impact evaluation.

The aim of this report is twofold:

- The first chapter provides an overview of recent evidence about the impacts of public access in libraries, drawing on studies and reports from different countries. It outlines findings on key issues such as **who uses public access in libraries, how they use public access, what value-added services library ICT infrastructure enables**, and what are the **other benefits of public access** for users and society.
- The second chapter provides an overview of **quantitative and qualitative methodologies** that have been applied in various studies **to evaluate the impacts of public access to computers and the internet in libraries**. It could serve as a 'toolbox' for those planning new studies on the impact of public access in libraries, or in other spaces (like cybercafes, telecentres, education centres).

Key definitions

Public access computers and internet in libraries ('public access') are any computers and other internet access devices, as well as internet connectivity, available in libraries for public use. Note: In this report 'public access' refers to public access to computers and the internet **in libraries**, unless otherwise specified.

Public access assessment tools are techniques, approaches or methods used to measure and/or appraise various aspects of public access in libraries, such as frequency of use, motivation to use, purposes of use, arising outcomes, and others.

Public access outcomes and impacts include specific benefits obtained from the use of public access facilities and services in libraries. They can be related, for example, to improved knowledge or skills, changes in attitudes or behaviour, or quality of life improvements.

Public access inventory is a list or a database of different kinds of public internet access facilities (e.g., libraries, cybercafes, telecentres, education centres) available in a specific geographic location (region, national, local) or a specific organisational network.

Inventory dataset provides data about different kinds of public access venues (e.g., libraries, cybercafes, telecentres, education centres), including their characteristics, such as type, capacity, working hours, etc.

Chapter 1. Impacts of Public Access in Libraries: A Summary of Recent Evidence

The first chapter provides an overview of evidence overview from selected studies on the use and impacts of public access in libraries, drawing on recent or the most significant studies and reports from different geographies. The chapter features studies that are openly available online and include direct links to research reports to allow readers to easily explore the studies further.

The chapter is structured around the key questions that public access providers and other stakeholders most often need answers to:

- ***Who are the users of public access in libraries?*** Describes a profile of public access users in libraries and highlights which groups use public access the most and have the fewest alternative places or options for accessing computers and the internet.
- ***How has the use of public access in libraries changed over years?*** Shows the trends in public access use over a period time.
- ***How do people use public access in libraries?*** Shows how people are using public access to get hold of news and other information, for example, to support their formal studies or lifelong learning, to boost employability, to support job-seeking and provide online working skills, to improve financial literacy, to access e-government services and opportunities for online communication.
- ***What are the outcomes of public access in libraries?*** Shows what outcomes arise from the use of public access in libraries, including impacts on users' digital skills, employment, learning outcomes, building stronger communities, increased social cohesion, and saved time and money.
- ***How does public access change library services?*** Shows how public access gives a platform to expand library services and offer new ones, such as basic and advanced digital skills training, targeted programmes for specific user groups, various lifelong learning programmes, programmes to promote the use of e-government services and to support creation of locally relevant digital content.
- ***What is the economic value of public access in libraries?*** Shows findings on the relationship between the investment in public access and financial benefits for users.

Please note that studies that address more than one or even all of these questions are mentioned in different sections of this chapter.

1.1. Who are the users of public access in libraries?

Earlier pivotal research, particularly the [Global Impact Study of Public Access to ICTs](#) helped establish a portrait of public access users. In the various public access venues considered (telecentres, cybercafes, libraries and similar), the users tended to be younger (with more than 68% of surveyed users under the age of 25), and often came from low-to-middle income families (but with considerably fewer users below the poverty line). The majority had a secondary or tertiary education, and for many (33%) public access was the only option to go online, while 15% had no other option for computer access, and a further 15% said the public access equipment was better than what was available at their homes / places of work (Sey et al., 2013).

More recent studies conducted in Canada, Lithuania, UK, Namibia and USA have also found that public access facilities in libraries are frequently used by more disadvantaged or vulnerable people – such as unemployed, lower-income, or elderly people or those living in remote areas:

- The study [Technology Access in Public Libraries: Outcomes and Impacts for Ontario Communities \(Canada\)](#) by Nordicity (2018) found that 56% of users were able to benefit from public access ICT they would otherwise have had no access to. This rate was higher among **patrons aged 55+** and **those with a lower income** – 68% and 63%, respectively. Among the 56% of users who had no alternative means of access to technology, **younger people** and **those identifying as belonging to a minority group** more often reported having no alternatives for library Wi-fi (78%), while patrons over 54 within this group were more likely than other users to lack an alternative to library computer workstations (Nordicity, 2018).
- [The study of Users of Public Access in Libraries](#) in Lithuania (2019), showed that 44% of users of public internet facilities in libraries were **between the ages of 45 and 64**. Of these, 58% were employed, and 39% middle income. A significantly larger number of users were women (69%) and residents of rural areas (62%) (Cantar, 2019).
- [The study of the Oxfordshire \(UK\) Digital Inclusion Project](#) (2021) notes that library computers are very actively used by **older community members** between the ages of 50 and 77 (66% of library computer users fall within this category). Furthermore, compared to the British population at large, users of library computers tend to have **lower incomes** (e.g., with 58.4% of users earning £20,000 or less). Also, people who do not own a mobile phone were more highly represented among library computer users than in the population as a whole (11.6% compared to 7.6%), while of those who had a phone but not a smartphone, these too were over-represented among library computer users (31.1% compared to 20.8%) (Allmann et al., 2021).
- [The Final Report of the Regional Study and Resource Centers \(RSRC\) Activity Evaluation \(2020\)](#) indicated that in Namibia's regional libraries free Wi-Fi

services were in high demand among students and learners, the vast majority of whom were below the age of 30. Within this group, around 90% of surveyed library patrons made use of public internet access facilities. Internet access was also a popular service among visitors of the libraries' business sections (comprising **jobseekers, self-employed and wage earners**), around 95% of whom have used the service. Providing further context, among the surveyed users, secondary school students were less likely to have access to a computer and/or a fixed internet connection at home than older students (e.g., 28% vs 44% had access to a computer). Among employed library patrons, 52% had a computer and 16% had a fixed internet connection at home, while job seekers and self-employed patrons were less likely to have this kind of private access (30% and 35% respectively had access to computers at home, 3% and 9% had access to a fixed internet connection) (Coward et al., 2020).

- [The Public Libraries and the Pandemic study \(2021\)](#), focused on the USA, asked respondents how the Covid-19 pandemic had affected their use of the public library, if they were aware of and able to use the online resources their library provided, and if they lost their main source of internet access when library buildings were closed. 15% said they lost their main internet access point when the library had been closed. A slightly higher percentage of respondents, who lost their main place of internet access were **men, urban dwellers, and people speaking a language other than English at home** (Guernsey et al., 2021).

Interestingly, those who have alternative options to access the internet (for example, at home) still use public access in libraries. For example:

- In Lithuania, two reasons for this cited significantly more often were: **support and advice from library staff** (46% of users) and the possibility to use **peripheral devices** such as scanners and printers (54%) (Cantar, 2019).
- In Oxfordshire, UK, more than 50% of users said they use public computers because it is **convenient**; 37% - because they are **free**. More than 30% of users also said that their reason is that the library is **quiet and/or safe** space (Allmann et al., 2021).
- In Ontario, Canada, 59% of users said they used library's public access facilities for a **change of scenery**, and 38% used it as a **supplement to other services or resources** at the library (Nordicity, 2018).

