

PUBLIC LIBRARIES AS SPACES FOR DIGITAL INCLUSION

Connecting Communities Through Technology

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Table of Contents

List of Tables	3
List of Figures	3
Executive summary	1
Introduction	2
Methodology.....	3
Survey development.....	3
Survey administration.....	4
Ethics.....	4
Description of analysis	5
Demographics	5
Demographics of the libraries	5
Demographics of library staff.....	9
Demographics of library users	11
Digital inclusion	16
Access	16
Council support	17
Digital strategy	18
Type of internet access in libraries	20
Type of resources and devices for public use	21
Reasons for library use.....	22
Meeting digital needs of library users	23
Motivation.....	27
Staff knowledge of digital technologies.....	28
Staff importance placed on digital technologies.....	28
Staff confidence to respond to digital technology requests	29
Staff interest in digital technologies	31
Library users' motivation to use the internet	31
Confidence to use the internet safely.....	32
Capability and Trust.....	33
Foundational digital skills.....	35
Library staff and users' digital capabilities.....	37
Digital specialist role in libraries.....	43
Partnerships to provide digital technology services.....	44
Professional learning and development	45
Conclusions	48
Access	48
Motivation.....	48
Capability and trust	48
Professional learning and development	49

Recommendations	49
Limitations	50
Future Research	50
References	51
Appendices.....	53
Appendix 1. Surveys.....	53
Appendix 2. Supporting Data	82
Appendix 3. Factor Analysis	85
Appendix 4. Factor Loadings	86

List of Tables

Table 1. Digital inclusion categories addressed by the three surveys.....	4
Table 2. Proportion of library staff time spent supporting library users' digital needs	11
Table 3. Physical visits by library users in a typical month, by region	15
Table 4. Website visits by library users in a typical month, by region	16
Table 5. Effectiveness of libraries at supporting the digital needs of specific users	26
Table 6. Factor loadings	37
Table 7. Library users' motivation to use the internet	82
Table 8. Library users' confidence to use the internet safely	82
Table 9. Library users' foundational digital skills	83
Table 10. Frequency of library staff support for library users' foundational digital skills	83
Table 11. Library users' digital skills	83
Table 12. Library staff digital skills	84
Table 13. Library staff skills to support library users.....	84
Table 14. Frequency of library staff support for library users' digital needs.....	84
Table 15. KMO and Bartlett's Test results	85
Table 16. Library users' digital skills – factor loadings.....	86
Table 17. Library staff digital skills – factor loadings.....	87
Table 18. Library staff skills to support library users' digital needs – factor loadings.....	88
Table 19. Frequency of library staff support for library users' digital needs – factor loadings	89

List of Figures

Figure 1. Responses to the library managers' survey by library region.....	6
Figure 2. Number of people who work at public libraries	7
Figure 3. Visits to public libraries in typical week	7
Figure 4. Regional breakdown of libraries with more than a thousand visits per week	8
Figure 5. Role of the library managers and time in role	8
Figure 6. Responses to library staff survey by region.....	9

Figure 7. Role of the library staff and time in role	9
Figure 8. Employment status of each library staff role	10
Figure 9. Library users supported in a typical week	10
Figure 10. Library staff proportion of time spent helping users with their digital needs in a typical week	11
Figure 11. Responses to library users' survey by library region.....	12
Figure 12. Age of respondents to the library users' survey	13
Figure 13. Age of respondents to the library users' survey when they left school.....	13
Figure 14. Employment status of library users' survey respondents	14
Figure 15. Difficulties identified by library users that affect digital use.....	14
Figure 16. Physical visits by library users to a public library in a typical month	15
Figure 17. Use of library website by library users in a typical month	16
Figure 18. Level of support from council in meeting digital technology needs of the community	18
Figure 19. Council digital strategy	19
Figure 20. Library digital strategy.....	20
Figure 21. Type of internet access in libraries	21
Figure 22. Type of resources and devices for public use	21
Figure 23. Dedicated spaces where users can bring their own devices	22
Figure 24. Library users' reasons for using the library	23
Figure 25. Effectiveness of the library at meeting the digital needs of library users.....	23
Figure 26. Effectiveness of libraries at meeting the digital needs of library users	24
Figure 27. Library size vs effectiveness of meeting library users' digital needs	25
Figure 28. Library staff perceptions of their digital knowledge.....	28
Figure 29. Library staff perceptions of the importance of knowing about digital technologies	29
Figure 30. Library staff confidence to respond to digital technology requests	29
Figure 31. Library staff perceived confidence to respond to digital requests by region.....	30
Figure 32. Staff interest in digital technologies	31
Figure 33. Library users' motivation to use the internet.....	32
Figure 34. Library users' confidence to use the internet safely.....	33
Figure 35. Library users' foundational digital skills	35
Figure 36. Frequency of library staff support for library users' foundational digital skills.....	36
Figure 37. Library users' digital skills.....	38
Figure 38. Library staff digital skills	40
Figure 39. Library staff skills to support library users.....	41
Figure 40. Frequency of library staff support for library users' digital needs.....	42
Figure 41. Digital technology specialist role by library region	43
Figure 42. Digital specialist role by size of library	44
Figure 43. Library managers' perceptions of effectiveness of their PLD	45
Figure 44. Library staff responses on updating digital skills in own time by region	46

Executive summary

The 322 public libraries in New Zealand play a “key role in improving individual and community outcomes” including digital literacy and inclusion (PLNZ, 2020, para 2). How they go about meeting the digital needs of their users and communities was the subject of this research. The findings indicate that public libraries see themselves as effective at supporting users’ digital needs, and staff are interested and engaged in developing their own digital skills to support the needs of their communities. The recent \$58.8 million government funding boost to libraries may support several of the key findings of this research into overcoming digital inequities:

- Half of the library managers rated their library as effective to very effective at meeting the digital needs of their library users but there was room for improvement with some groups.
- Approximately one third of libraries had a library digital strategy. All had wireless internet access, but only half had ultrafast broadband. Most libraries had internet-connected desktop computers, and more than half provided dedicated spaces for users. Just over half had a digital technologies specialist.
- External partnerships, sufficient equipment capacity, appropriate staff digital expertise, and staff capacity were identified as main enablers that support the digital needs of users. Barriers included limited staff knowledge, time and capacity, lack of funding and physical resources.
- Most library users saw themselves as having basic digital foundational skills. Library users also rated themselves highly in the areas of everyday transactional, leisure, service, and information digital skills. A minority had experience with advanced digital skills (e.g., being able to use a 3D printer, basic computer coding language skills, and being able to create computer programs and apps using coding). Younger respondents rated their capability more highly than older respondents, and students rated their capability more highly than retired people in most areas.
- Most library staff were motivated to support the digital needs of library users, recognised the importance of digital technologies, felt confident when using digital technologies, and were interested in doing so.
- Assisting library users with foundational digital tasks was a regular part of the library staff role.
- Library staff rated themselves as capable digital technology users. They rated their capability as high regarding everyday transactional, leisure, service, and information digital skills. The majority of library staff also rated their skills to support library users in these areas as high. Library staff were supporting library users regularly with these digital skills.
- Many library staff members indicated they lacked advanced digital skills, most rated their ability to support library users’ advanced digital skills as poor, and therefore rarely provided support in this area.
- Library staff members who had advanced digital skills, the skills to support library users’ advanced digital needs, and were supporting users more frequently, tended to be new in their role.
- Most library managers had undertaken self-directed, informal professional learning and development (PLD) regarding digital technologies. A minority had attended a formal, external PLD opportunity. Over half felt that their PLD was effective or very effective.
- Most library staff updated their digital skills in their own time. This informal PLD typically involved experimentation with their own devices, looking at the internet, and talking to colleagues. Library staff members indicated that they were interested in any digital-related PLD opportunities that might be available.

Introduction

Digital technologies are a powerful force in bringing about equitable communities and societies. People who have access to skills and knowledge and the necessary digital expertise to use digital technologies are able to express agency in various areas of their lives (Passey et al., 2018; UNESCO, 2017) and are advantaged, while those who do not are disadvantaged. Individuals and groups excluded from accessing technology are often society's most vulnerable, and face challenges of access, skill, motivation, and trust (UK Cabinet Office, 2014).

As of May 2020, it is estimated that just under 60% of the world's population uses the internet (Miniwatts Marketing Group, 2020). Aotearoa New Zealand has one of the highest internet connectivity rates of individuals at over 90% of the population (Andrade, Hedges, Karimikia, & Techatassanasoontorn, 2018). The 2018 census data (StatsNZ, 2020) indicates that 86% of households have internet access, up from 77% in 2013 (StatsNZ, 2013). While the percentage of households that are connected has increased during the intervening period, these results indicate there are still over 10% of households who do not have internet access at home.

Recent New Zealand-based research has suggested that access to and usage of the internet and associated digital technologies are not evenly spread across communities in Aotearoa New Zealand (Digital Inclusion Research Group, 2017). For example, families in low socio-economic communities, people living in rural communities, people with disabilities, migrants and refugees with English as a second language, Māori and Pacific youth, offenders, and seniors experience barriers to access and use of digital technologies (Digital Inclusion Research Group, 2017; Lips, 2015). Such barriers can lead to inequity around factors such as health, social services, education, and government services. This is reflected in research such as the 2013 New Zealand Index of Deprivation (Atkinson, Salmond, & Crampton, 2014).

Research has indicated that reasons for digital inequity include issues associated with access such as costs of infrastructure, connectivity and ongoing use (Park, 2017), insufficient digital skills and capability (van Deursen & van Dijk, 2015), attitudes towards the internet (Reisdorf & Groselj, 2017), and lack of trust (Dutton & Reisdorf, 2017). In response to evidence of inequitable access and use, notions of digital inclusion have emerged (Dutton & Blank, 2013; Livingstone & Helsper, 2007; Thomas et al., 2018). Digital inclusion can be defined as ways in which individuals and groups have access to and the necessary skills to use digital technologies to actively participate in society. The New Zealand government defines digital inclusion as "all of us hav[ing] what we need to participate in, contribute to, and benefit from the digital world" (Department of Internal Affairs, 2019, p. 9). InternetNZ (2018) highlight that a digital divide, which is considered a barrier to inclusion, "reflects a gap between those who have, and those who lack, the access, capability, motivation, and trust needed to meaningfully benefit from the Internet" (p. 6).

The InternetNZ (2018) framework of access, capability, motivation, and trust was the digital inclusion model used to underpin this research. In this framework, access is defined as having the infrastructure necessary to utilise the internet (including devices) and be able to afford to do so. Motivation is defined as having a meaningful purpose for using the internet and understanding how it can be beneficial. Capability is described as individuals having the skills and accessibility needs (tools) to use digital technologies to meet their needs. Trust is understood as individuals knowing how to protect themselves online and who to contact when there are problems in addition to being able to make judgments about the trustworthiness of information and services.

International research has highlighted the importance of public libraries in supporting digital inclusion within their communities (Stevenson & Domsy, 2016). One of the obvious ways public libraries do this is by providing access to the internet to their users (McKrell, 2014). But libraries are viewed not only as *places* where learning and discovery occur, librarians act as guides in supporting users to become digital citizens (Crockett, 2018). To provide the support required, librarians' digital

skills need to stay up-to-date with technological changes and innovations. More research is needed regarding what professional learning and development librarians require in order to support the digital needs of their communities (Konstantina & Joanneke, 2016).

In New Zealand, public libraries are considered “vital community assets that mirror, reflect and service the communities they sit in. They enable communities to share resources, connect and up-skill local people, and, to fully participate in the wider world” (Library and Information Association of New Zealand Aotearoa, 2016, p. 9). Within New Zealand local communities, public libraries provide a range of digital services including access to the internet, training (frequently in collaboration with external partners), support and encouragement to users. Without these services, some citizens would not be able to engage with the wider world.

This study provides evidence of the role libraries and library staff in New Zealand play in supporting the digital inclusion of their users and how these services are viewed by the public who use them. It also considers what professional learning and development library staff feel would support them in undertaking their roles. The overarching research question that shaped the project was, *What is the role of public libraries in supporting digital inclusion for library users?*

Methodology

Survey methodology was used for this study. Three surveys, focused on digital inclusion, were developed for library managers, library staff, and library users. This section includes information on the survey development and administration, the ethics approval process, and analysis of the survey data.

Survey development

Prior to the development of the surveys, the research team established productive collaborative relationships with Public Libraries of New Zealand (PLNZ) and the Library and Information Association of New Zealand Aotearoa (LIANZA). Based on these working partnerships, it was decided to develop two separate surveys for library personnel, one for library staff and one for library managers. The research team worked with PLNZ and LIANZA networks to recruit participants for a focus group with library experts to develop the two survey instruments. The focus group was undertaken to ensure that the library managers’ and library staff surveys reflected the daily practices of public libraries as they relate to digital inclusion. Both surveys were developed and then pilot tested in consultation with the focus group. As a result of the pilot, some minor changes were made to the surveys prior to making them available online. The library users’ survey was developed after responses to the library managers’ and library staff surveys were collected, to ensure that appropriate questions for library users would be included. This survey was also pilot tested with a small group of library users.

The **library managers’ survey** focused on public libraries as places where digital devices, applications and services are provided to the public. Specifically, it included demographic questions about the library, library and associated council digital strategies, digital accessibility, digital specialist role, partnerships with external organisations focused on digital inclusion, and professional learning and development for library staff and managers engaged in supporting library users’ digital needs.

The **library staff survey** collected data about demographics; current knowledge, perceived importance, and interest in digital technologies; and staff skills with digital technologies, staff skills to support library users’ digital needs, and frequency of that support. Staff were also asked questions about the professional learning and development they had engaged in within the last 12 months.

The **library users' survey** included questions about users' demographics, frequency and reasons for library use, digital access needs, motivation for using digital technologies, trust in digital technologies, and current digital skills.

The overarching design of each survey was informed by the digital inclusion framework as outlined in InternetNZ's (2018) position paper, *Solving Digital Divides Together*. This framework incorporates four main categories: access, motivation, capability, and trust. Table 1 outlines the alignment between these four categories and the three surveys. The research team also drew on other reports for specific questions regarding library staff and library users' digital skills (Digital Inclusion Research Group, 2017; InternetNZ, 2018; Lloyds Bank, 2017).

Table 1. Digital inclusion categories addressed by the three surveys

Digital Inclusion Categories	Library Managers' Survey	Library Staff Survey	Library Users' Survey
Access	✓		✓
Motivation		✓	✓
Capability	✓	✓	✓
Trust		✓	✓

Survey administration

Existing library networks (i.e. PLNZ and LIANZA) were used to access the survey participants. Invitations and reminders to participate were coordinated through these networks and then distributed to individual libraries throughout New Zealand. The library staff and library managers' surveys were administered online, using the Qualtrics platform, in June 2019. The library users' survey was administered online from October to December 2019.

For the library users' survey, the research team were reliant on individual libraries (and staff members within those libraries) agreeing to participate in the survey and advertising the survey to users. In some cases, library staff members took the time to sit alongside library users to facilitate the completion of the survey. To ensure equity of access to the library users' survey, a paper copy in addition to an online version of the survey was developed. These were available to libraries on request. Only three libraries requested paper surveys, and of these only one library returned completed copies. Potentially this means that there were fewer responses from digitally excluded library users in the final dataset than desired. Two prizes of a Samsung tablet (worth \$500 each) were offered to library users to recognise the value of the users' contributions, and the time involved in completing the survey.

Ethics

Prior to the commencement of the research, a low-risk application was submitted to the Massey University Human Ethics Committee (20 March 2019) and approval given to conduct the survey with library staff and library managers (Ethics notification number: 4000020623). Because the library users' survey could potentially have included responses from vulnerable participants, a full ethics application was submitted to the Massey University Human Ethics Committee. Approval was received on 27 August 2019 (SOB 19/36).

Description of analysis

This report primarily focuses on the quantitative findings resulting from the three surveys as these were the main data collected. Descriptive statistics (frequency counts and percentages) were generated for each of the responses in the three surveys. Factor analyses were undertaken on the questions that addressed staff skills with digital technologies, staff skills to support library users' digital needs, frequency of library staff support for library users, and library users' digital skills. Factor analysis is a statistical technique that allows a large number of variables to be reduced to a smaller group of underlying factors or concepts (Matsunaga, 2010; Williams, Onsmann, & Brown, 2010). The factor scores that resulted from the factor analysis were further analysed using a one-way ANOVA to look for differences between groups of survey respondents. Games-Howell post hoc tests were conducted on each of the factor scores to explore these differences.

Responses to open-ended survey questions were analysed thematically and illustrative quotes have been used where appropriate in the report. For some open-ended questions, where respondents were asked to provide a list of information, frequency counts were determined.

Demographics

Responses were received from **library managers** at 44 of the 322 public libraries in Aotearoa New Zealand. This indicates a response rate of 14% for this survey. The responses to the library managers' survey were relatively evenly distributed across the six public library regions in Aotearoa New Zealand. Responses were received from 52% of city and district councils throughout New Zealand. Three quarters of the responses to the library managers' survey came from libraries who had more than 1,000 visits from members of their communities in a typical week. Almost 50% of respondents had been in their role five years or less and indicated that 40% of people working in libraries were doing so on a voluntary basis (i.e. volunteers were a significant group of library workers).

Responses to the library staff survey were received from 228 **library staff members**. The PLNZ National Data Collection 2017-2018 indicates that there are 2209 full-time equivalent staff members (PLNZ executive assistant, personal communication, September 9, 2019). Therefore, the library staff survey responses reflected approximately 10% of staff members. The responses to the library staff survey were reasonably evenly distributed across the six library regions. The majority of the respondents were librarians or library assistants who had been in their role for 5 years or less and just over two thirds were employed on a full-time basis. Just over half of staff respondents indicated they helped between 11 and 50 users with digital queries in a typical week and over one third spent a quarter to half of their working time assisting library users.

Responses to the **library users'** survey were received from 405 users. Over three quarters of the responses to the library users' survey were from the South Island. Library user respondents were predominantly female and identified with the Pākehā/New Zealand European ethnic group. Just over 40% of respondents listed their age as between 41 and 65 years old. Almost two thirds of the library user respondents were in employment, and 86% had completed further education beyond school. Further detail on the demographics of each respondent group can be found below.

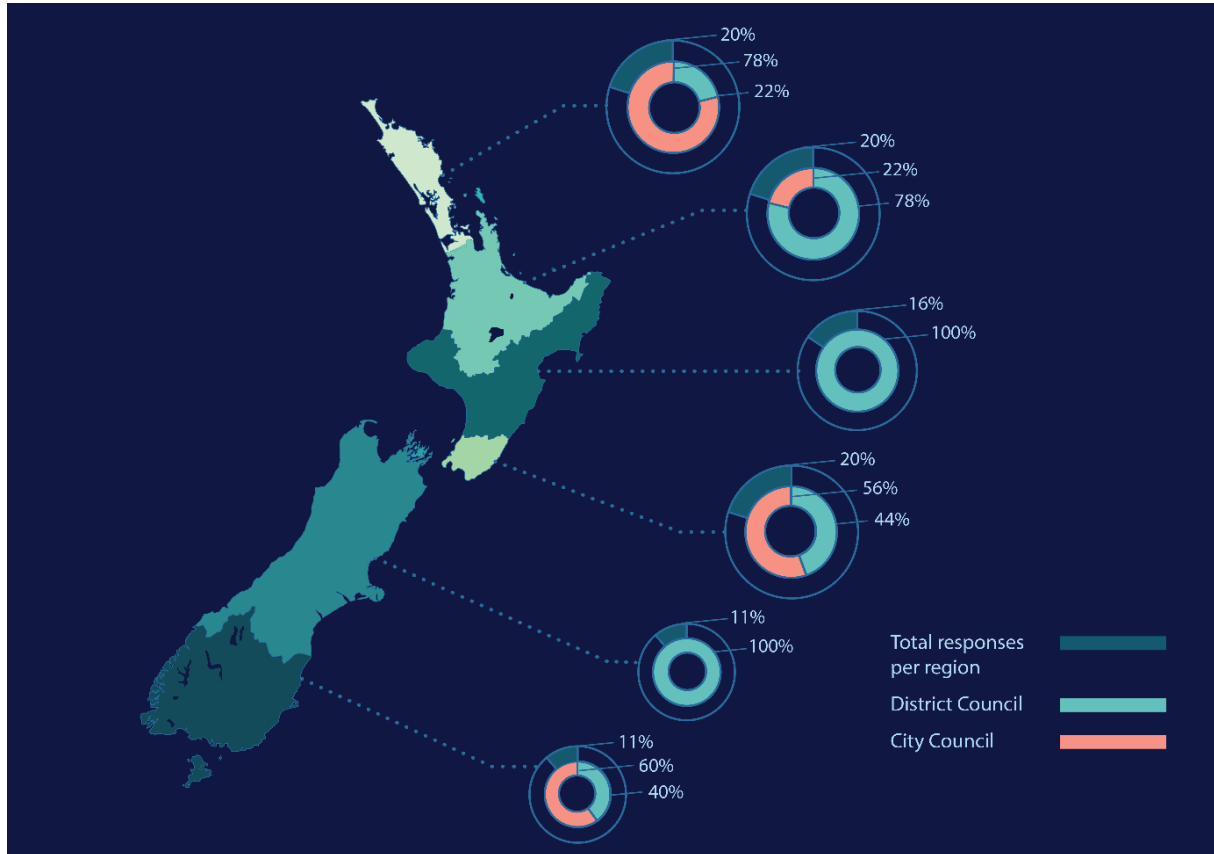
Demographics of the libraries

A total of 44 responses were received to the **library managers'** survey. Responses came from each of the six library regions: Auckland/Northland (9/44, 20%), Waikato/Bay of Plenty (9/44, 20%), Central North Island (7/44, 16%), Wellington/Kāpiti/Wairarapa (9/44, 20%), Upper South Island (5/44, 11%), and the Lower South Island (5/44, 11%).

Responses were received from library managers working in 35 city or district council areas, out of a total of 67 councils in New Zealand. Of those, only Auckland Council, Hutt City Council, Invercargill

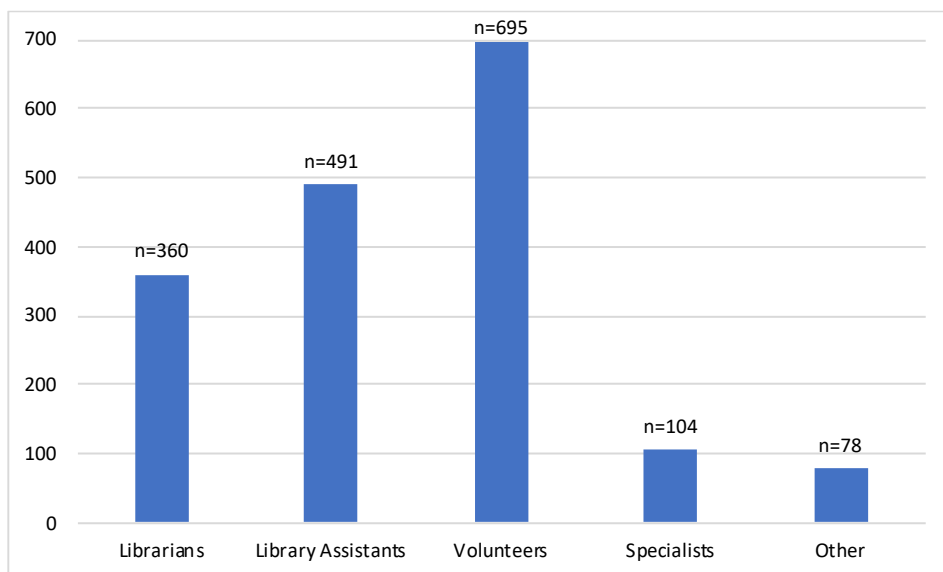
City Council, and Tauranga City Council received more than one response. Of the responses received, 40% came from library managers located in city council areas and 60% came from library managers located in district council areas (see Figure 1).

Figure 1. Responses to the library managers' survey by library region



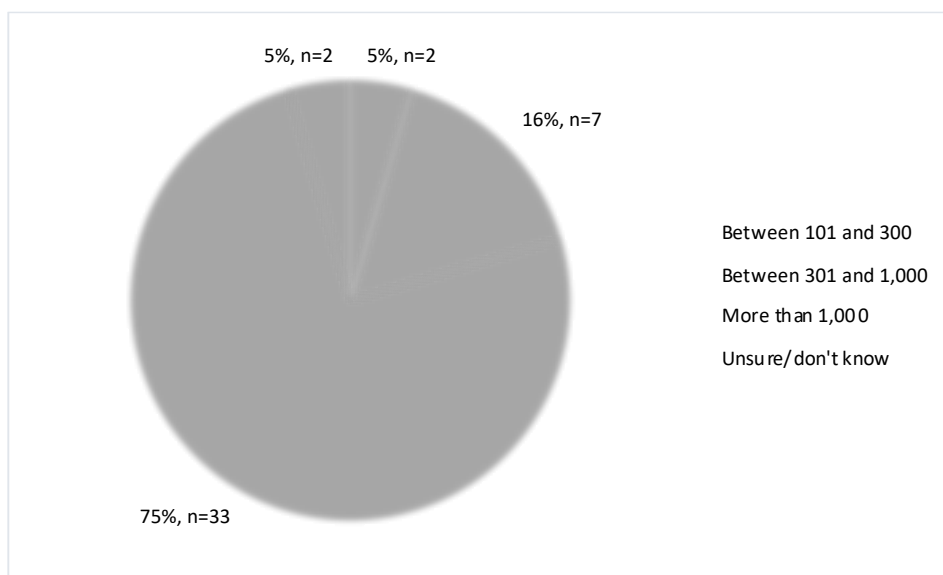
Respondents to the library managers' survey were asked to give an estimate of the number of staff in several categories who worked in their libraries. Across the 44 libraries represented in the survey, the majority of people working in libraries were doing so as volunteers (40%, 695/1,728). Of the staff employed at the 44 libraries, 28% (491/1,728) were library assistants and 21% (360/1,728) were librarians. Only 6% (104/1,728) were specialists in areas such as content, technology and programmes (see Figure 2). Libraries also had people working in other roles such as student assistants, shelveers, administrators and marketing personnel.

Figure 2. Number of people who work at public libraries



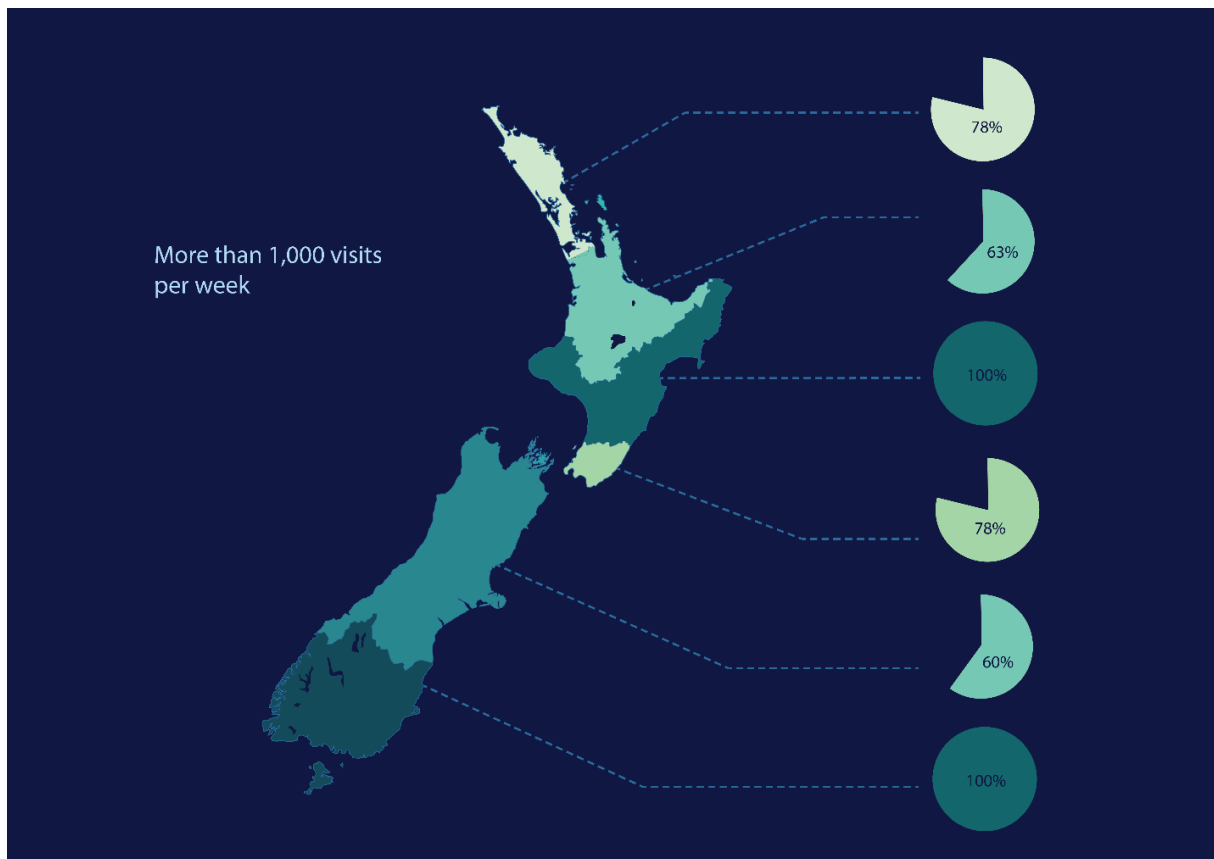
Three quarters (33/44) of the library managers who responded to the survey indicated that they had more than 1,000 visitors to their library in a typical week (see Figure 3). No library managers indicated that there were less than 100 visits to their library in a typical week.

Figure 3. Visits to public libraries in typical week



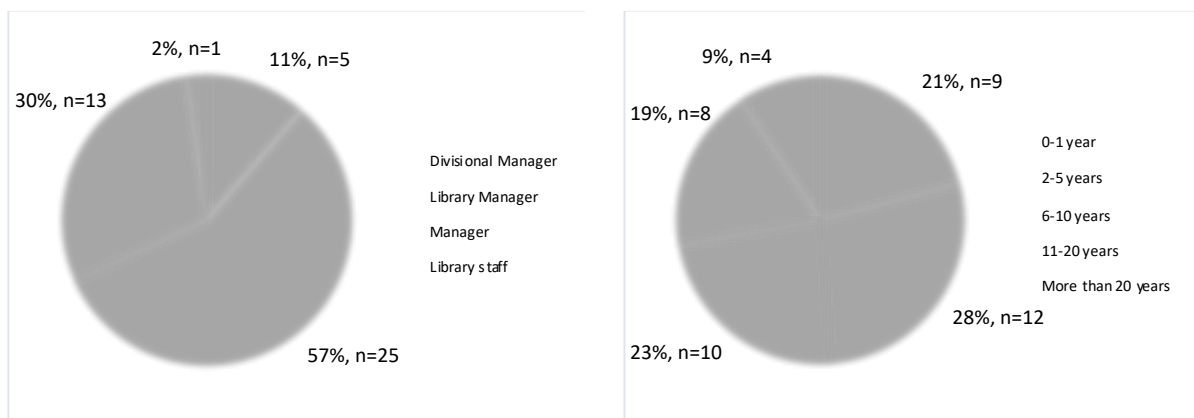
The majority of libraries in each region were receiving more than 1,000 visits per week. The regional breakdown (see Figure 4) shows that in Auckland/Northland this was 78% (7/9), in Waikato/Bay of Plenty it was 63% (5/8), in Central North Island it was 100% (6/6), in Wellington/Kāpiti/Wairarapa it was 78% (7/9), in the Upper South Island it was 60% (3/5), and in the Lower South Island it was 100% (5/5). Two library managers who responded to the survey indicated that they were not aware of the number of visitors their library received in a typical week.