Public access in libraries serves a dual purpose: on the one hand, particularly in geographies where personal (private) access is still growing, public access can offer a low- or no-cost option to go online and can be particularly in demand among active library user groups, e.g., students, those with a higher formal education, etc.

On the other hand, in areas with comparatively more widespread connectivity, it is a vital access option for those more likely to be digitally excluded, e.g., women, lower-income community members, older people, those with a minority background, rural dwellers, and others. Among digitally excluded people, in many cases public libraries are their only option to go online.

Studies also show that when people have alternative options to access internet, they continue using the internet in libraries for the following reasons: library staff support, access to other devices, convenient and free access, quality of connectivity, being in shared public space.

1.2. How has the use of public access in libraries changed over years?

A number of studies investigated use of public access over a longer period to provide data on how this changes over time. Their findings show trends that could inform future decisions around digital policies and library ICT infrastructure development:

- The report of [the Organizational and Service Review of the Newfoundland and Labrador Public Library System](#) in **Canada** showed that between 2012 and 2016 the use of public access computers declined by 26% while the use of public Wi-fi grew by 125%. This trend was partially attributed to the increasing use of personal devices by library patrons (EY, 2017).
- In **Lithuania**, over an eight-year period, the number of weekly active users of public access decreased by slightly less than half: in 2019 38% of users used public access in libraries every week, while in 2011 this number was 70%. However, 98% of library internet users surveyed in 2019 said they intended to continue using the library public access facilities in future (Cantar, 2019).
- In **Namibia**, between 2016 and 2018 daily computer use across the three regional libraries decreased by 26%, from an approx. 265 to 192 sessions per day. The average use decreased in two regional libraries and increased in one, with the decline possibly attributed to slower internet speeds and the varying capacity of libraries to maintain, repair, and replace ICT equipment over its lifespan (Coward et al., 2020).
- In the **UK**, according to the [Lorensbergs Public Library Customer Survey](#) in 2017, nearly 70% of libraries reported that the use of their public computers had either increased or remained stable in the period 2016-2017. The growth was often attributed to the ICT facilities upgrades, as well as to increased rollout of e-government services (Netloan, 2018).

These studies show that well-equipped public access in libraries see a corresponding rise in use, particularly in those that are newly established, or

expanded over time, and have updated infrastructure through additional investments. Conversely, challenges with equipment maintenance or speed and quality of connectivity are associated with a decrease in usage rates. Furthermore, evidence supports a trend that use of Wi-fi in libraries is rising as ownership of personal access devices among the community grows, and some people stop relying on library computers so much.

1.3. How do people use public access in libraries?

To better understand the impacts of public access, some studies and reports assess the ways in which people make use of connectivity and devices in libraries – and with what aims. Findings are that some of the most common ways patrons use public access facilities include:

Accessing news or other relevant information online. Lithuanian public library users reported searching for different types of key information: news (53%), health (48%), culture or heritage (40%), online encyclopaedias (53%), and others (Cantar, 2019).

Another distinct type of use revolves around **learning and education** – whether in support of formal schooling processes or seeking out other learning opportunities. According to the findings by the Good Things Foundation (2018) on the one year long [‘Digital Life: Kenya project, piloting the use of Learn My Way by the Kenya National Library Service’](#), public libraries in Kenya are mainly used by young people to support their formal education (Good Things Foundation, 2018). According to [READ Global Technology Programme overview](#) data from a survey of READ Community Libraries and Resource Centers in Nepal (also known as READ centers), nearly half of villagers surveyed (47%) report that they use computer resources to help with school (READ Global, 2018). In Ontario, Canada, 64% of respondents say they use the library’s public access facilities for educational purposes – and this figure was even higher among youth and people from minority or migrant backgrounds. The study also highlighted the kind of educational activities carried out – such as taking online classes or tests, finding information or applying for educational programmes, scholarships, and student loans (Nordicity, 2018).

Job-seeking and improving employment prospects was another key use. This can span several types of activities:

- *Directly searching and applying for jobs* – for example, 61% of users of the three regional libraries in Namibia who were currently unemployed or otherwise looking for jobs reported that in the past four weeks they used the library’s computers to apply for jobs or for other job-seeking activities (Coward

et al., 2020). In India, 47% of READ centre patrons surveyed reported using the ICT resources to look for work (READ Global, 2018).

- *Career and employment-related skills-building* –this was the purpose of public access use reported by 45% of Ontario Public Library users (Canada), with a higher figure among users younger than 35 and those identifying as visible minorities. The skills in question included, for example, improving technical, management, administrative and marketing skills. First Nation respondents were also more likely than others to use public access facilities for this purpose (48%). A further 45% of patrons reported using library ICT facilities to build job search skills, for example, how to assess job listings and build a resume (higher among the user groups mentioned above, as well as among lower-income patrons) (Nordicity, 2018).

Public access in libraries is also used for **working online, earning money and other financial transactions**. For instance, some users in Kenyan public libraries reported using public access facilities to take on micro-jobs, such as transcription (Good Things Foundation, 2018). 14% of surveyed users in Lithuanian libraries used public access to buy or sell goods (Cantar, 2019). Across READ centres in South Asia, 38% of surveyed users reported having searched for information about income-generating activities (READ Global, 2018). 14% of surveyed Ontario Public library users used the ICT facilities to manage an existing business, and a further 14% to do business-related research (Nordicity, 2018).

Accessing e-government services is another key use of public access facilities. Studies in Kenya (Good Things Foundation, 2018), Canada (Nordicity, 2018) and Lithuania (Cantar, 2019) reported people using digital public services in libraries – which can entail accessing these on their own, doing so with on-the-spot help from a librarian, or a distinct service offering help with using e-government tools. For instance, 34% of surveyed users of Ontario Public Libraries (Canada) reported accessing online government services through public access facilities. The percentage was higher – above 40% – for users over 55, those with a lower income, or those identifying as a visible minority (Nordicity, 2018).

Using public access facilities for **personal communication and social life, or for leisure** is another part of the picture. In fact, the regional libraries in Namibia recorded an increase of computer use for personal reasons among student/learner user groups (Coward et al., 2020). In Lithuania communication was cited by the highest percentage of library users (57%) (Cantar, 2019). In Bhutan 1 in 10 surveyed users of READ Centers used their ICT facilities to connect with relatives out of the country (READ Global, 2018).

These are some of the more commonly cited uses across studies. Other types of uses include, for example, creating and/or sharing own content, making financial arrangements or transactions, and gaming.

Public access in libraries has shown its versatility in enabling a wide range of uses, from accessing news or specific information online to job-seeking, earning money, from education to accessing digital public services, and private communications and leisure. Some of these (e.g., communicating with relatives abroad, e-learning) can be of relevance or more widely used among older people, minority groups and other locally specific user groups that may otherwise be underserved.

1.4. What are the outcomes of public access in libraries?

There are studies that seek to understand and qualify the outcomes of the different ways people make use of public access:

Improvement of users' digital skills seems to be the most often-cited outcome of public access use. While libraries equipped with computers and the internet often also offer various types of digital literacy training (further discussed in Section 1.5.), the mere availability and use of public access to the internet can help patrons learn to navigate the internet and ICT with more confidence. This was the case, in the following instances:

- With READ Centres equipped with computers and internet across South Asia, more than 50% of surveyed users reported being more comfortable using computers because of the Centre (READ Global, 2018).
- The 'mere-use' effect on digital skills can also be seen in a [study focused specifically on loaning of hotspot devices by](#) New York, Brooklyn and Queens Public Libraries, USA. While most people self-reported reasonable digital skills before making use of this service, it led to greater confidence in using the internet (Strover, 2019).
- The Namibia study also illustrates that digital skills-building benefits could be experienced differently across various user groups. For example, among students and learners, fewer women and girls reported having improved their digital skills (45% as opposed to 58% of boys and men), but the opposite trend was observed among business-section library users (wage earners, job seekers and self-employed users): 67% for women and 56% for men (Coward et al, 2020).

In the field of employment, outcomes can be broadly divided between self-reported improvements in relevant skills and more tangible outcomes, such as finding a job:

- In the first category, 60% of surveyed job-seeking patrons of the Namibian regional libraries reported **better skills associated with employment activities**, while 61% of self-employed users and 59% wage earners reported building skills that enable them to perform better in their jobs. While such gains were broadly attributed to both public access and other library services, many users in this business category assessed Wi-fi and computers as the most important of the offered resources. In terms of tangible outcomes, 61% of self-employed users and 52% of wage-earners in the Namibia study reported being able to **complete work tasks**, while 39% and 16% respectively reported an **increase in their incomes** (Coward et al., 2020).
- Among the users of Ontario Public Libraries (Canada), 43% of respondents who used library ICT resources to develop employment skills reported high levels of success with their job search. They were successful in finding a job following such activities as finding more information about the profession, assessing job listings, and building resume or interview skills. Notably, patrons with a migrant background were more likely to have used the public access facilities for one of these activities (Nordicity, 2018).

In the field of education, public access users self-reported benefits include:

- The Namibia study demonstrates evidence of better learning outcomes, such as, completing assignments or better performance in class. (Coward et al., 2020).
- In Ghana, the '[Hands on computer classes for 1,800 Ghana children](#)' project, implemented by EIFL and the Ghana Library Authority (2015-2019), led to a rise in pass rates in ICT exams in participating schools. Over four years, mobile libraries equipped with solar powered laptops travelled to poorly resourced rural and peri-urban junior high schools to offer hands on computer classes. Annual assessments found that as a result of the project, pass rates in the subject ICT in the Basic Education Certificate Exam increased from approximately 45% in 2015 to 84% in 2019.

Another broad category of outcomes can be observed in the sphere of **community-building, participation, and social cohesion**, although this may be harder to quantify. For instance, in Ontario, Canada, patrons reported using public access facilities in ways that boost community engagement (e.g., access to information and involvement in civic or community groups, volunteering, learning about politics). In total, 80% of surveyed users said public access and ICT services helped them connect with others and be more social. Notably, users identifying as visible minorities were more likely to engage in such activities (Nordicity, 2018).

Finally, additional positive outcomes for public access users can also take the shape of **costs or time saved** (more on this see section 1.6.).

Evidence suggest that library public access users benefit in several potentially life-changing areas: advance digital skills and confidence in use of ICT, better employability prospects and job seeking skills, and other skills contributing to work performance, higher learning results and grades, and stronger social cohesion and civic participation.

1.5. How does public access change library services?

Availability of public access facilities enables libraries to expand their services by building on learning programmes. Many of these programmes are aimed at digital inclusion, i.e., enabling use of computers and internet in the library or elsewhere by developing **digital skills in communities**. Digital literacy training programmes offered by public libraries cover skills across the full range of areas of the [Digital Competence Framework for Citizens](#) – from basic computer skills to learning how to use specific programs (e.g., Microsoft Office Suite, Adobe), coding, robotics, movie editing – and competencies – computer literacy, digital creativity and critical thinking (Vuorikari et al., 2022).

The scope and reach of these efforts can be extensive: for example, following a series of projects which upgraded public access in public libraries in Kenya, [more than 170,000 library users received basic ICT skills training](#) in their public libraries over a four-year period (Muchai, 2018). A study '[America's libraries: Powering broadband adoption, access and use](#)' by the American Library Association suggests that nearly 90% of U.S. libraries¹ offer digital literacy training, and a significant majority support training to boost meaningful internet use, for example on using different technology devices, online safety, and social media (American Library Association, 2016).

In the UK, [Suffolk libraries' Wi-fi and facilities](#) were used to help deliver a new computing curriculum to local primary school students. These classes emphasised a better understanding of how information technology works and is created (rather than focusing on its common uses only), covering topics like logical reasoning in machine instructions, simple programming, and 3D printing (Shared Intelligence, 2016).

In addition, learning opportunities created by libraries can be **targeted toward specific user groups**. For example, in Australia, [the Tech Savvy Seniors programme in New South Wales libraries](#) focuses on serving **older community members** from diverse linguistic and cultural backgrounds. The estimated positive social impacts of the programme range from increased independence, self-esteem, and

¹ Note: Out of the total number of libraries, which this report estimates at 120,000.

confidence among the participants to practical and behavioural impacts, such as more use of online services, and the ability to pursue hobbies and interests with the help of ICT (Telstra Corporation Limited and New South Wales Department of Family and Community Services, 2018). Also in Australia, [Redlands Library Services host robotics camps](#) for **children and seniors** (Hind, 2020).

Another public access service is **one-on-one support and individual assistance in using library computers and internet:**

- Data from the 2017 UK public library survey suggests that there is substantial demand for this kind of help: 46% of libraries indicated that the number of requests is growing, with a further 35% indicating it is staying the same (Netloan, 2018).
- In New Zealand, more than 50% of surveyed [public library staff members](#) reported habitually helping between 11 and 50 users with digital queries per week. More than a third of respondents said they spend between 25% and 50% of their working hours supporting users in this manner (Hartnett et al., 2020).
- In Oxfordshire libraries, UK, staff members estimated that between 50% and 70% of patron requests they receive have to do with digital skills or digital services. To help meet this community need, libraries run a volunteer-based 'Digital Helpers' programme – that, based on evaluation data between January 2019 and January 2020, provided more than 800 hours of individual digital assistance (Allmann et al., 2021).

In addition to digital skills training and individual assistance in using ICT, libraries offer a wide range of learning opportunities in other areas. One example illustrating this is the way public access in libraries has been used to **support learning circles** – in-person study groups for community members taking online courses. In Kenya, for example, [a series of learning circles has been piloted in libraries](#) equipped with public access computers and internet connectivity. One of the notable impacts was a significant boost in online course completion – while globally online courses tend to see high dropout rates, the pilot in Kenya saw a completion rate of over 90% among learning circle participants. Similar models have been tested and rolled out in libraries in other African countries including Uganda and Zambia (Fairbairn, 2019).

Another learning area offered by libraries is **financial literacy**. One such program is "[About finances... in the library](#)", rolled out in over 200 libraries and communities across Poland to offer personal financial and economic training for adults. The programme is delivered by pre-trained librarians, using a structured e-learning course and online resources and in-library facilities. Its focus is on helping users

learn about topics like e-banking, home budgeting, and interest rates – with people aged over 50 in small towns and villages as a key target audience (Bon et al., 2020).

Libraries are also teaching citizens to access and use **e-government services**. For example, in the Netherlands, public libraries host [Digital Government Information Points](#) which help users with various government services, such as subsidies or waivers to which they are entitled (The Dutch Digitalization Strategy, 2021). A similar example is the [collaboration between Romanian public libraries and the government Agency for Payments and Interventions in Agriculture](#) to offer farmers assistance with completing online subsidy applications. Between 2011 and 2014, this initiative saw more than 116 000 farmers submit applications, for a total amount of subsidies of US\$205 million (IFLA, 2017).