Figure 4. Regional breakdown of libraries with more than a thousand visits per week



More than half (57%, 25/44) of the respondents to the library managers' survey identified as managers of their libraries, and 30% (13/44) as managers of sections within a library. Of the respondents, 49% (21/43) had been in their role for 5 years or less, and 23% (10/43) had been in their role for 6-10 years (see Figure 5).

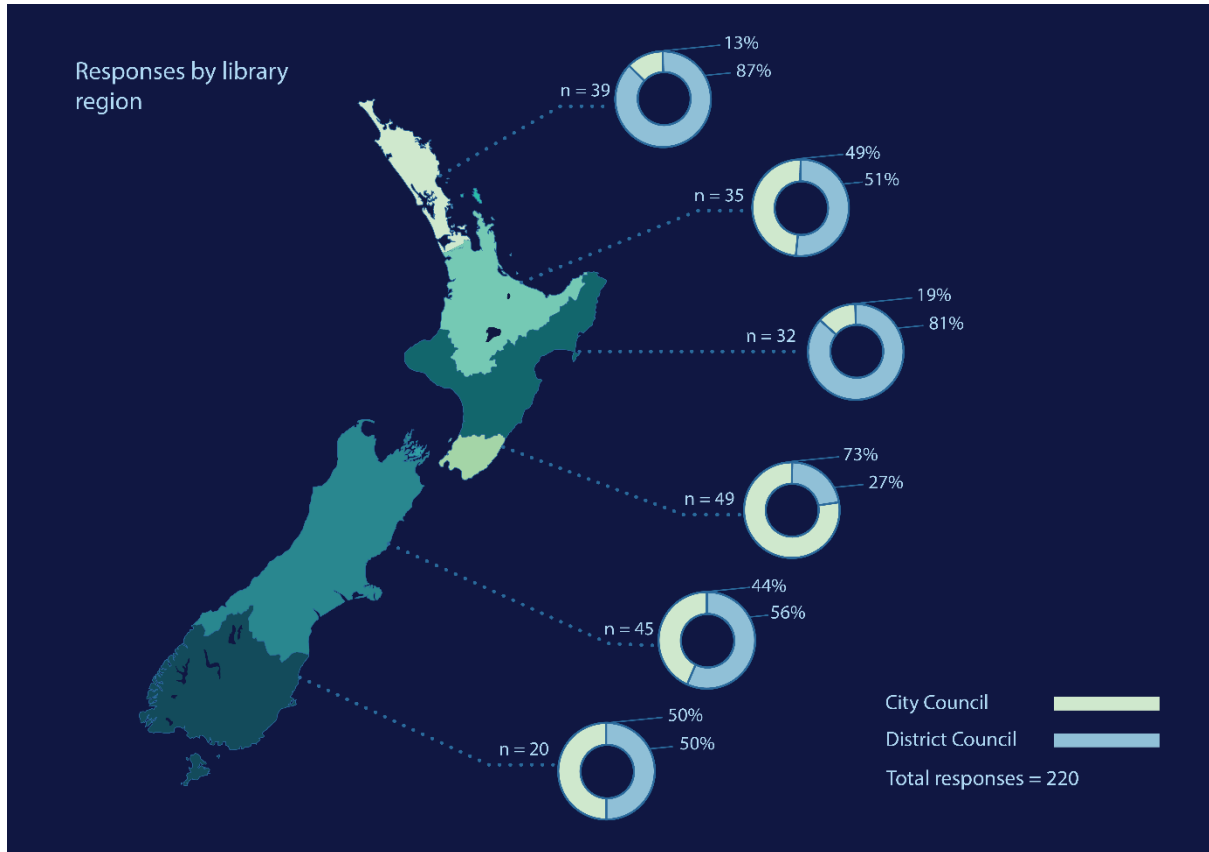
Figure 5. Role of the library managers and time in role



Demographics of library staff

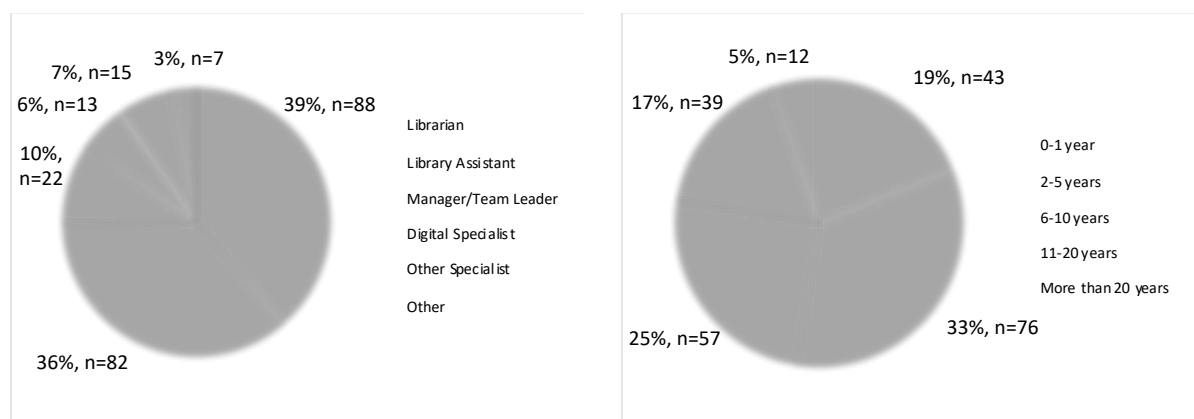
Responses were received from 227 library staff. Of these, 220 indicated the library region in which their library was located. Responses were relatively even across the six library regions (see Figure 6).

Figure 6. Responses to library staff survey by region



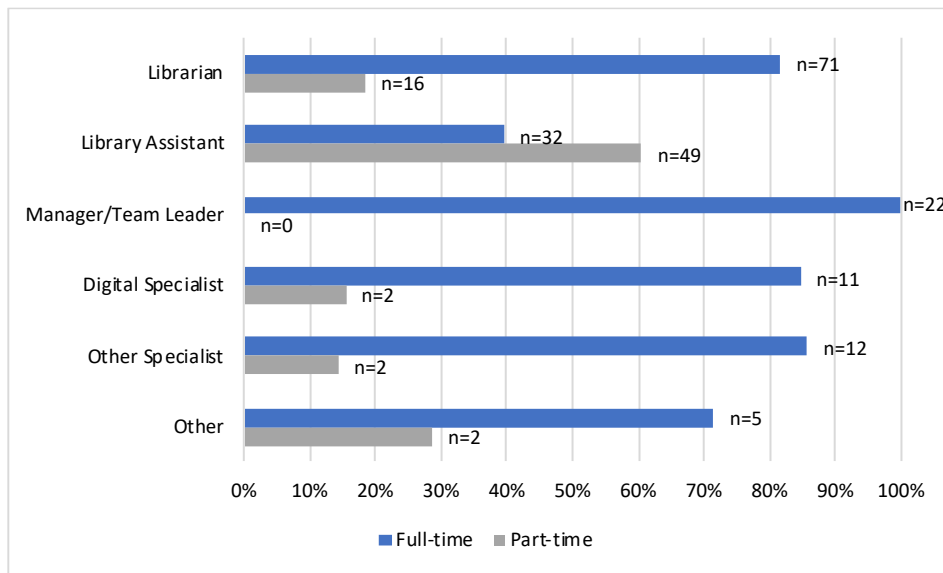
Of the library staff respondents, 39% (88/227) identified as librarians, 36% (82/227) as library assistants, and 10% (22/227) as managers or team leaders. Some library staff (6%, 13/227) indicated that their role included a digital specialist dimension. Fifty-two percent (119/227) of respondents had been in their role for five years or less, whereas 25% (57/227) had been in their role for six to ten years (see Figure 7).

Figure 7. Role of the library staff and time in role



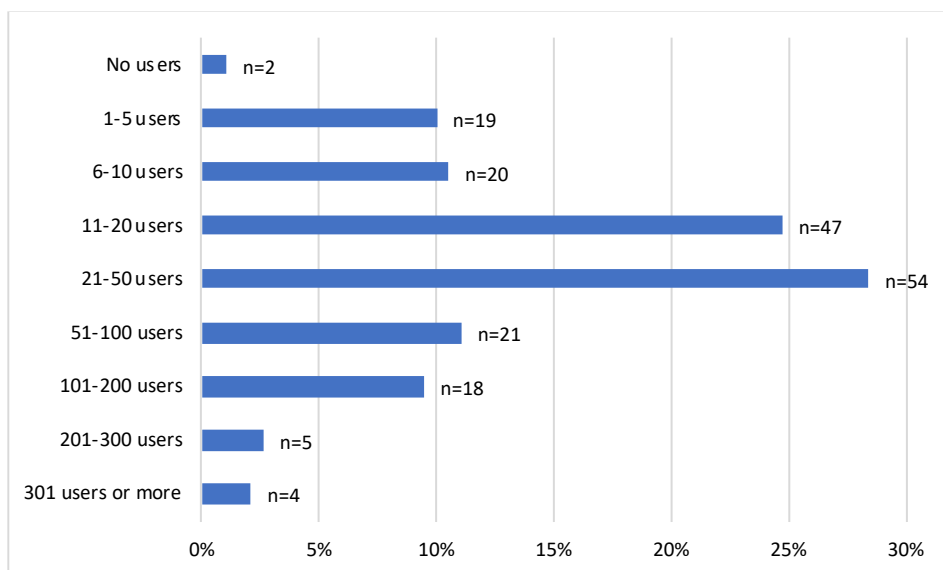
Two-thirds (68%, 154/228) of the library staff respondents indicated that they were employed on a full-time basis. The remaining third of respondents were employed on a part-time basis (31%, 71/228). A comparison of respondents' role with their employment status highlights that 82% (71/87) of librarians are employed full-time, whereas 60% (49/81) of library assistants are employed part-time. The majority (85%, 11/13) of the library staff who stated that they had a digital specialist role were employed full-time (see Figure 8).

Figure 8. Employment status of each library staff role



Library staff were asked how many library users they helped with digital technology queries in a typical week. Just over a quarter (28%, 54/190) helped between 21 and 50 library users, 25% (47/190) helped between 11 and 20 users, and only 14% (27/190) helped more than 100 users in a typical week (see Figure 9).

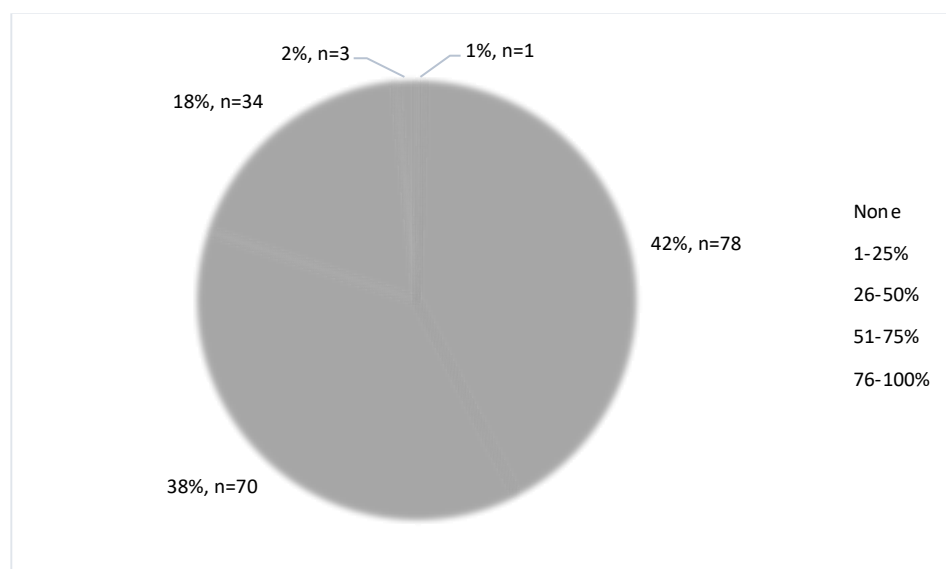
Figure 9. Library users supported in a typical week



As a proportion of their time, 42% of library staff (78/186) indicated that they were spending between 1-25% of their time helping library users with their digital needs in a typical week. A further

38% of library staff (70/186) indicated they were spending 26-50% of their time assisting library users (see Figure 10).

Figure 10. Library staff proportion of time spent helping users with their digital needs in a typical week



Further analysis shows that this pattern of response is similar across all library staff roles (see Table 2).