Access to and creation of locally relevant digital content is yet another important category of value-added services in libraries, based on public access facilities. In Colombia, for instance, the [“ICT in Public Libraries”](#) project inspired adoption of a “Photography and Memory” initiative, which engages communities in recovering, digitising, and sharing local photographic records. During an initial project observation and evaluation period between March and December 2016, more than 50 000 participants were involved in these initiatives (Biblioteca Nacional de Colombia, 2017)

Similarly, in the UK, a series of case studies of innovative services and activities enabled by library Wi-fi illustrates other value-added offerings around digital content. These range from creating and re-shaping content online – e.g., an ‘Editathon’ of LGBTQIA+-themed Wikipedia articles held in a library in Manchester – to content discovery and navigation. The latter has included, for instance, a beginners’ genealogy research session, helping community members learn how to navigate and make discoveries using local historic sources online (delivered by Norfolk libraries).

To encourage community members to engage with technology and make use of available digital materials, [a project in Rotherham libraries in the UK](#) focused on converting existing reading groups to digital, jumping from print to e-books. Particular priorities for this initiative were older users and users with visual or print disabilities. The activities also served to build their digital confidence and encourage informal learning among participants (Shared Intelligence, 2016).

Public access facilities in libraries have made it possible for librarians to introduce and roll out a great number of digital skills training opportunities that build digital skills and boost users’ confidence in using computers and the internet. Some of these programmes address more advanced ICT skills, such as coding or robotics and are aimed at specific target audiences. In addition, the data above suggest that

informal, on-the-spot support by librarians in response digital queries is not only in high demand but can also be particularly important for user groups more likely to experience digital exclusion (i.e., lower-income community members).

Public access facilities have also been leveraged in libraries to deliver a wide range of other value-added services such as support in accessing e-government services, enrolling for and completing e-learning courses, and using and creating digital content.

1.6. What is the economic value of public access in libraries?

Public libraries provide public access for free or at an affordable fee that does not reflect the actual costs of the service provision, which complicates assessment of its value and impact in economic terms. However, there have been quite a few economic and social value studies which have attempted to estimate the ratio between the economic benefits and costs of library services in general, and of public access in libraries in particular.

For example, the [Economic and Social Value of Information Services in Libraries study](#) in Spain concluded that in one year public library users who used free public access to computers and the internet in libraries **saved 11.4 million euros, compared to what they would have spent using cybercafes and similar establishments** (Gomez, 2014).

In Colombia, [the Economic and Social Value Study of the public library system of Medellin](#) estimated that the cost-benefit ratio of public libraries is 1:7.24 Colombian pesos. In other words, for each 1000 Colombian pesos invested in public libraries, these provide a social return worth 7240 Colombian pesos. The study considered eight services and among them public internet access in libraries showed the highest cost benefit ratio, **equal to 1:33.86 Colombian pesos** (Sistema de Bibliotecas publicas de Medellin, 2021).

In Latvia, a study of the [Economic value and impact of public libraries](#) revealed a similar trend, whereby the cost-benefit ratio of public access in libraries was also highest among all evaluated library services: if the overall cost-benefit ratio for public libraries was 1:1.37, for public access to computers and internet, the cost benefit ratio was more than twice as high, **equal to 1:3.04** (Strode, 2012).

Economic and social value studies show public access use in libraries brings significant savings for users and communities. Evidence also suggests that investment in public access is cost effective as benefits derived from public access in libraries surpass investments.

Chapter 2. Evaluation of Public Access in Libraries: An Overview of Methodologies

The second chapter of the report outlines research methods and instruments that are most often used for evaluation of public internet access, drawing on studies which focus on different target groups and geographies. It is meant to support and ease the planning of similar research and evaluation initiatives, for libraries at all levels: local, national, or regional.

The chapter features selected quantitative and qualitative evaluation studies (see reference list) that are openly available online and include direct links to research instruments (and/or data sets) that could be adapted for new studies on impacts of library public access facilities by library authorities and managers or other stakeholders, saving time and resources on developing methodologies and tools.

Though the scope and focus of studies on public access impact differ, most commonly they aim to investigate three main areas:

- ***Physical access to computers and internet for the public*** – these studies aim to establish what public libraries or other venues offer in terms of public access to computers and the internet. This includes details about the venue and its services, management and funding models, and information about staff who attend and support public access users.
- ***Public access use and impacts*** – these studies aim to understand who uses public access services, why and how – and what benefits users get from public access.
- ***Perceptions and impacts of public access among non-users and the public*** – these studies look at demand for public access, and the use and value of public access for the general population, rather than among public access users only.

This chapter is structured around these three broad areas (sections 2.1.-2.3.). However, you may find some major studies featured in more than one section because they have targeted a variety of populations and applied a combination of methods to obtain a comprehensive picture of public access provision, use and impact. Narrower and more focused studies, for example those limited to public access users only, can still give useful in-depth insights on the benefits and outcomes of public access in libraries, and they are easier to conduct.

In the last sections – 2.4. and 2.5. – we present two different approaches to the evaluation of public access. Section 2.4 provides an example of a complex software-based solution, aimed at capturing various areas – availability, use and impact of public access – through a single tool which collects data from multiple sources and

allows automated analysis and visualization of data. In section 2.5., we give an overview of methodologies that have been used to assess the economic impact of public access, which usually combines data from library statistics, user surveys and comparison of costs for public access provided by libraries with market alternatives (e.g., cybercafés).

2.1. Physical access to computers and internet for the public

In this section we present methods and tools used in studies that have focused on the “supply” side, or, in other words, what public libraries or other venues offer in terms of public access to computers and internet. This can include information on the locations of public access venues, their working hours, the number of available workstations, internet bandwidth and availability of public Wi-fi, as well as of other digital services, training and support for users. Such data can be collected, for example, through inventories of public access venues, as well as surveys and interviews with public access managers and operators.

Public access inventories

Public access inventories are one of the key tools that can help to begin examining the impacts of public access. Inventories can determine how widespread public access provision is: how many public access venues are available locally and how they are distributed across different venues, such as libraries, telecenters, cybercafes or community centres.

Inventories can be done at any time. However, it is useful to conduct inventories during the planning stages or at the very beginning of public access development projects and programs. This helps collect baseline data about the variety, structure, and geographic distribution of available venues. As the public access rollout continues, some studies repeat the inventory to show the evolution of the public access network.

An example of a study which includes such an inventory is the [Global Impact Study of Public Access to Information & Communication Technologies](#) (The Global Impact Study). This study is the most extensive research into public access carried out at global level to date. Among various other methods, the study includes an inventory of public access venues, including public libraries, in six countries across four continents: Bangladesh, Brazil, Chile, Ghana, the Philippines and Lithuania.

In each of these countries, researchers collected data about the number, type, and location of public access venues. All venues in the inventory were geolocated, making the data usable for geographic information systems and other analytical

approaches. The result of the inventory is a database that offers multiple search options, three different visualisations of the data and the possibility to export it in a CSV format. All data in this database is distributed under a Creative Commons Attribution Non-Commercial Share Alike license (Sey et al., 2013).

→ See the [inventory dataset](#) of the *Global Impact Study*.