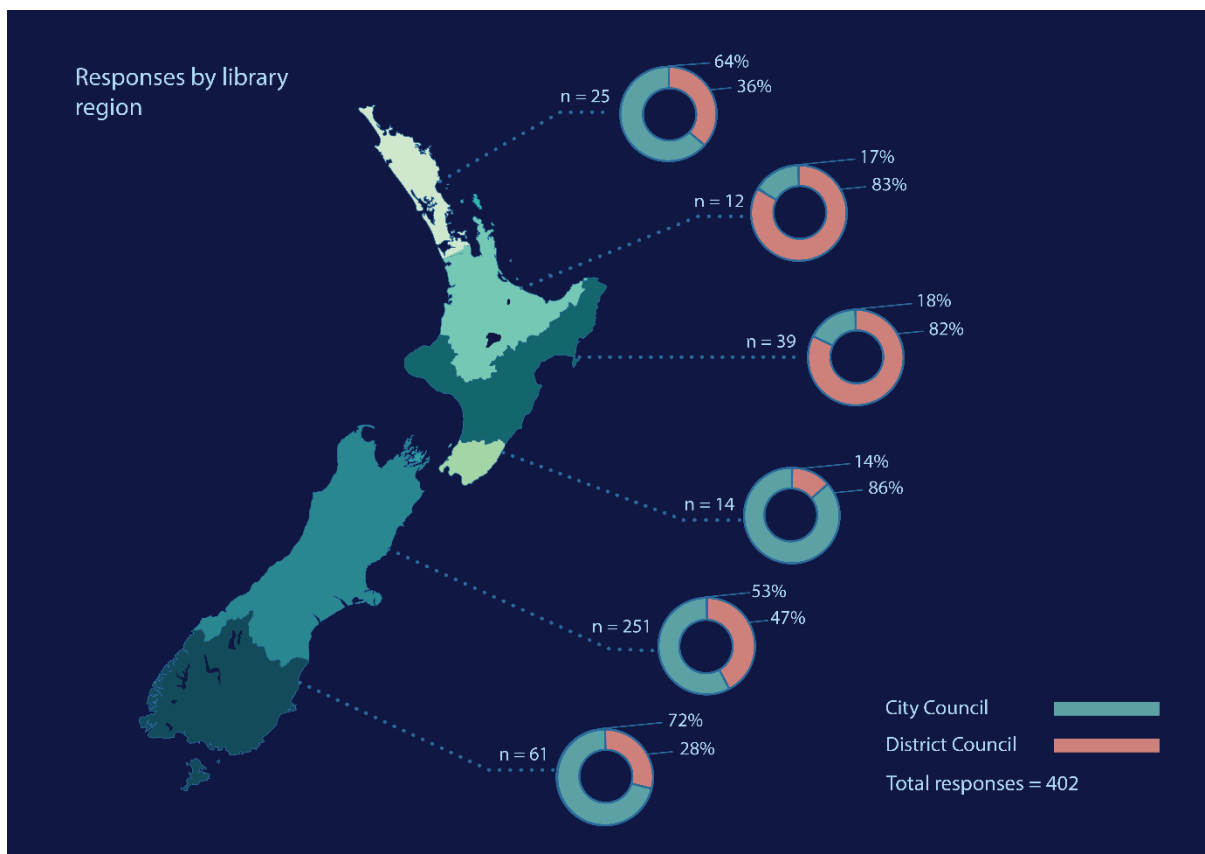
Table 2. Proportion of library staff time spent supporting library users' digital needs

Role	None	1-25%	26-50%	51-75%	76-100%	Total
Librarian	0 (0%)	29 (40%)	30 (42%)	12 (17%)	1 (1%)	72 (100%)
Library Assistant	1 (2%)	21 (32%)	28 (42%)	15 (23%)	1 (2%)	66 (100%)
Manager/Team Leader	0 (0%)	10 (56%)	6 (33%)	2 (11%)	0 (0%)	18 (100%)
Digital Specialist	0 (0%)	3 (27%)	4 (36%)	3 (27%)	1 (9%)	11 (100%)
Other Specialist	0 (0%)	12 (86%)	1 (7%)	1 (7%)	0 (0%)	14 (100%)
Total	1	77	70	34	3	185

Demographics of library users

A total of 487 responses were received from library users, of which 82 were excluded as they were incomplete, leaving 405 valid responses. Responses were received from each of the six library regions, although three library users did not provide their location. The majority of responses (62%, 251/402) came from the Upper South Island, and a further 15% (61/402) came from the Lower South Island. In the Waikato/Bay of Plenty region and the Central North Island region, more than 80% of library users used public libraries in district council areas. In the Auckland/Northland, Wellington/Kāpiti/Wairarapa, Upper South Island and Lower South Island regions, more than 50% of library users were located in city council areas (see Figure 11).

Figure 11. Responses to library users' survey by library region



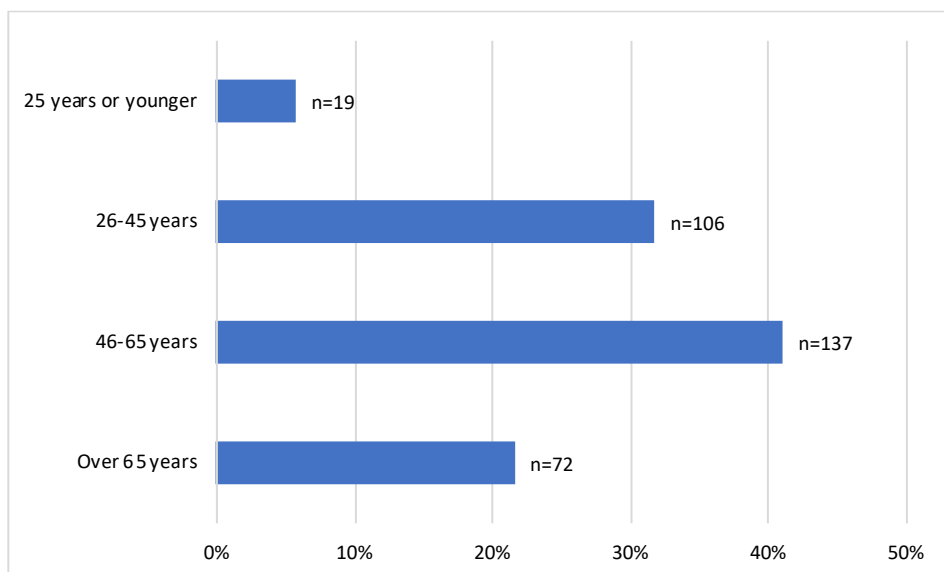
The majority of the respondents were female (77%, 310/405), 22% (89/405) were male, and the remainder chose 'other' or preferred not to reveal their gender (1%, 6/405).

The majority of library user respondents (85%, 343/405) identified with the Pākehā/New Zealand European ethnic group, 8% (34/405) identified as Māori, 1% (6/405) identified with a Pacific Islands ethnic group, and 4% (15/405) identified with an Asian ethnic group. Pākehā/New Zealand European respondents are over represented in this survey, compared with the general New Zealand population (85% in the survey, 70% in the 2018 Census), and Māori, Pacific and Asian groups are all under represented (Māori: 8% in the survey, 16.5% in the 2018 Census; Pacific: 1% in the survey, 8% in the 2018 Census; Asian: 4% in the survey, 15% in the 2018 Census)¹.

Of the library users who responded to the survey, 334 gave their year of birth. The data have been re-categorised into age ranges. Most respondents were between 46 and 65 years of age (41%, 137/334) (see Figure 12).

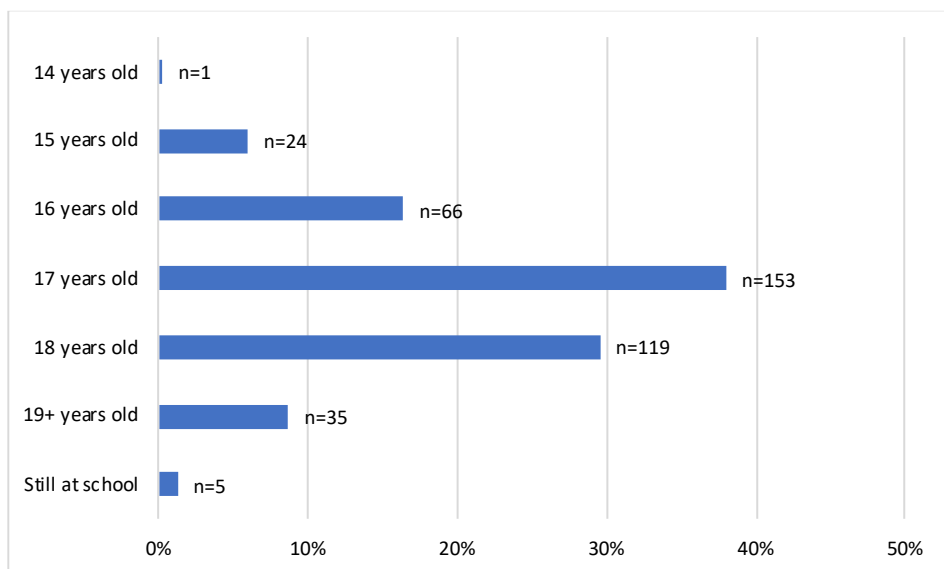
¹ Library users could select more than one ethnic group, although most chose to select one group (92%, 371/405). In cases where respondents selected more than one group, the ethnic groups have been prioritised according to the scheme used by the Ministries of Education and Health in New Zealand (Butler, 2018). An identification as Māori comes first, followed by Pacific Islands groups, Asian groups, Other groups (Middle Eastern, Latin American, African, etc.), and finally European and Pākehā/New Zealand European.

Figure 12. Age of respondents to the library users' survey



Most of the respondents left school when they were 17 or 18 years of age (68%, 272/403) (see Figure 13).

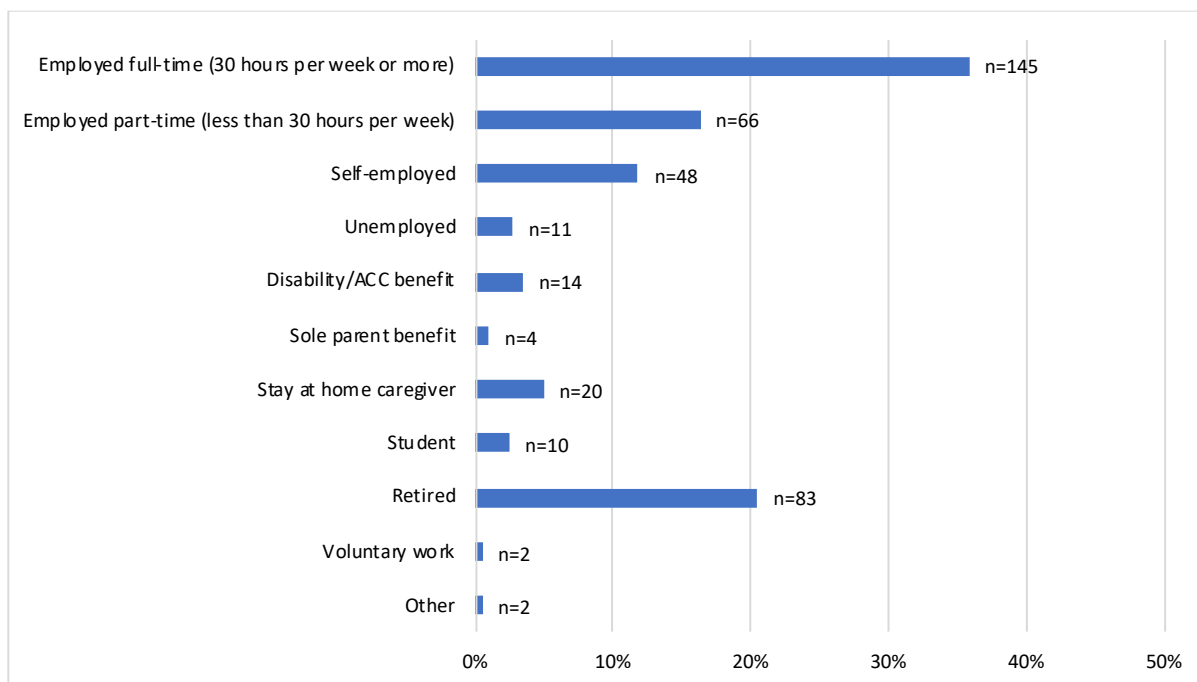
Figure 13. Age of respondents to the library users' survey when they left school



Most respondents to the library users' survey (86%, 349/404) indicated that they had completed further education beyond school.

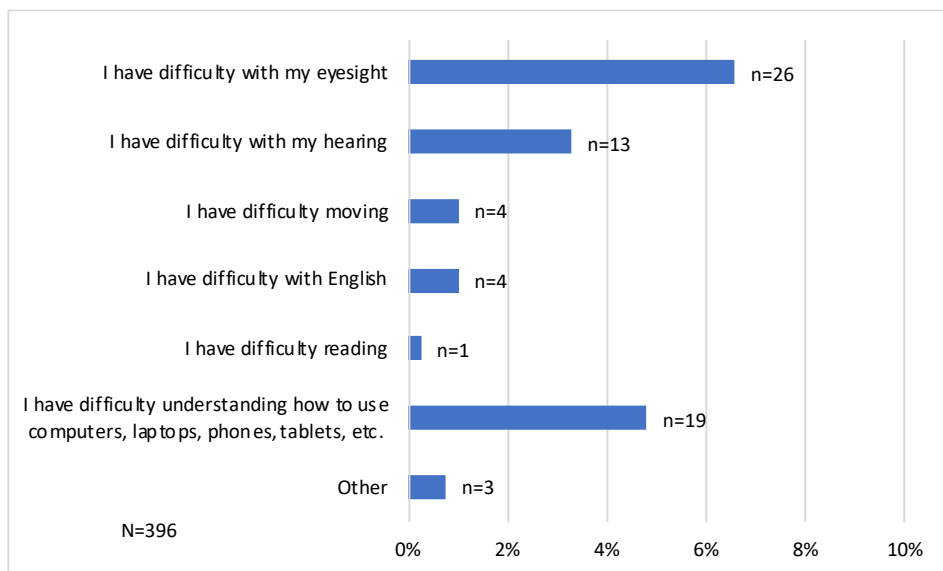
Most of the respondents (64%, 259/405) were in employment (full-time, part-time or self-employed). A further 21% (83/405) were retired, 7% (29/405) were claiming a benefit (unemployment, disability, sole parent), 5% (22/405) were not in formal work (stay at home caregiver, voluntary work), and 3% (10/405) identified as students (see Figure 14).

Figure 14. Employment status of library users' survey respondents



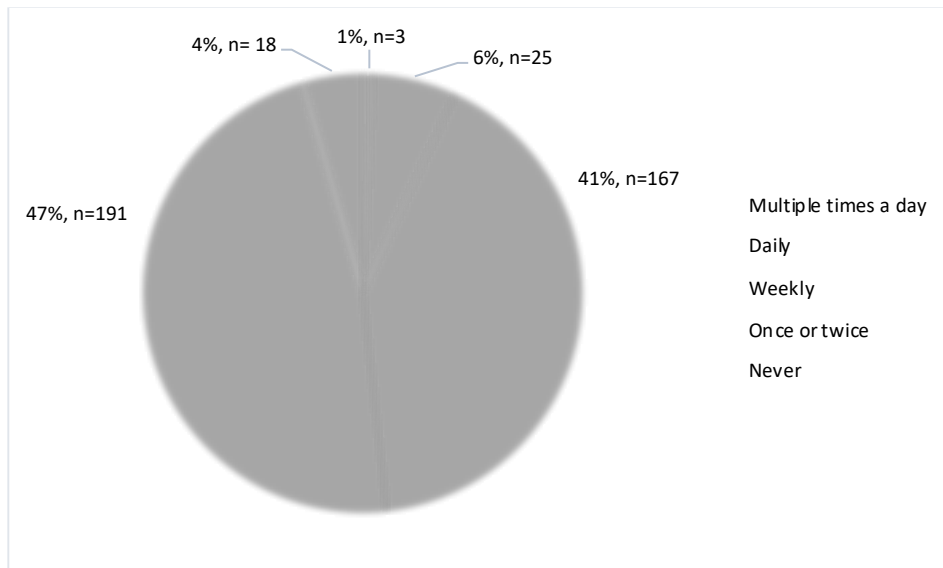
Library users were asked about specific difficulties that affect their digital use. Most (85%, 338/396) indicated that they did not have any difficulties that made it hard to use digital devices. Of the remaining respondents, 26 (7%) indicated that they had difficulties with their eyesight, 19 (5%) had difficulties understanding how to use digital devices, and 13 (3%) experienced hearing difficulties (see Figure 15).

Figure 15. Difficulties identified by library users that affect digital use



More than four fifths of respondents (88%, 358/404) indicated that they went to a library on a weekly or once or twice a month basis (see Figure 16).