Surveys of public access managers and staff

For the Global Impact Study, the above-mentioned inventory was the basis for assembling a representative sample for a survey of public access venue operators to collect further information to support both policy-making and further evaluation. Approximately 250 venue operators were surveyed in around 250 randomly selected public access locations throughout each country. The survey targeted all types of venues, library and non-library, urban and rural. All surveys were carried out face-to face and administered by the researcher.

The survey for venue operators included the following questions:

- **Basic information** – address and venue type, years in operation, number of users at the time of the interview, etc.
- **Layout** – venue configuration and conditions, location, visibility, signage, wheelchair accessibility, etc.
- **Infrastructure** – number of computers and their technical specifications, electric power conditions and common technical issues faced by the staff and public access operators.
- **Financing and costs** – funding sources, costs, and revenue streams.
- **Staffing** – number of staff, their demographics and status (paid/unpaid), their skills in ICT and capacity to help users.
- **Services** – what services are provided (e.g. wi-fi, photocopying, printing, scanning, preparing documents for users, public phone use or phone cards sales, web design for users, training, job placement, assistance with online services such as e-government and e-banking, etc.), the importance of certain features of the venue to users (e.g. working hours, convenience, affordability, etc.), content filtering and restrictions on the use of public access (e.g. gaming, downloading software or videos, etc.), services or features provided specifically for people with disabilities, languages in which staff can attend to users or provide content in the venue.
- **Traffic and usage** – opening hours, number of users per week, user traffic during different days of the week and different times of the day, age and gender of users, ability of the public access venue to meet users' requirements (e.g., are the computers and connectivity sufficient to meet the demand), main activities performed by users, etc.

- **Venue impacts** – ways in which the public access venue benefits users (e.g., income generation, education, civic participation, ability to interact with the government, ability to interact with other people, sending and receiving money, etc.), including an open question of what has been the biggest impact of this public access venue on the community at large (Sey et al., 2013).

→ See the [survey instrument](#) of the *Global Impact Study*.

The Global Impact Study carried out an extensive inventory and survey of public access venues of various types (library and non-library based), and it is the only study of such scope that we identified. More common is research on public access at national, project/programme or organisation levels, focused on one type of public access venue.

For example, from 2006 to 2011, in the United States (US), [Libraries Connect Communities: Public Library Funding & Technology Access Study](#) carried out bi-annual surveys of library directors, which also served as an inventory of public access in US libraries. The survey was conducted online and asked respondents about specific library branches and about the library system to which each respondent branch belonged.

The areas and questions covered in this survey included:

- **Public access availability, connectivity, and access** - opening hours, availability and replacements of public access workstations, sources of IT support, use of public access workstations and Wi-fi, speed of internet connection, ability to meet the demand and possibilities to expand the number of workstations and internet bandwidth.
- **Services related to public access computers and internet** – the variety of services enabled by public access, and how much value users assign to these. This includes various types of IT training offered at the library, e-government services users can access and receive staff support with, and library services for jobseekers. It also focuses on challenges that affect a library's ability to provide these services.
- **Funding** - questions about funding mechanisms for public access in libraries, and whether funding has changed over time and is expected to change in the future (Hoffman et al., 2011).

→ See the [survey instrument](#) of the *“Public Library Funding & Technology Access Study”*.

Other studies, for example [Library as a Space for Digital Inclusion](#) in New Zealand, help examine public access in a broader context. This entails a focus on libraries'

role in promoting digital inclusion, especially for people with otherwise limited access to ICTs, or those with lower skills and knowledge about the digital world. The study surveyed both library managers and staff involved in the provision of public access to users.

The library managers' survey focused on creating an inventory of digital devices, applications and services provided for the public. It included questions on:

- **General library properties** – location, number of users served, etc.
- **Digital strategies** of local authorities and the library's role in these strategies.
- **Services** – what digital devices (equipment such as a computer, smartphone, laptop, or tablet), digital applications (software program or an app) and digital services (information, training, support, or resources) the library offers.
- **Partnerships** with external organisations focused on digital inclusion.
- **Professional learning and development** for library staff and managers who are engaged in supporting library users' digital needs.

The library staff survey aimed to collect more data on the ways library staff help support digital inclusion. Specifically, the survey included questions about:

- **Staff demographics**
- **Types of digital help and assistance which staff members provide to users**, including the kinds of questions and queries received, and how often staff members provide different types of ICT assistance and support.
- **Current knowledge, perceived importance, and interest in digital technologies among staff**
- **Staff skills** with digital technologies and skills to support library users' digital needs (needs for digital devices, software and apps, digital literacy training and support), and how frequently this support is offered.
- **Professional learning and development** staff members had engaged in within the last 12 months and their needs for further digital skills development (Hartnett et al., 2020).

➔ See the [survey instruments](#) of the "Library as a Space for Digital Inclusion" library managers' (page 53-60), and library staff (page 61-70).

Interviews with public access managers and staff

Interviews with public access managers and staff are a way of getting more data about the state of public access. This data collection approach offers a qualitative view on topics similar to those tackled in staff surveys: public access infrastructure and services available, uses and benefits for users, challenges and plans for public access development.

One example of study which used interviews with staff, is a [Cross-European survey to measure users' perceptions of the benefits of ICT in public libraries](#). It was conducted in 17 European Union (EU) countries: Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Latvia, Lithuania, Netherlands, Poland, Portugal, Spain and the UK. In addition to staff interviews, the study also applied other methods, such as desktop research (aiming to collect key information about selected libraries), representative surveys of the public, a survey of public access users, as well as interviews with users of public access.

The aim of the staff interviews in this study was to get a more detailed picture of the ways in which public access in libraries is helping communities. Through staff interviews researchers collected information about the ways librarians use public access for providing digital skills training programmes for local communities, as well as other activities and learning opportunities in a variety of areas – including lifelong learning, employment, business skills, using e-government services, and health literacy.

A total of 5 in-depth staff interviews (around 60 minutes each) were conducted in each country. The interviewees were various staff members, including senior librarians with strategic roles in developing and supporting public access, as well as those playing more technical roles.

All the interviews were carried out with the help of discussion guides which gave an indication of the topics to be covered, the approximate time apportioned to each area of discussion, guidance around possible areas of investigation. The information collected through these interviews was intended to provide narratives, stories or case studies which illustrate the benefits of public access in libraries. These can be used to provide evidence to the EU, national governments, and other library support organisations of the impacts of these library services and offerings (Quick et al., 2013).

→ See the [interview instrument](#) of the “Cross-European survey to measure users' perceptions of the benefits of ICT in public libraries”.

The studies featured above show that surveys and interviews with managers and operators of public access facilities can offer extensive information about public access infrastructure, service provision, management, and funding. This builds a powerful basis for supporting the planning and programming of infrastructure and service development. To some extent, they also help capture data about the uses of public access and its perceived impacts on users and communities, especially in the context of digital inclusion.

2.2. Public access use and impacts

In this section we outline evaluation methods and tools that are often applied in studies focusing on the “demand” side of public access. They aim at answering the question of who uses the public access services, why and how – as well as what benefits users gain. This data is often collected through surveys, focus groups or interviews with public access users. This overview also includes methodologies used to estimate the economic value of public access to the Internet, as well as an example of a software-based solution that help track the use of public access.

Surveys of public access users

User surveys are often a key source of data in studies examining the outcomes and impacts of public access in libraries. They help to understand who uses library public access facilities, how and why. Furthermore, they help capture benefits arising from this use. Many such surveys are administered online – accessible, for example, via library computers. Another alternative is paper surveys, which can be particularly useful for reaching users less experienced with ICT.

Multiple studies have applied this method for collecting data on the use of public access computers and connectivity. For example, from January to June 2020, [The Oxfordshire Digital Inclusion Project](#) (UK) conducted a survey of public access users in libraries. In total 1273 surveys were submitted, 92% of which were filled in online using library computers. The data collection was structured around four main questions²:

- **Who uses library computers?** This section included key demographics of users, like age, income, occupation, and self-reported digital skills.
- **Why do people use library computers?** This section included reasons for using computers in the library - such as convenience, opportunity to use the service for free, a safe and quiet environment, having no computer at home, getting help at the library, having no internet at home, and others.
- **How do people use library computers?** This section offered a list of 18 different activities, like e-mail and printing, reading online news; and an open option to write in a response if the desired activity was not on the list.
- **What do people ask for help with?** This section offered many possible answers, such as printing or scanning a document, accessing library resources, sending, or reading an email, and so on (Allmann et al., 2021).

Public access user surveys were also part of the [evaluation studies](#) of multiple public library computing projects across the world funded by Bill and Melinda Gates

² These questions were derived from the report, though the actual survey instrument is not included

Foundation's Global Libraries Initiative (GL). Through the international public library development work of the GL in 1997-2017, more than 15 countries received large-scale grants for setting up and expanding public access in libraries. All these grants supported extensive performance measurement and impact assessment, following a specific outcomes-focused assessment approach adopted by GL.

Surveys of GL-funded projects explored the ways in which public access is used by library users in seven broad areas: Digital Inclusion, Culture and Leisure, Education, Communication, Economic Development, Health, and Government and Governance.

Though there are some differences in methodologies and the instruments used from country to country, all include following key assessment elements:

- **Frequency of use:** Introductory questions that determine which public library services respondents have used in the last 12 months and whether the library is their only free point of access to the internet.
- **The use and impact of technology:** Questions related to the uses of public access technology (e.g., computers, Internet, Wi-fi) and ways in which it may have helped users (e.g., saving money, saving time, etc.).
- **The use and impact of ICT-enabled services:** Questions related to the development of digital skills through training or assistance from library staff or volunteers.
- **Demographic questions:** Questions to provide information on the characteristics of survey respondents and assist with disaggregating data where necessary (Al et al., 2015).

➔ *See an example of the [survey instrument](#) for GL-supported national initiatives.*

The Global Impact Study, while bearing some similarities with the GL assessments, is also an example of how the survey methodology can help further examine public access outcomes and impacts. It does so by grouping the possible outcomes into several broad domains:

- **Communications & Leisure** –the recreational, interpersonal communication and social interaction aspects of people's lives. It includes activities such as contacting friends and family, playing games, and pursuing hobbies.
- **Culture & Language** –participation in the creation and maintenance of community, national, or other type of identity. It includes activities such as searching for cultural events and producing online content in local languages.

- **Employment & Income** – the income-generating sphere of people’s lives. It includes elements such as overall income, access to employability services, searching and applying for jobs, and sending or receiving remittances.
- **Education** – formal and informal educational undertakings. It includes activities related to formal education such as taking a class, applying for admission, or doing homework, as well as less institutionalized activities such as general information searches on topics of personal interest.
- **Governance** – this is narrowly defined to apply to the provision and use of government services. It includes activities such as finding and accessing online government services.
- **Health** – this refers to health and wellbeing. It includes elements such as searching for information about a medical condition, finding a doctor, and using online health services (Sey et al., 2013).

➔ See the [user survey instrument](#) of the *Global Impact Study*.

Furthermore, user surveys can be designed to capture more nuanced insights on user experiences and needs. For example, the aforementioned ‘Library as a Space for Digital Inclusion’ study, alongside questions which often feature in public access user surveys (such as user demographics, frequency of use, digital access needs and reasons for using library public access computers), also includes questions about:

- **Difficulties that make it harder for people to use computers** (e.g., eyesight, hearing, moving, language, etc.)
- **Motivation to use various online services**
- **Confidence in online safety**, e.g., protection of personal information, recognising online scams, etc.

This survey also includes an open question about what other digital devices or services people would like to be able to access and use at the library that aren’t there now. This, of course, can offer valuable insights for the process of developing new services or programmes based on public access (Hartnett et al., 2020).

➔ See the [public internet access user survey instrument](#) (page 71-81) of the “*Library as a Space for Digital Inclusion*” study.

Interviews and focus groups with public access users

As discussed earlier, many public access studies combine quantitative methods, such as surveys, with qualitative methods, such as interviews or focus groups, to get more insights into public access impacts and user experiences.

The aforementioned Cross-European survey to measure users' perceptions of the benefits of ICT in public libraries is an example of such a combination. Alongside other data collection methods, the study conducted focus group discussions with public access users. These focus groups were carried out with the help of discussion guides, which included questions about the use of public access in the library, reasons for using public access services, and users' satisfaction with the public access and library staff support. Lastly, focus group participants were invited to share personal accounts or consider how using public access in the library has made a difference in their lives.

Four discussion groups (around 90 minutes each) were conducted in each of the 17 countries covered in the study. The results of this qualitative research were mainly intended to deepen and contextualize quantitative studies, as well as to draw up case studies illustrating and examining the benefits of public access in libraries (Quick et al., 2013).

→ See the [focus group instrument](#) of the "Cross-European survey to measure users' perceptions of the benefits of ICT in public libraries".

The studies described above illustrate that one of the most widely used ways of gathering data about public access use and impacts is directly from public access users, for example through surveys or focus groups. Such methods can be combined to get further insights into user experiences with public access.

The outcomes of public access are often measured in relation to broad domains such as digital inclusion, education, communication, civic engagement, employment, culture, health and others. However, it is important to make sure that, in a given study, such categories are localised and address the needs of stakeholders. User surveys can also help gain insights about barriers to public access use and needs or demand for new services related to public access.

2.3. Perceptions and impacts of public access among non-users and the public

We have identified studies that have examined outcomes and impacts of public access in libraries that take a broader approach than the ones overviewed above. These studies investigated the role and value of public access from the perspective of the general public, rather than only service providers or users. Data in these cases can be collected, for example, through a nationwide representative survey of the adult population.

Surveys of non-users and general population

One example is the Cross-European survey to measure users' perceptions of the benefits of ICT in public libraries already mentioned above. In addition to quantitative and qualitative studies of library staff and users, it includes a survey of a representative sample of the population aged 15 and over in each of the 17 countries covered by the research. The survey analyses the use of public libraries, the range of places to access computers and the internet, frequency of usage, and sociodemographic data (Quick et al., 2013).

→ See the [general public survey instrument](#) of the "Cross-European survey to measure users' perceptions of the benefits of ICT in public libraries".

Surveys of the general population can also provide insights about non-users and reasons for not using public access services. Some studies seek to measure this directly. The Global Impact Study, for example, included a survey of non-users in locations close to selected public access venues. This survey gathered information on the characteristics of non-users of public access, their reasons for not using public access, and their perceptions of indirect impacts of public access. The latter includes such dimensions as, for example, benefitting from someone else's use of public access on their behalf, or positive social or economic benefits for their friends or family members, who have used public access (Sey et al., 2013).

→ See the [non-users survey instrument](#) of the Global Impact Study.