Figure 16. Physical visits by library users to a public library in a typical month



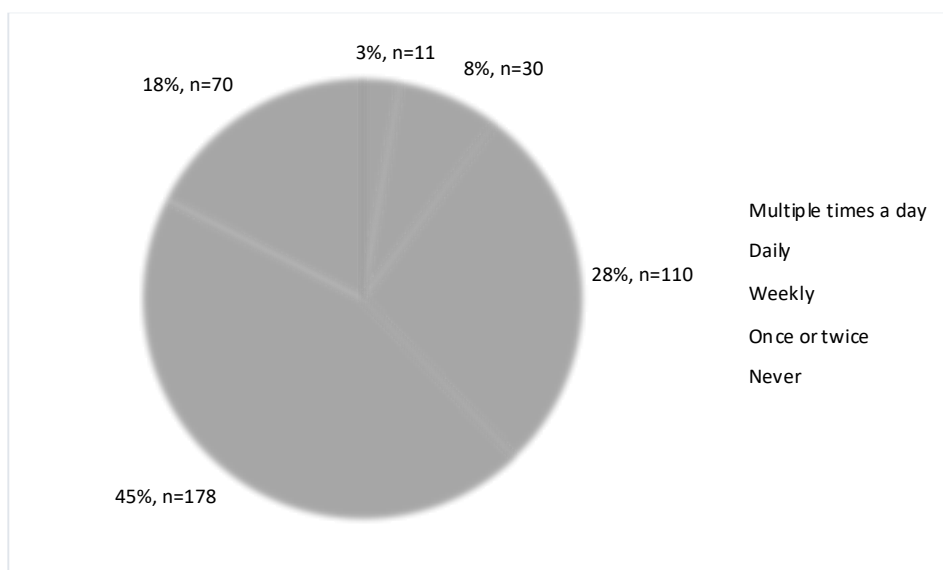
In all regions, the majority of users were visiting libraries weekly or once or twice a month (see Table 3).

Table 3. Physical visits by library users in a typical month, by region

Region	Total region responses	Multiple times a day	Daily	Weekly	Once or twice	Never
Auckland/Northland	25	0%	4%	40%	48%	8%
Waikato/Bay of Plenty	12	8%	17%	50%	25%	0%
Central North Island	39	0%	10%	36%	51%	3%
Wellington/Kāpiti/Wairarapa	14	0%	0%	36%	50%	14%
Upper South Island	251	1%	5%	42%	49%	4%
Lower South Island	60	0%	10%	40%	45%	5%
Total	401	1%	6%	41%	48%	4%

Slightly fewer respondents (72%, 288/399) said they used the library website weekly or once or twice a month. It is worth noting that 18% (70/399) said they had never used the library website (see Figure 17).

Figure 17. Use of library website by library users in a typical month



In all regions, the majority of users were visiting library websites weekly or once or twice a month (see Table 4).

Table 4. Website visits by library users in a typical month, by region

Region	Total region responses	Multiple times a day	Daily	Weekly	Once or twice	Never
Auckland/Northland	25	8%	4%	32%	44%	12%
Waikato/Bay of Plenty	12	8%	8%	25%	42%	17%
Central North Island	39	0%	5%	33%	51%	10%
Wellington/Kāpiti/Wairarapa	14	0%	0%	36%	36%	29%
Upper South Island	247	2%	8%	23%	45%	21%
Lower South Island	60	3%	10%	40%	38%	8%
Total	397	3%	8%	28%	44%	18%

Digital inclusion

To be digitally included, people and communities must have affordable and accessible digital devices and services as and when needed. This enables them to be active members of society (Helsper, 2008). But accessibility (i.e. to devices, the internet) is only one aspect of inclusion. Digital inclusion also requires individuals to have the understanding and motivation to use digital technologies, the necessary skills to do so, trust in the information and services they are accessing, and knowledge of how to protect themselves. A variety of sociodemographic factors determine which individuals and groups are more likely to be digitally included to a greater or lesser extent. They include age, income, education, employment status and geographical location (Hartnett, 2019).

The findings from the surveys are presented using these four overarching digital inclusion categories. Responses about capability and trust were collected together in the surveys, so these two categories are combined in this report.

Access

The library managers' and library users' surveys included a variety of questions related to different areas of access to digital technologies. These aspects included support libraries receive in relation to

their digital strategy; library infrastructure and resources; library use by their communities; and support provided for the digital needs of library users.

Approximately half of the respondents to the **library managers'** survey indicated that their council had a digital strategy. Library managers working in district council areas were seven times more likely to say that their council did not have a digital strategy than library managers working in city council areas. Half of the respondents who indicated their council had a digital technology strategy rated their council as good to excellent at meeting their community's digital technology needs. Approximately one third of library managers indicated that their library had a digital strategy. Library managers in city councils were twice as likely to indicate their library had a digital strategy than library managers in district council areas. All library managers indicated that their library had wireless internet access. However, only half had ultrafast broadband. About one quarter of respondents to the **library users'** survey reported that they visited the library to make use of wireless internet access. The majority of **library managers** indicated they had internet-connected desktop computers available for library users and approximately 60% provided dedicated spaces where users could use their own digital devices.

Half of respondents to the **library managers'** survey rated their library as effective to very effective at meeting the digital needs of their library users. For users with more specific needs, half of the managers rated their libraries as effective at meeting the digital needs of the elderly, children and young people, and users from low socioeconomic communities. Respondents indicated there was room for improvement when it came to meeting the digital needs of certain specialist groups, in particular, those who were blind or have low vision, those who were deaf and hard of hearing, and those with physical impairments and complex needs.

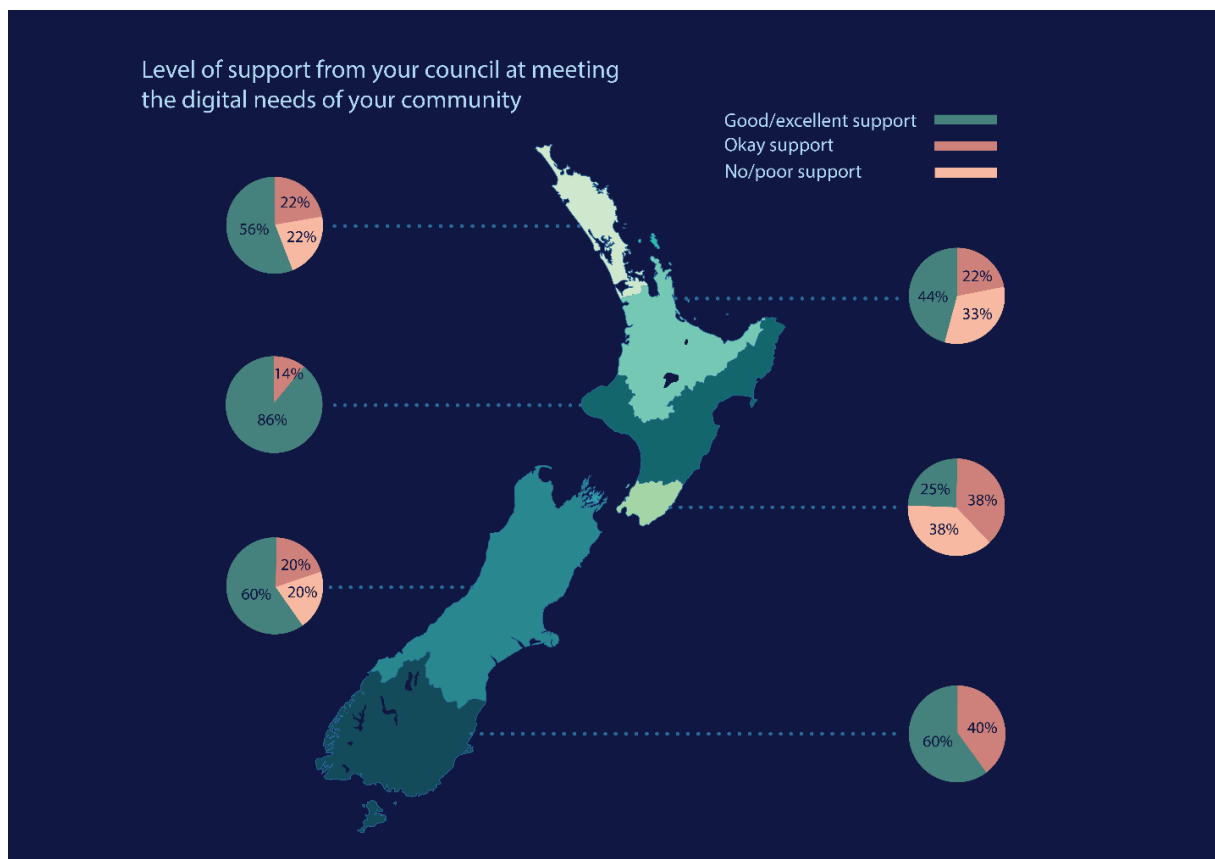
Partnerships or support from external partners (e.g. APNK Network, Spark Jump (now Skinny Jump), Stepping Up Programme), up-to-date digital equipment or sufficient equipment capacity, appropriate staff digital expertise, and staff capacity were highlighted as the main enablers that supported the digital needs of library users. Library managers were also asked about the main barriers to meeting the digital needs of library users. Limited staff knowledge, lack of staff time, lack of funding, lack of physical resources (e.g. space, lack of library branches), and lack of staff capacity were the main barriers identified.

Council support

A total of 56% (30/43) of respondents to the **library managers'** survey indicated that council support in meeting community digital technology needs was good to excellent. Looking more closely at the good to excellent responses, 53% (9/17) came from managers of libraries that were located in city council areas and 58% (15/26) came from managers of libraries that were located in district council areas (see Figure 18).

One fifth (19%, 8/43) of library manager respondents indicated that there was no or poor support from their council. Of those that indicated they received no or poor support, there was no real difference between city and district councils: 18% (3/17) were libraries located in city council areas, and 19% (5/26) were libraries located in district council areas (see Figure 18).

Figure 18. Level of support from council in meeting digital technology needs of the community

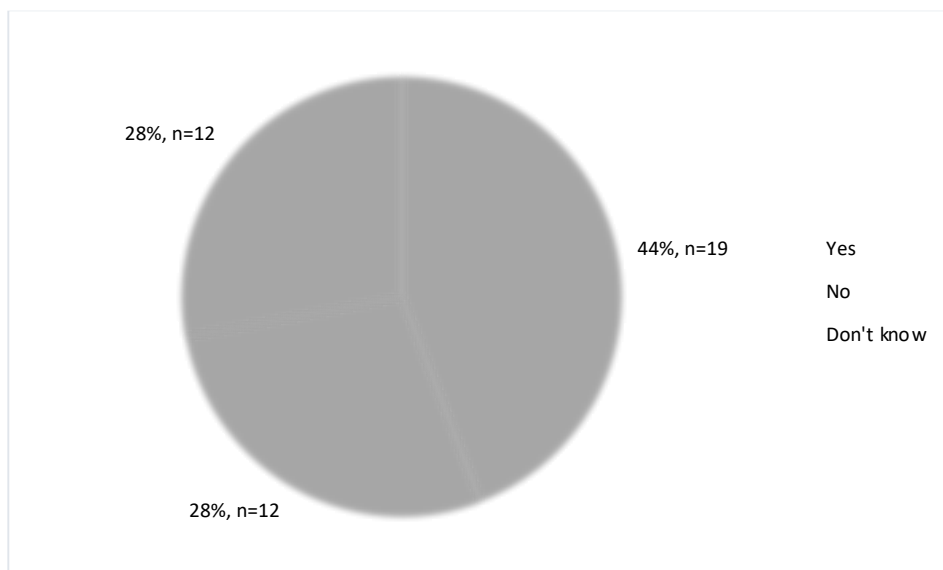


Digital strategy

Council digital strategy

Approximately half of **library managers** (44%, 19/43) said that their council had a digital strategy, 28% (12/43) said their council did not have a digital strategy, and 28% (12/43) said they did not know whether or not their council had a digital strategy (see Figure 19). Of the library managers who indicated that there was a council digital strategy, 63% (10/16) said that someone from the library had had input into the strategy. Half of the library managers working in city council areas (53%, 9/17) indicated that their council had a digital strategy, whereas 38% (10/26) of library managers working in district council areas indicated that their council had a digital strategy. Only 6% (1/17) of library managers working in city council areas indicated that their council did not have a digital strategy, whereas 42% (11/26) of library managers working in district council areas indicated that their council did not have a digital strategy. These results indicate that library managers working in district council areas were seven times more likely to say that their council did not have a digital strategy than library managers working in city council areas.

Figure 19. Council digital strategy



Comments from library managers who had been involved in digital strategy development talked about providing commentary on draft versions, for example:

Consulted on the draft, input was included in final consultation document. Strategy is currently out for public submission. (Manager 8)

Three library managers mentioned that the council digital strategy contained information about equitable access to digital technologies. For example:

One of the outcomes for the Auckland Plan 2050 is 'Opportunity and Prosperity' which has as one focus area 'Harness emerging technologies and ensure equitable access to high quality digital data and services'. (Manager 27)

Two library managers mentioned staff digital literacy, for example:

Increased digital literacy for staff. (Manager 28)

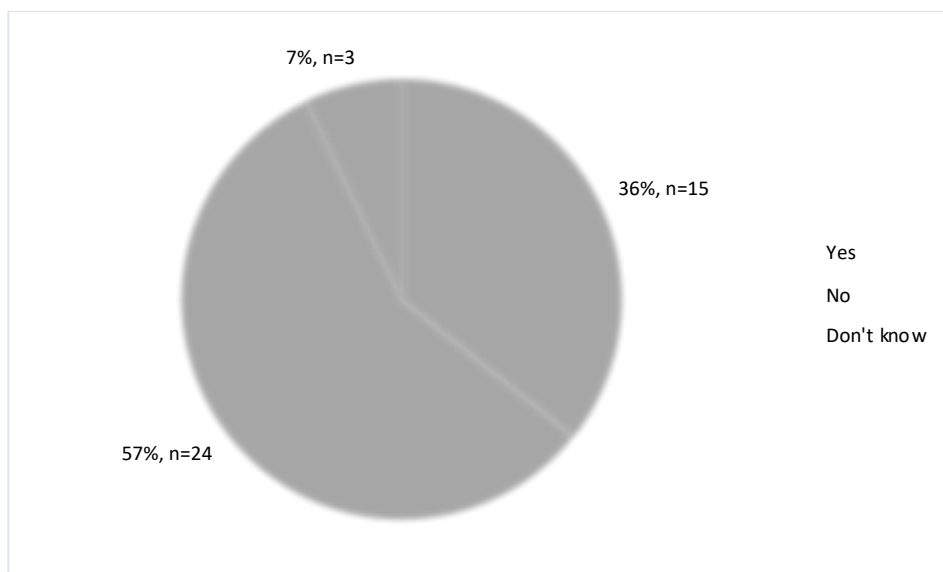
Some library managers were more closely involved in the development phase of the council digital strategy, as evidenced by the following comment:

Our Library's Technology Portfolio Manager has a close working relationship with the CIO [Chief Information Officer] (they meet fortnightly) and has been able to provide much input and advice for our Council's digital strategy. (Manager 43)

Library digital strategy

Approximately one third of **library managers** (36%, 15/42) said that their library had a digital strategy, 57% (24/42) said they did not have a library digital strategy, and 7% (3/42) said they did not know whether or not their library had a digital strategy (see Figure 20). Of the library managers who indicated that there was a library digital strategy, 12 indicated that a range of library staff members had input. Library managers of libraries located in city council areas were twice as likely to have a digital strategy (53%, 9/17) than libraries located in district council areas (24%, 6/25).