Surveys targeting the general population and non-users can help understand the broader context of impacts and perceptions around public access. Such studies can help outline what percentage of the population is using public access venues, what alternative places of internet access are available to them, what their motivation to use or not use public access venues is, and their perception about the needs for and values of public access in general.

2.4. Software-based evaluation solutions for multi-focus surveys of public access

In this section we give an example of an integrated web-based tool from the Canadian study which allowed libraries to collect data from multiple locations on different aspects of public access (availability, use and impact) simultaneously. With just one tool they are able to gain an in-depth understanding of public access across a library network, instead of conducting several studies, based on different approach and instrument each.

The Canadian researchers used [the Bridge Technology Services Assessment Toolkit](#) (Bridge) which collects evidence of the value and impact of public access, Wi-Fi

services and digital literacy training and support in Ontario Public Libraries, Canada. “Bridge” is a customisable web-based application for libraries to capture and analyse performance and outcome data on technology services (public access to the Internet, Wi-fi, digital literacy training and support). It was first developed in 2016 by Toronto Public Library (TPL) in collaboration with Nordicity.

Using this application, libraries measured the following data points on public access:

- **Availability:** the scale of services offered, such as the number of public access workstations, digital literacy training programmes, or the availability of Wi-fi.
- **Usage:** the uptake of these services by library users – for example, the number of users of public access workstations or of participants in a digital literacy training program.
- **Outcomes:** the kinds of activities and results that public access enables for library users.
- **Service delivery:** how prepared frontline staff are to answer patron questions about the technology-related services they support.

Tracking these indicators across time and different library locations can help identify broader trends and put the results into social context. The system also allows researchers to track outcomes that arise from the use of public access to the internet, Wi-fi and digital literacy training and support, such as contributions to:

- **Community, social and civic engagement:** Increased community cohesion, and social and civic participation.
- **Creativity and innovation:** Engagement in the creative process enabling self-expression, and creative and innovative content.
- **Entrepreneurship and business development:** Support to start, manage, and grow small businesses which support employment.
- **Workforce development:** Preparation of jobseekers for the workforce through educational activities, employment, professional development, and lifelong learning opportunities.

This toolkit uses data from two main surveys – one targeted at users and another at staff. The user survey first asks which technology services respondents have used within the past month. Based on the services they report having used, respondents are then asked questions about the related impacts and outcomes resulting from using the service. The user survey also asks both mandatory and

voluntary demographic questions. This makes it possible to present general survey results alongside results filtered by specific demographic groups. The staff survey gathers data about the availability and usage of public access, as well as feedback from frontline service delivery personnel.

The pilot rollout of the Bridge has demonstrated that this tool enables users of the software to show and compare the outcomes achieved by library technology services by libraries across the province. At the same time, the pilot project concluded that the use of the Bridge, much as any other software-based data collection and analysis tool, requires librarians to have a level of comfort with, understanding of, and capacity to interpret and draw conclusions from the data and insights generated.

To maximize the benefit of such a tool, libraries need to draw on both data collection and analytical capacity and skills, while ensuring that they safeguard the privacy of users and do not create cybersecurity threats through the unnecessary retention of personal data. The relevance and effectiveness of such tools therefore depends on finding ways to collectively build capacity and skills for library staff (Nordicity, 2018).

Software based solutions are a complex and costly option for evaluating public access. However, they allow evaluators to reach and collect data from multiple sources and make the process significantly more automated. Such an approach might be suitable for library systems with high-level staff capacity and skills, where they could use the data collected by the tool to its full potential. At the same time, public access users should have sufficient ICT skills and confidence to provide their answers electronically.

2.5. Studies of the economic value of public access

Measuring an economic value of public access for users is another distinct approach deserving a separate section. There are several methodologies for making such an assessment or estimation, including the most widely used – Market Pricing (MP) and Contingent Valuation (CV). Such an assessment can be done as part of a *return on investment* or *cost-benefit* analysis (ROI), which demonstrates the ratio between the expenses associated with providing a service or offering, and the benefits it generates.

For example, the economic value of public access in libraries has been estimated as part of [The Economic and Social Value of Information Services in Spain](#). This study uses two methods to make this calculation:

- The MP assessment, which draws on public library use statistics, and estimates the total economic value of public access – and cost-saving that it enabled – by comparing it with similar services available on the market.
- CV via survey of adult public library users, asking them to estimate what public access to the internet would have cost them if it had been provided by a private company (Gomez et al., 2014).

A similar methodology was applied in a study “Economic value and impact of public libraries in Latvia. This study uses both MP and CV methods, as part of a ROI or cost-benefit calculation. For the CV method, a survey of public library users invited them to choose the sum they would be willing to pay (e.g., in higher taxes) to maintain or willing to accept (e.g., in lower taxes) to give up their access to certain library services, including public access to the internet. An MP approach was used to calculate the value of benefits obtained from public access-related services – individual consultations on using computers and the internet, and digital skills training programmes. A subsequent cost-benefit analysis revealed strong net benefits for the service providing access to PCs and the internet, which scored highest among all evaluated library services (Strode et al., 2012).

One of the newest studies, conducted within public library system of Medellín, Colombia, also used the same combination of MP and CV. In their study, MP is based on the assumption that if public libraries did not exist, citizens would have to pay for services in private markets, such as cybercafes, and calculates financial implications - savings for people who can use them freely. The VC indicates how much people would be willing to contribute to maintain free public access services (Sistema de bibliotecas públicas de Medellín, 2021).

→ See the [instrument](#) of *The Economic and Social Value of Information Services in Spain*.

The studies described illustrate that the most common way of evaluating the economic value of public access is a combination of market pricing analysis and contingent valuation, which allows researchers to conduct cost-benefit analysis and assess the ratio between investment in public access and its economic benefits.

References

1. Al, U., Andrade Blanco, P., Chiranov, M., Cruz Silva, L.M., Devetakova, L.N., Dewata, Y., Dryžaitė, I., Farquharson, F., Kochanowicz, M., Liubyva, T., López Naranjo, A., Phan, Q.T., Ralebipi-Simela, R., Soydal, I., Streatfield, D., Taolo, R., Trần, T.T.T. and Tkachuk, Y. (2015). Global Libraries impact planning and assessment progress. Performance Measurement and Metrics, Vol. 16 No. 2, pp. 109-131. Available at: <https://doi.org/10.1108/PMM-05-2015-0015>
2. Allmann, K., Blank, G., Wong, A. (2021). Libraries on the Front Lines of the Digital Divide: The Oxfordshire Digital Inclusion Project Report. Centre for Socio-Legal Studies. University of Oxford. Available at: <https://www.law.ox.ac.uk/research-and-subject-groups/oxfordshire-digital-inclusion-project>
3. American Library Association (2016). America's Libraries: Powering Broadband Adoption, Access, And Use. Available at: https://www.ala.org/news/sites/ala.org.news/files/content/Broadband_11-08-16_0.pdf
4. Biblioteca Nacional de Colombia, 2017. Fomento de servicios innovadores con el uso de las TIC. Available at: <https://bibliotecanacional.gov.co/es-co/Footer/red-nacional-de-bibliotecas-publicas/proyecto-tic-en-bibliotecas-publicas/componentes/fomento-de-servicios-innovadores-con-el-uso-de-las-tic>
5. Bon, M., Dervarič, M., Kavčič Čolić, A., Marian, M., Marian, T., Morawska, K., Tarnowska, B., Vartonic, R., and Zlateva, E. (2020). Project Finlit Financial Literacy Through Public Libraries (Erasmus+) Mapping Report. Available at: https://finlit.eu/edu/pluginfile.php/424/mod_resource/content/4/2020_03_30_Finlit_MappingIO1.pdf
6. Cantar (2019). Lietuvos viešųjų bibliotekų interneto vartotojų tyrimas. Available at: <https://lnb.lt/informacijos-mokslu-specialistams/atlikti-tyrimai>
7. Coward, C., Fellows, M., Rothschild, C., Yim, M. (2020). Namibia's Regional Libraries. Final Report of the Regional Study and Resource Center (RSRC) Activity Evaluation. Seattle: Technology & Social Change Group, University of Washington Information School. Available at: https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/46228/Namibia_LibraryEvaluation_FinalReport.pdf?sequence=1&isAllowed=y
8. EIFL (2020). Changing Children's Lives in Ghana. Available at: https://www.eifl.net/system/files/resources/202005/eifl_ar_2019_ghanafeature_web.pdf

9. Ernst & Young (2017). Organizational and Service Review of the Newfoundland and Labrador Public Library System. Available at: <https://nlpl.ca/phocadownload/NLPL-Review-EY-Report-Final-May-5-2017.pdf>
10. Fairbairn, J. (2019). Learning circles a hit in African public libraries. EIFL. Available at: <https://eifl.org/blogs/learning-circles-hit-african-public-libraries>
11. FRSI – Information Society Development Foundation. O finansach... w bibliotece. Available at: <https://frsi.org.pl/en/project/o-finansach-w-bibliotece-2/>
12. [Gomez, J. A. \(2014\)](#) The Economic and Social Value of. Information Services: Libraries. FESABID Study. Available at: <https://napeblog.files.wordpress.com/2014/05/the-economic-and-social-value-of-information-services-libraries.pdf>
13. Good Things Foundation (2018). Testing Digital Inclusion in Kenya. Available at: <https://www.goodthingsfoundation.org/insights/digital-inclusion-kenya/>
14. Guernsey, L., Prescott, S., Park, C. (2021). Public Libraries and the Pandemic. Digital Shifts and Disparities to Overcome. New America. Available at: <https://www.newamerica.org/education-policy/reports/public-libraries-and-the-pandemic/>
15. Hartnett, M., Butler, P., Mentis, M., Carvalho, L., and Kearney, A. (2020) Public Libraries as Spaces for Digital Inclusion. Connecting Communities Through Technology. Institute of Education, Massey University, New Zealand. Available at: https://www.librariesaotearoa.org.nz/uploads/2/4/6/4/24640423/public_libraries_and_digital_inclusion_research_report.pdf
16. Hartnett, M., Butler, P., Mentis, M., Carvalho, L., and Kearney, A. (2020) Public Libraries as Spaces for Digital Inclusion. Connecting Communities Through Technology. Institute of Education, Massey University, New Zealand. Available at: https://www.librariesaotearoa.org.nz/uploads/2/4/6/4/24640423/public_libraries_and_digital_inclusion_research_report.pdf
17. Hind, K. (2020). Redlands Libraries great success with Senior's Robotics. Public Libraries Connect. Available at: <https://plconnect.slq.qld.gov.au/blog/redlands-libraries-great-success-seniors-robotics>
18. Hoffman, J., Bertot, J. C., Davis, D. M., and Clark, L. (2011). Libraries Connect Communities: Public Library Funding & Technology Access Study 2010-2011. American Library Association. Available at:

- https://www.ala.org/tools/research/initiatives/plftas/2010_2011#final%20report
19. IFLA (2017). Public libraries in Romania facilitate access to agricultural subsidies. Available at: <https://librarymap.ifla.org/stories/Romania/PUBLIC-LIBRARIES-IN-ROMANIA-FACILITATE-ACCESS-TO-AGRICULTURAL-SUBSIDIES/21>
 20. Muchai, J. (2018). Transforming Public Libraries in Kenya through Technology. Available at: https://www.scecsal.org/publications/papers2018/004_muchai_2018.pdf
 21. Netloan (2018). Netloan Public Library Customer Survey Results 2017. Available at: <https://www.lorensbergs.co.uk/casestudiesandresearch/public-libraries-2018-netloan-customer-survey-results/>
 22. Nordicity (2018). Technology Access in Public Libraries: Outcomes and Impacts for Ontario Communities. Nordicity for Toronto Public Library. Available at: <https://www.torontopubliclibrary.ca/content/bridge/pdfs/nordicity-full-report.pdf>
 23. Quick, S., Prior, G., Toombs, B., Taylor, L., Currenti, R. (2013) Cross-European survey to measure users' perceptions of the benefits of ICT in public libraries. Final report. Available at: <https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/22718/Final%20Report%20-%20Cross-European%20Library%20Impact.pdf?sequence=1>
 24. READ Global (2018). Technology Program Overview. Available at: <http://www.readglobal.org/wp-content/uploads/2018/11/readglobaltechnologyoverview.pdf>
 25. Sey, A., Coward, C., Bar, F., Sciadas, G., Rothschild, C., and Koepke, L. (2013). Connecting people for development: Why public access ICTs matter. Global Impact Study of Public Access to ICTs. Final research report. Seattle: Technology & Social Change Group, University of Washington Information School. Available at: https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/22753/Global_Impact_Study_2013.pdf?sequence=1&isAllowed=y
 26. Shared Intelligence (2016). Making the Most of Wi-fi. National learning and case studies. A report to Arts Council England by Shared Intelligence. Available at: <https://www.artscouncil.org.uk/sites/default/files/download-file/Making%20The%20Most%20of%20Wi-fi.pdf>
 27. Sistema de bibliotecas públicas de Medellín (2021). Estudio de Valor Económico y Social. Available at: <https://bibliotecamedellin.gov.co/estudio-de-valor/productos/#>

28. Strode, I., Vanags, A., Strazdina, R., Dirveiks, J., Dombrovskā, J., Pakalna, D., and Paberza, K. (2012). Economic value and impact of public libraries in Latvia: Study report. Culture Information Systems. Available at: <https://culturelablv.files.wordpress.com/2009/04/economic-value-and-impact-of-public-libraries-in-latvia.pdf>
29. Strover, S. (2019). Public libraries and 21st century digital equity goals. Communication Research and Practice, vol. 5. Available at: https://www.tandfonline.com/eprint/A9HZwYFunPdnaW3WhMSm/full?target=10.1080%2F22041451.2019.1601487&utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email
30. Telstra Corporation Limited and New South Wales Department of Family and Community Services (2018). Social Return on Investment Tech Savvy Seniors NSW CALD. Available at: https://www.sl.nsw.gov.au/sites/default/files/tss_nsw_cald_sroi_report_may_2018.pdf
31. The Dutch Digitalisation Strategy 2021. Available at: <https://www.nederlanddigitaal.nl/binaries/nederlanddigitaal/documenten/publicaties/2021/06/22/the-dutch-digitalisation-strategy-2021-eng/210621-min-ezk-digitaliseringstrategie-en-v03.pdf>
32. Vuorikari, R., Kluzer, S. and Punie, Y. (2022). DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes, EUR 31006 EN, Publications Office of the European Union, Luxembourg. Available at: <https://publications.jrc.ec.europa.eu/repository/handle/JRC128415>