Figure 20. Library digital strategy



Commenting on their library's digital strategy, 11 library managers indicated that it referred to providing equitable access to digital technologies to marginalised library users. Four made specific mention of equitable access for all library users. As one respondent stated:

The purpose of [our] digital literacy approach is to provide ... customers free and fair access to digital technology equipment, infrastructure, space and support so they can learn the skills they need to become, where possible, independent and competent digital citizens. (Manager 34)

Eight respondents indicated that providing digital services to their communities was a key component of their library digital strategy. For example:

Website, catalogue, digital technology in community libraries. (Manager 11)

Your library available anywhere, anytime. (Manager 27)

Five respondents indicated that their library digital strategy addressed the digital literacy of library users and/or library staff, for example:

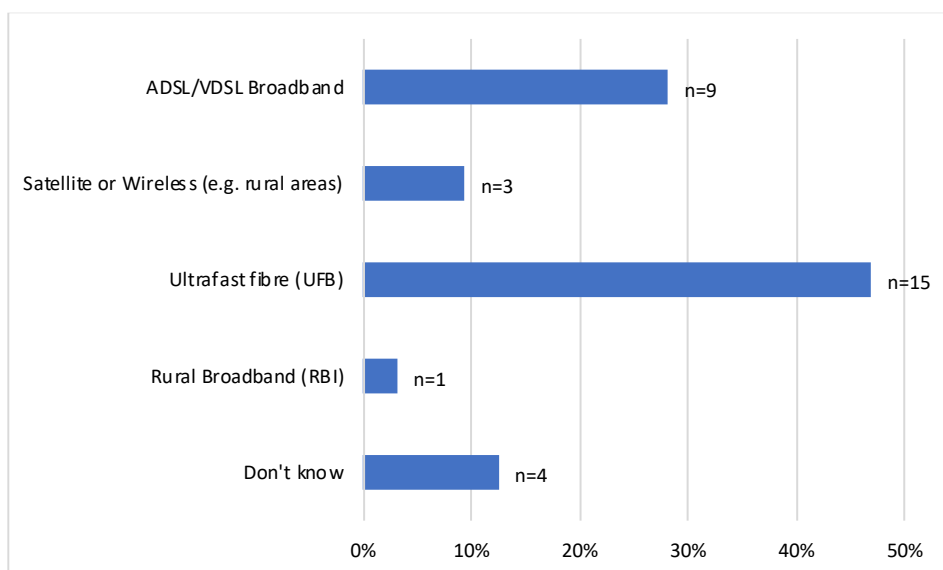
Implied [in the library digital strategy] is that we help and teach and provide, and the words used are mainly 'lifting literacy'. (Manager 27)

Type of internet access in libraries

Almost half (47%, 15/32) of the **library managers** indicated that ultrafast fibre is available at their library (see Figure 21). Further analysis revealed that one third of library managers from medium libraries (2/6) indicate that they have ultrafast fibre, compared with 46% (11/24) of library managers from large libraries². Furthermore, 50% (3/6) of library managers from medium libraries indicated that they had ADSL/VDSL broadband internet connections, compared with 25% (6/24) of library managers from large libraries.

² Number of visits to a library in a typical week is used as a proxy for library size, where small is 101-300, medium is 301 to 1,000, and large is more than 1,000 visits.

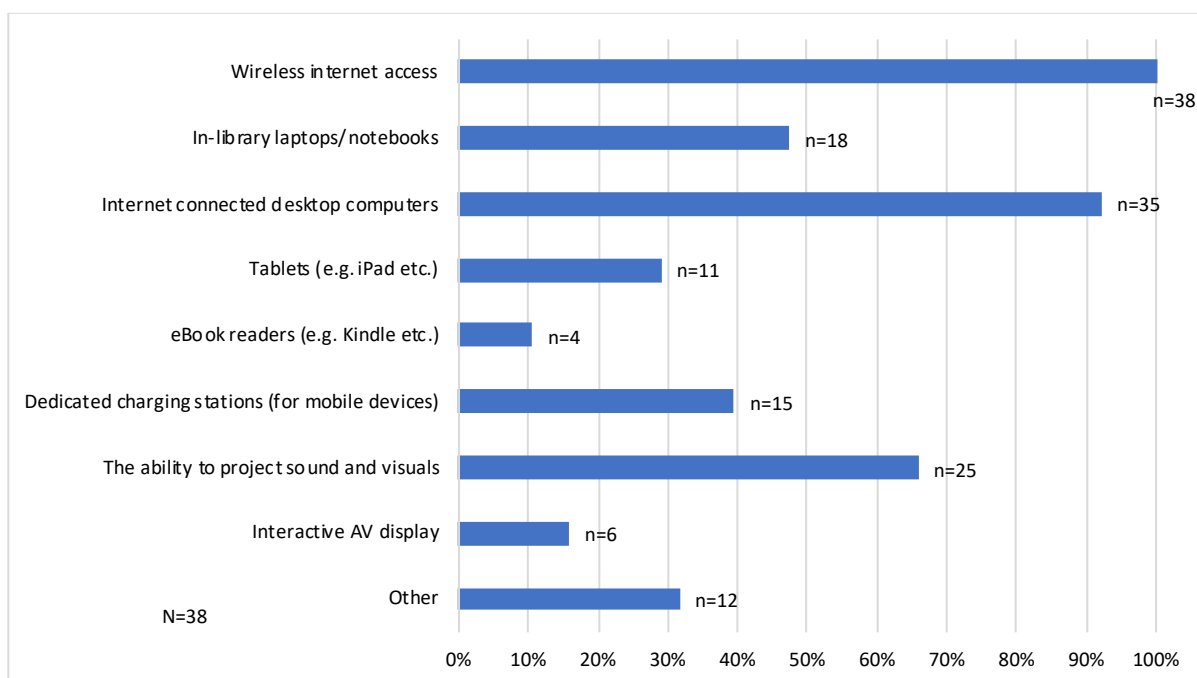
Figure 21. Type of internet access in libraries



Type of resources and devices for public use

All 38 **library managers** who responded to a question about digital resources for library users indicated that they had wireless internet access available at their library, 92% (35/38) had internet-connected desktop computers available for library users, and 66% (25/38) had the ability to project sound and visuals (see Figure 22).

Figure 22. Type of resources and devices for public use

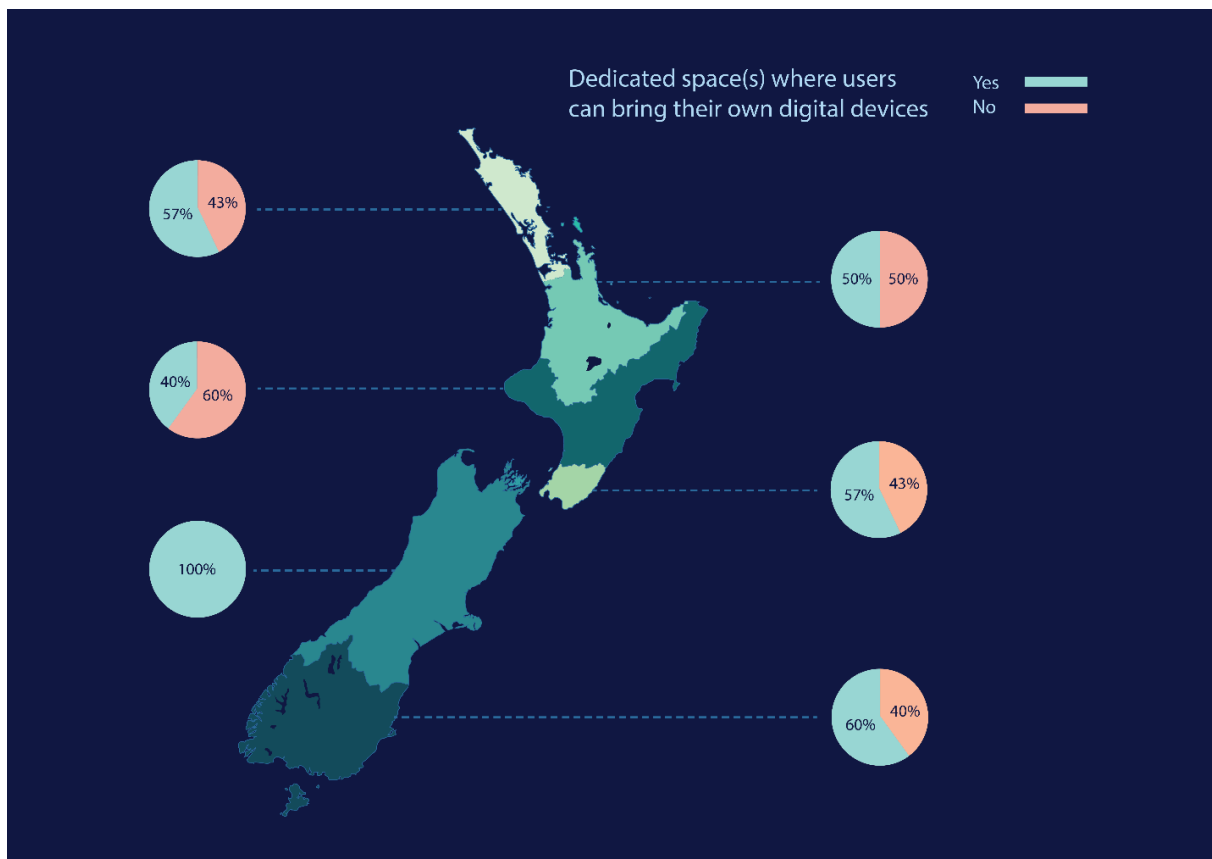


No library managers from small libraries (0/2) indicated that they had in-library laptops or notebooks available for public use. In comparison, 14% (1/7) of library managers from medium libraries indicated that they had in-library laptops or notebooks available. These results were notably different from responses from library managers working at large libraries, where 63% (17/27) had laptops or notebooks available for public use.

All library managers from small libraries (2/2) indicated that they had internet-connected desktop computers for public use. This was compared with 71% (5/7) of library managers from medium libraries, and 96% (26/27) of library managers from large libraries. These results suggest that large libraries are able to offer in-library laptops or notebooks for public use in addition to internet-connect desktop computers, whereas medium or small libraries appear less able to provide laptops or notebooks in addition to standard desktop computers.

When asked about whether their library had dedicated spaces where users could bring their own digital devices, 59% (22/37) of library managers indicated that spaces were available for users. Looking at a regional level, library managers indicated that there were some dedicated spaces in all regions (see Figure 23). In Auckland/Northland, 57%(4/7) of participating libraries had dedicated spaces, as did 50% (4/8) in Waikato/Bay of Plenty, 40% (2/5) in Central North Island, 57% (4/7) in Wellington/Kāpiti/ Wairarapa, 100% (5/5) in the Upper South Island, and 60% (3/5) in the Lower South Island.

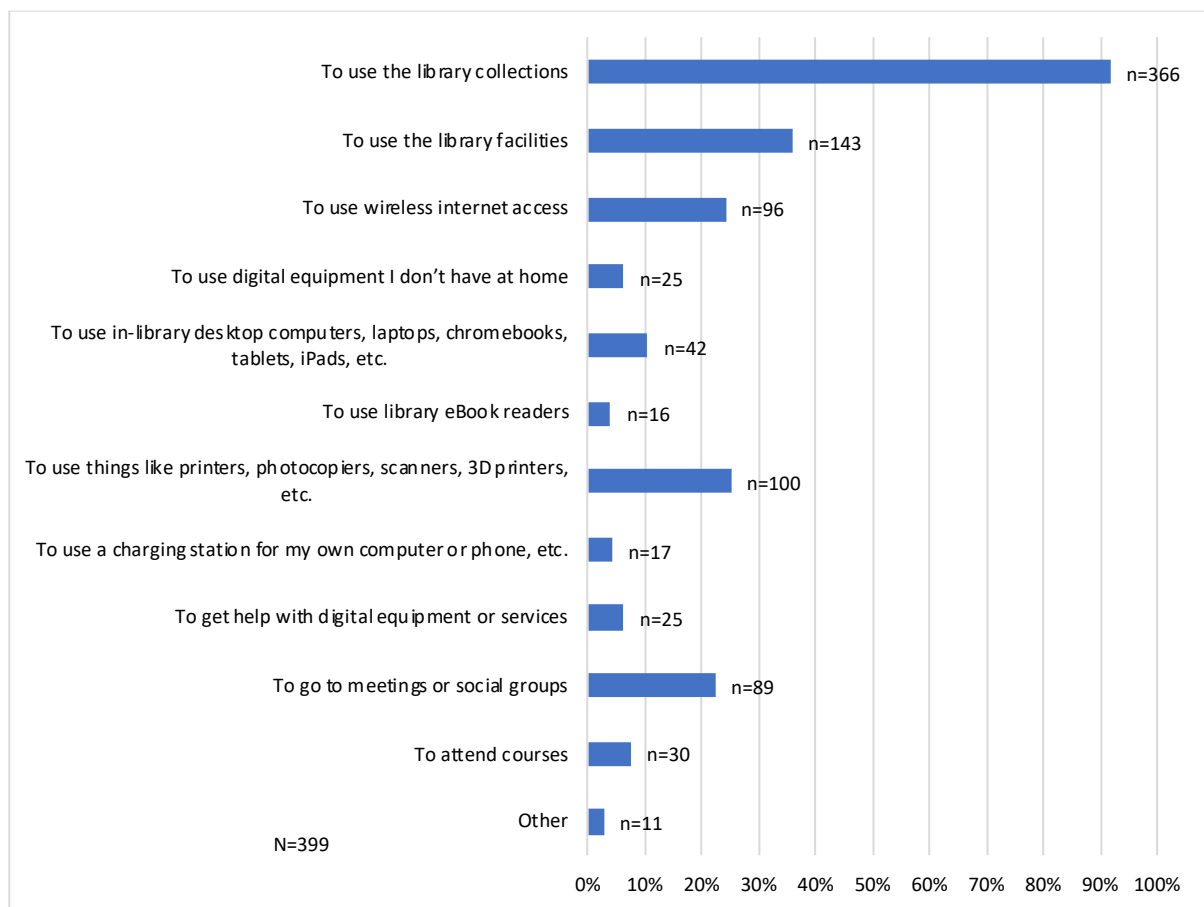
Figure 23. Dedicated spaces where users can bring their own devices



Reasons for library use

The majority of respondents to the **library users'** survey (92%, 366/399) visited the library so that they could use the library collections. One third of library users (36%, 143/399) visited to use the library facilities. One quarter (25%, 100/399) visited to use specialist equipment such as printers, photocopiers, scanners or 3D printers. One quarter (24%, 96/399) visited to use wireless internet access (see Figure 24).

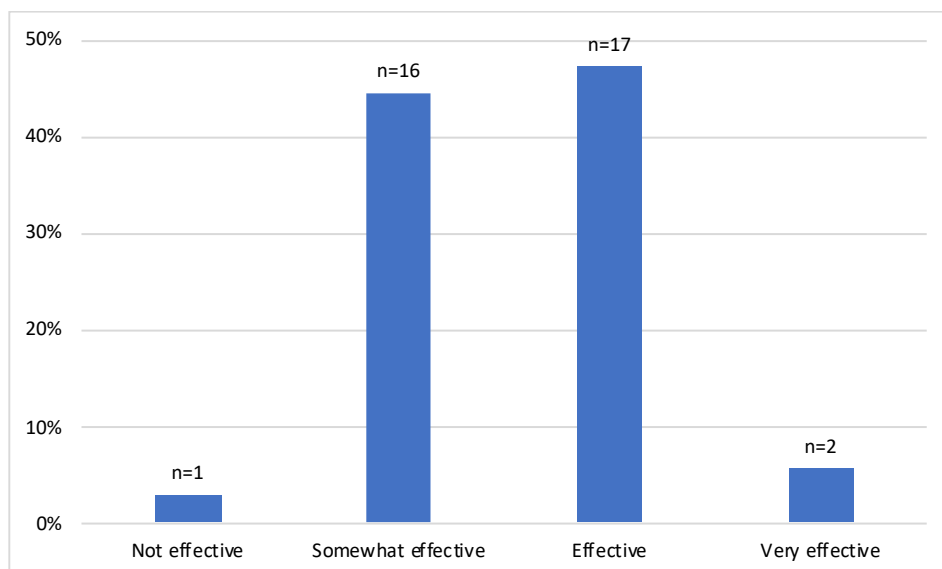
Figure 24. Library users' reasons for using the library



Meeting digital needs of library users

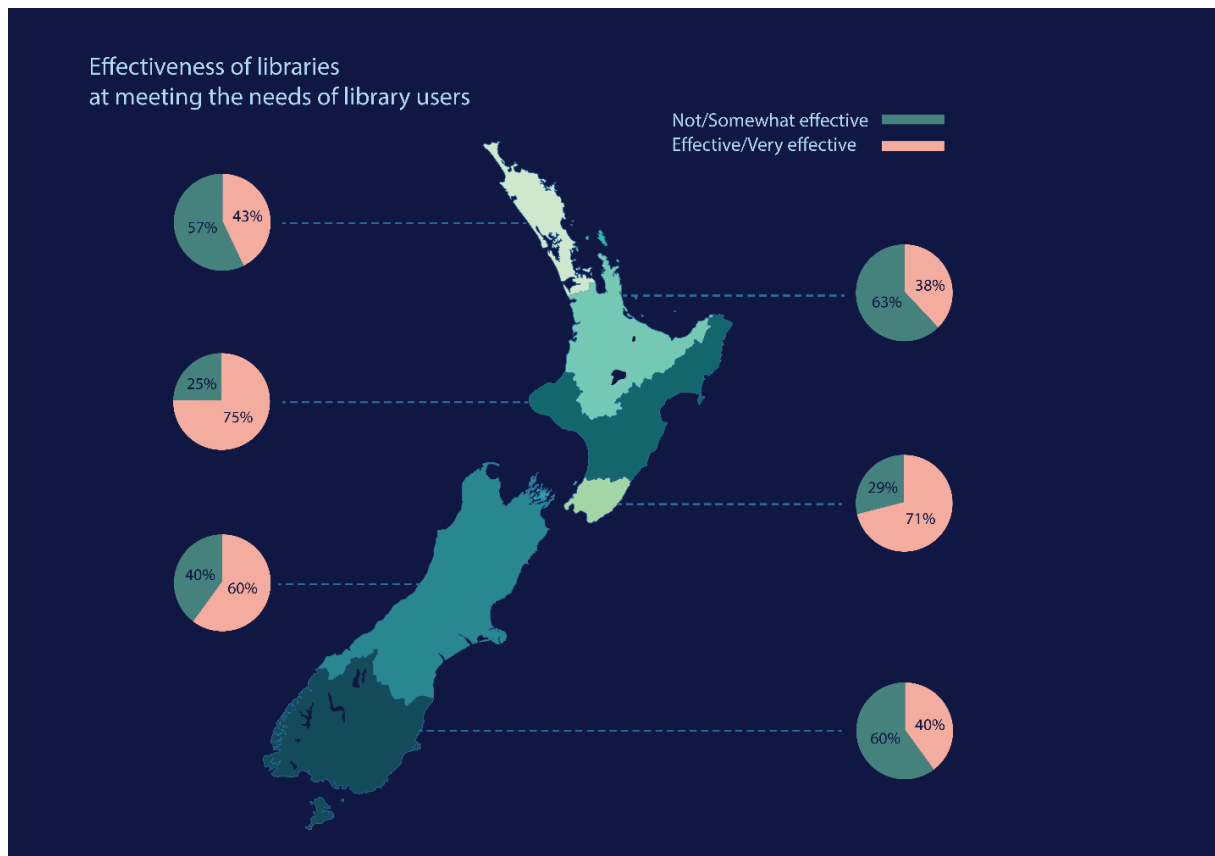
Half of the **library managers** (53%, 19/36) said their library was effective or very effective at meeting the digital needs of library users (see Figure 25). Of the 44% (16/36) who said their library was only somewhat effective, 36% (5/14) were working in a city council area, and 50% (11/22) were working in a district council area.

Figure 25. Effectiveness of the library at meeting the digital needs of library users



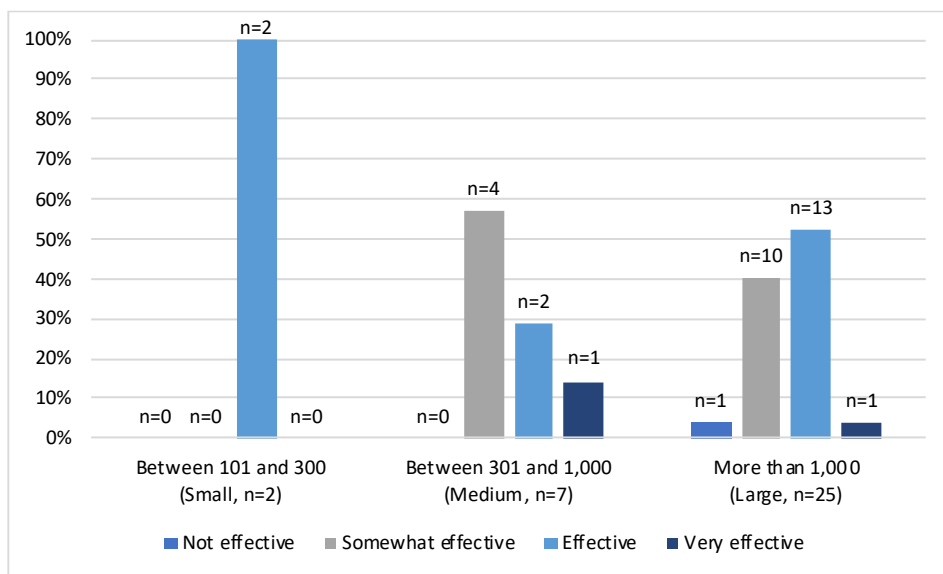
Analysis by region shows that library managers in the Central North Island (3/4, 75%), Wellington/Kāpiti/Wairarapa (5/7, 71%), and the Upper South Island (3/5, 60%) felt their libraries were effective or very effective at meeting the digital needs of library users. In contrast, library managers in Auckland/Northland (4/7, 57%), Waikato/Bay of Plenty (5/8, 63%), and the Lower South Island (3/5, 60%) felt their libraries were not or only somewhat effective at meeting user needs (see Figure 26).

Figure 26. Effectiveness of libraries at meeting the digital needs of library users



The number of community members who visited a library in a typical week was compared with library managers' perceptions of how effective their library was at supporting the digital needs of users. Results indicate that small libraries were effective at meeting the digital needs of their library users (100%, 2/2), 29% (2/7) of medium libraries were effective, and 52% (13/25) of large libraries were effective (see Figure 27).

Figure 27. Library size vs effectiveness of meeting library users' digital needs



Many **library users** expressed appreciation for staff at their local library, the help they provided, the services libraries offered, and the role libraries played in supporting digital inclusion within their communities:

My local library is fantastic! The staff are helpful, and the facilities are amazing for our small town. I literally could not do without X Library. (User 142)

There are so many opportunities to level the playing field through libraries if the services offered are rich and easy to access. (User 28)

It does make me smile to see the wide range of ages waiting to use the computers at the library from retirees to school children. (User 48)

Digital needs of specific library users

Library managers were asked about their effectiveness at meeting the digital needs of specific groups of users. Managers felt their libraries were effective at supporting the elderly (50%, 18/36), children and young people (56%, 20/36), and people from low socio-economic backgrounds (47%, 17/36). The library managers indicated that their libraries were somewhat effective at supporting speakers of English as a second language (71%, 25/35), refugees (63%, 22/35), physically impaired or complex needs (61%, 22/36), blind and low vision (53%, 19/36), deaf and hard of hearing (51%, 18/35), Māori (51%, 18/35), and Pacific Peoples (49%, 17/35) (see Table 5). These responses indicate there is room for improvement when it comes to meeting the digital needs of specialist groups.

Table 5. Effectiveness of libraries at supporting the digital needs of specific users

	Not effective		Somewhat effective		Effective		Very effective		Total
	Freq	Valid %	Freq	Valid %	Freq	Valid %	Freq	Valid %	
Elderly	2	6%	14	39%	18	50%	2	6%	36
Blind and Low Vision	10	28%	19	53%	7	19%	0	0%	36
Deaf and Hard of Hearing	11	31%	18	51%	6	17%	0	0%	35
Physically impaired or complex needs	8	22%	22	61%	6	17%	0	0%	36
Children and young people	0	0%	10	28%	20	56%	6	17%	36
People from low socio-economic backgrounds	0	0%	13	36%	17	47%	6	17%	36
Māori	1	3%	18	51%	15	43%	1	3%	35
Pacific Peoples	4	11%	17	49%	13	37%	1	3%	35
Refugees	4	11%	22	63%	8	23%	1	3%	35
Speakers of English as a second language	4	11%	25	71%	5	14%	1	3%	35

Enablers that support the digital needs of library users

Library managers were asked to identify the main enablers that support the digital needs of library users in an open-ended survey question. Thirty-two managers (73%) identified one or more enablers. The most frequently identified supports were: partnerships or support from external partners (e.g. APNK Network, Spark Jump (now Skinny Jump), Stepping Up Programme) (41%, 13/32), up-to-date digital equipment or sufficient equipment capacity (38%, 12/32), staff engagement and knowledge (i.e. appropriate digital expertise) (34%, 11/32), and staff capacity (28%, 9/32).

The following comments are indicative of the library managers' responses:

Partnerships with other agencies such as APNK [Aotearoa People's Network Kaharoa], Stepping up. (Manager 28, external partnerships)

Free to use public computers and Wi-Fi access with printing and scanning facilities. (Manager 13, equipment)

Staff attitude – most will try to help – even if they don't know the answer, they will give things a go. (Manager 16, staff engagement)

Two core staff with excellent technical and people skills. (Manager 8, staff knowledge and capacity)

Book a Librarian - one on one interactions where we help customers with tailored queries. (Manager 27, staff engagement and knowledge)

Just over one third of library managers (35%, 8/23) planned to offer additional workshops (e.g. APNK upgrade to Chromebooks, digital wellbeing) to develop the digital skills of their library users:

We will also be doing tutorials on how to use GivMe and GivUs. We will be running technology-based holiday programmes such as robots, and drones. We will also be looking to include digital learning in our outreach to the elderly. (Manager 15)

Barriers that hinder the digital needs of library users

Library managers were also asked about the main barriers to meeting the digital needs of library users. Thirty-five managers (80%) identified one or more barriers. Nineteen managers (54%) identified limited staff knowledge as a barrier, thirteen (37%) identified lack of staff time, thirteen (37%) identified lack of funding, thirteen (37%) identified lack of physical resources (e.g. space, lack of library branches), and nine (26%) identified a lack of staff capacity to meet users' needs.

In particular, library managers commented on:

Staff knowledge – front line staff sometimes lack knowledge when customers need help with devices etc. (Manager 37, staff knowledge)

Staff time and technical expertise to support patrons with the use of their own device (often dated devices). (Manager 13, time)

We have free wifi and plenty of PCs, but no budget for further development. (Manager 15, funding)

We're doing the basics but lack the resources (staff skills/time) to do more than this. (Manager 6, staff knowledge and time)

Library users' recommendations for future library services

Library users were given the opportunity to identify any other digital requirements they did not currently have access to but would like to access in the future. The most common response was additional digital resources and services, especially 3D printers and Kindle-compatible eBooks. The other area that people identified was related to education needs such as learning how to use an iPad, online protection, and specific software programmes. For example:

I would like to be able to borrow eBooks for my kindle. (User 23)

Beginners coding classes. (User 417)

Tablets or iPads for use within the library, that have interesting applications loaded, that could be used for teaching older generations how to use new technologies. (User 185)

I'd like to be able to use a 3D printer, but our library doesn't have one. (User 176)

Motivation

The library staff and library users' surveys included a variety of questions related to different areas of motivation associated with digital technologies. These aspects included staff perceived confidence, knowledge and interest in digital technologies, the relative importance of staff knowing about digital technologies, and library users' motivation to use the internet.

Library staff survey respondents were asked to rate their digital knowledge, importance, confidence and interest across a range of categories, including knowledge of using digital technologies, experimenting with new technologies, developing their digital skills, and supporting users to learn about digital technologies. The majority of staff respondents rated their knowledge as good, that it was important to very important to know about digital technologies, that they felt confident or very confident to use them and were interested to very interested in digital technologies.

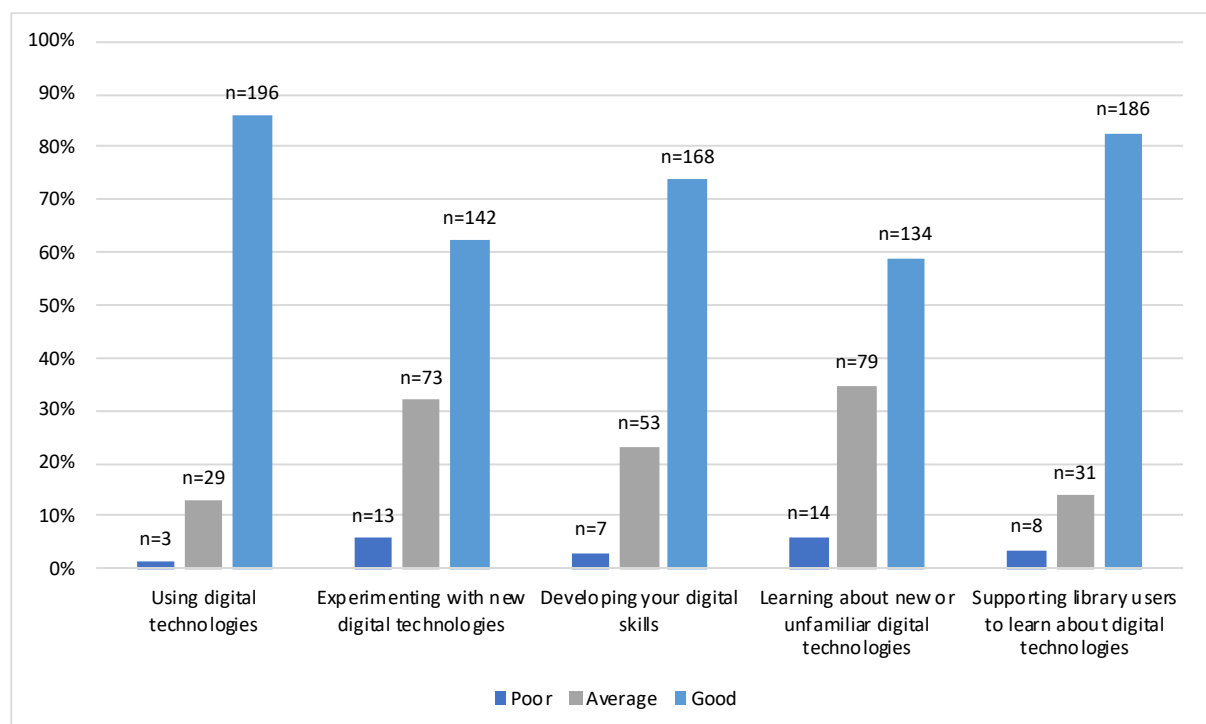
Library users were asked about what motivated them to use the internet. Users were extremely motivated to find information, solve problems, and undertake online transactions. Users were not at

all motivated to create content (e.g., videos, photos, writing). Library users were also asked about their confidence to use the internet safely. Library users were generally confident to use the internet safely across a range of measures. The only area where respondents indicated they were less confident was reducing information being collected about them and reused by organisations.

Staff knowledge of digital technologies

When **library staff** were asked about their digital knowledge, the majority rated their knowledge as good across all categories (see Figure 28). In particular, they gave a high rating to their knowledge to use digital technologies (86%, 196/228) and their support for library users to learn about digital technologies (83%, 186/225).

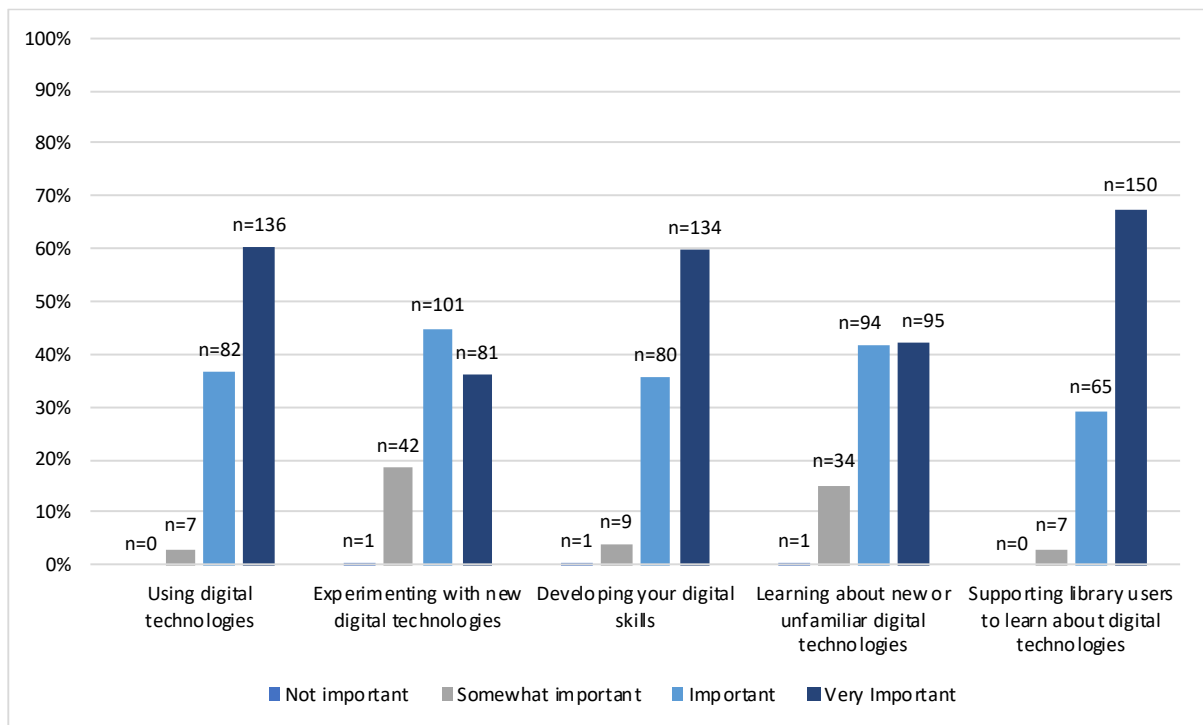
Figure 28. Library staff perceptions of their digital knowledge



Staff importance placed on digital technologies

Library staff were asked to rate how important it was for them to know about using digital technologies, to experiment with new technologies, to develop their digital skills, and to support users to learn about digital technologies. All were rated as important to very important (see Figure 29). Supporting library users to learn about digital technologies was considered the most important (68%, 150/222 'very important'). While it was still considered important, experimenting with digital technologies attracted a 19% (42/225) 'somewhat important' response.

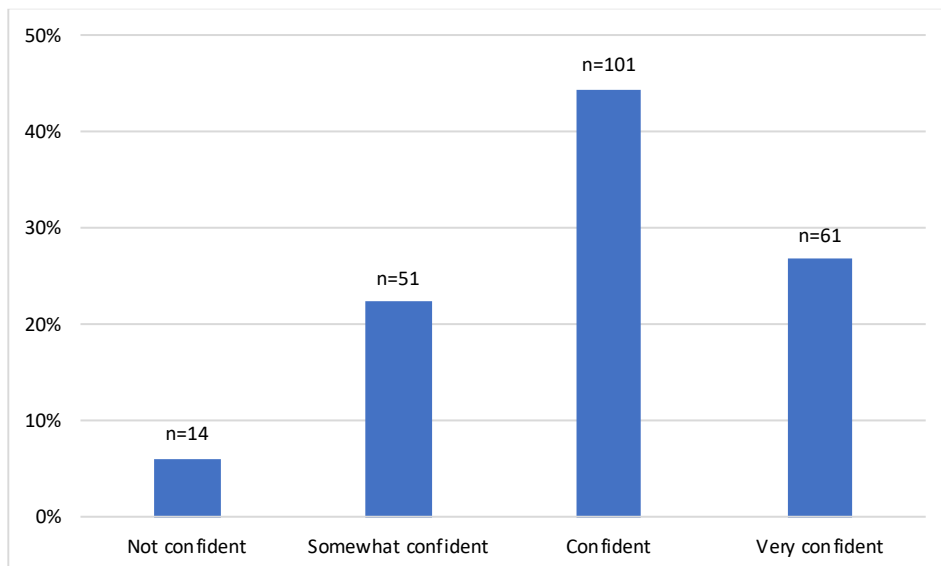
Figure 29. Library staff perceptions of the importance of knowing about digital technologies



Staff confidence to respond to digital technology requests

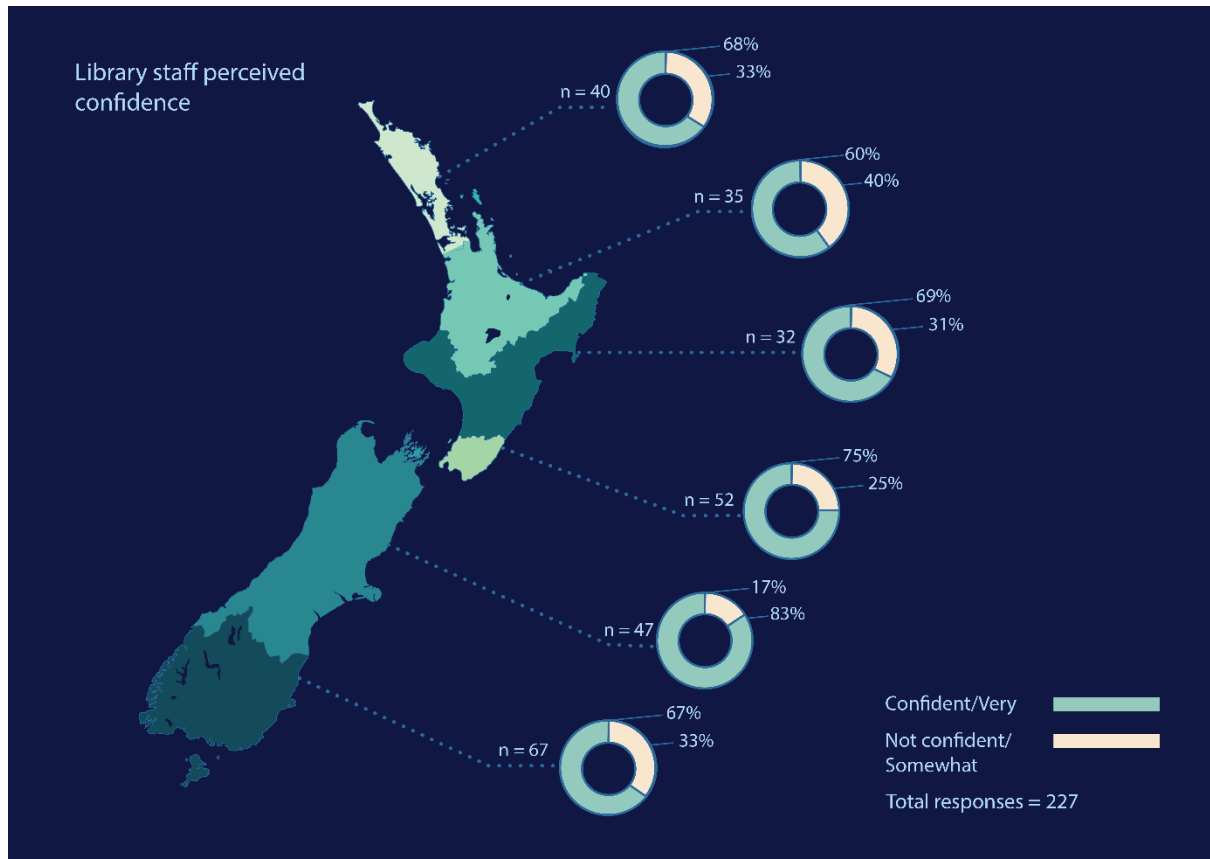
Library staff were asked how confident they would feel answering questions about digital devices, applications, or services. Almost three quarters (71%, 162/227) indicated that they felt confident or very confident (see Figure 30).

Figure 30. Library staff confidence to respond to digital technology requests



Analysis by region showed that at least 60% of library staff from all regions were confident to very confident that they could answer questions about digital devices, applications, or services. The region where library staff had the highest perceived confidence was the Upper South Island (39/47, 83%) (see Figure 31).

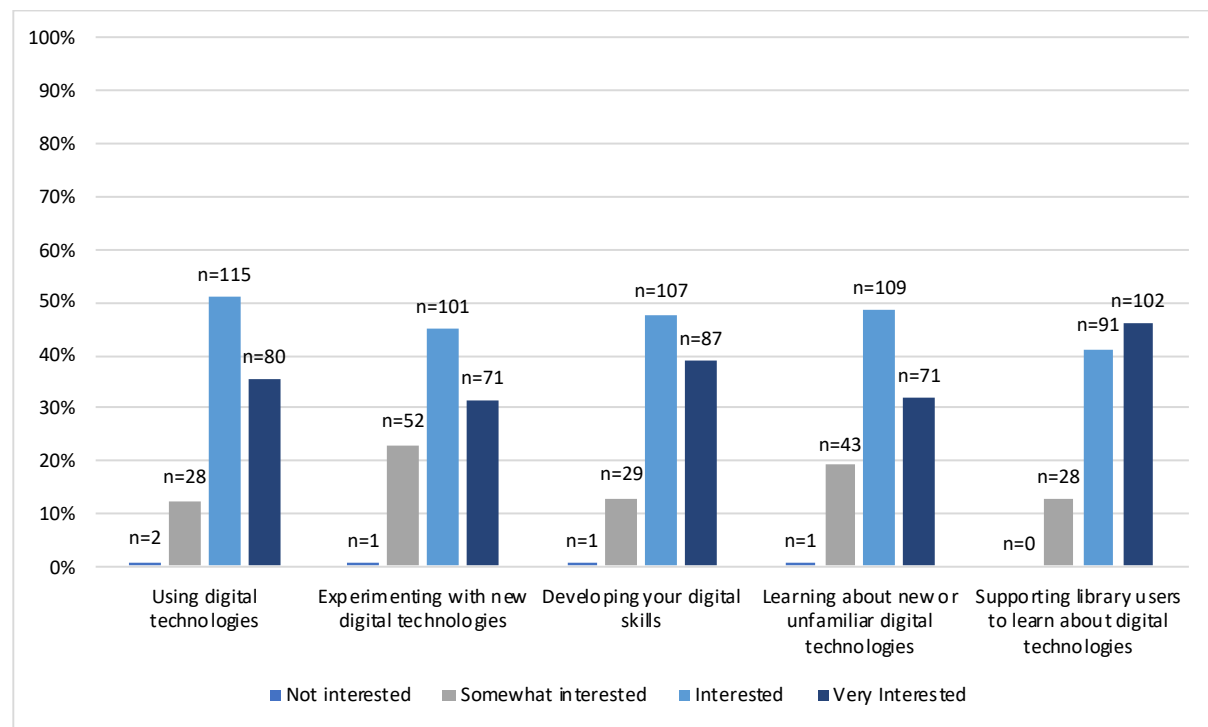
Figure 31. Library staff perceived confidence to respond to digital requests by region



Staff interest in digital technologies

Library staff were asked to rate how interested they were in using digital technologies, experimenting with new technologies, developing their digital skills, and supporting users to learn about digital technologies. All were rated as interested to very interested (see Figure 32). Library staff were the most interested in supporting library users to learn about digital technologies (46%, 102/221 ‘very interested’).

Figure 32. Staff interest in digital technologies

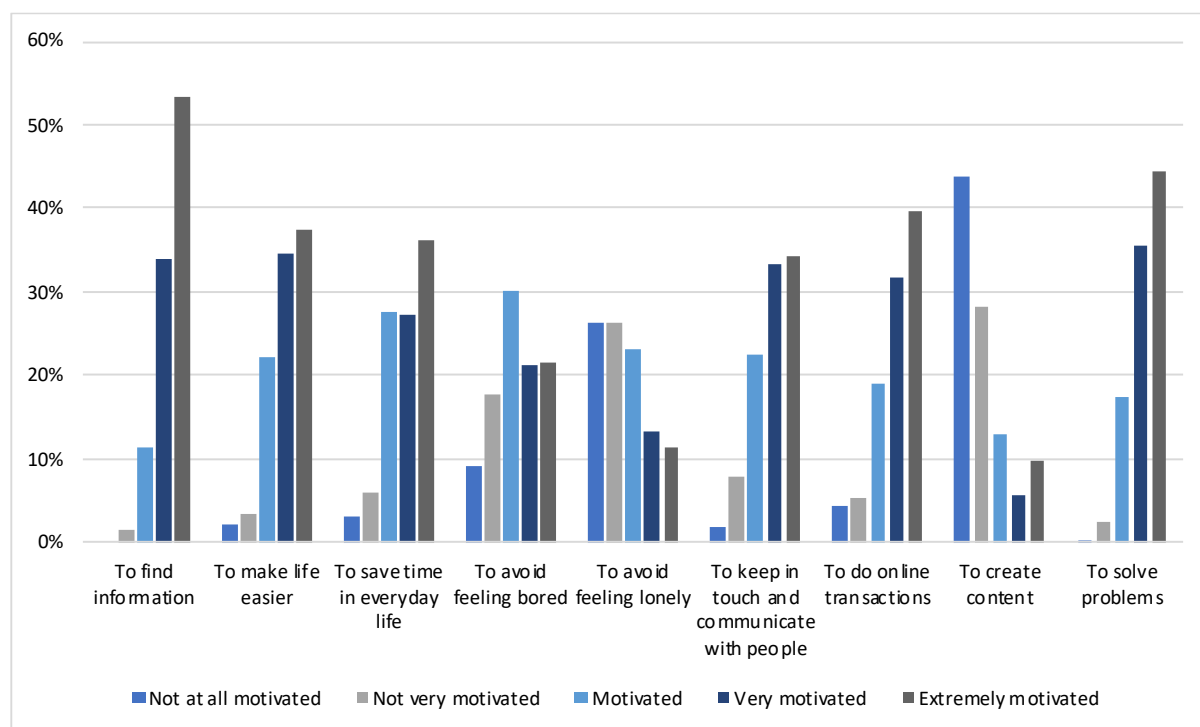


Overall, library staff knowledge, sense of importance, confidence and interest demonstrated that supporting library users to learn about digital technologies was the primary focus of their attention.

Library users’ motivation to use the internet

Library users were asked about what motivated them to use the internet (see Figure 33, and Appendix 2, Table 7 for frequency counts). Users who responded to the survey were extremely motivated to find information (53%, 216/405), solve problems (44%, 177/399), and undertake online transactions (40%, 157/395). Users were not at all motivated to create content such as videos, photos or writing (44%, 166/380). Half of the library users indicated that they were not at all or not very motivated to use the internet to avoid feeling lonely (52%, 196/374).

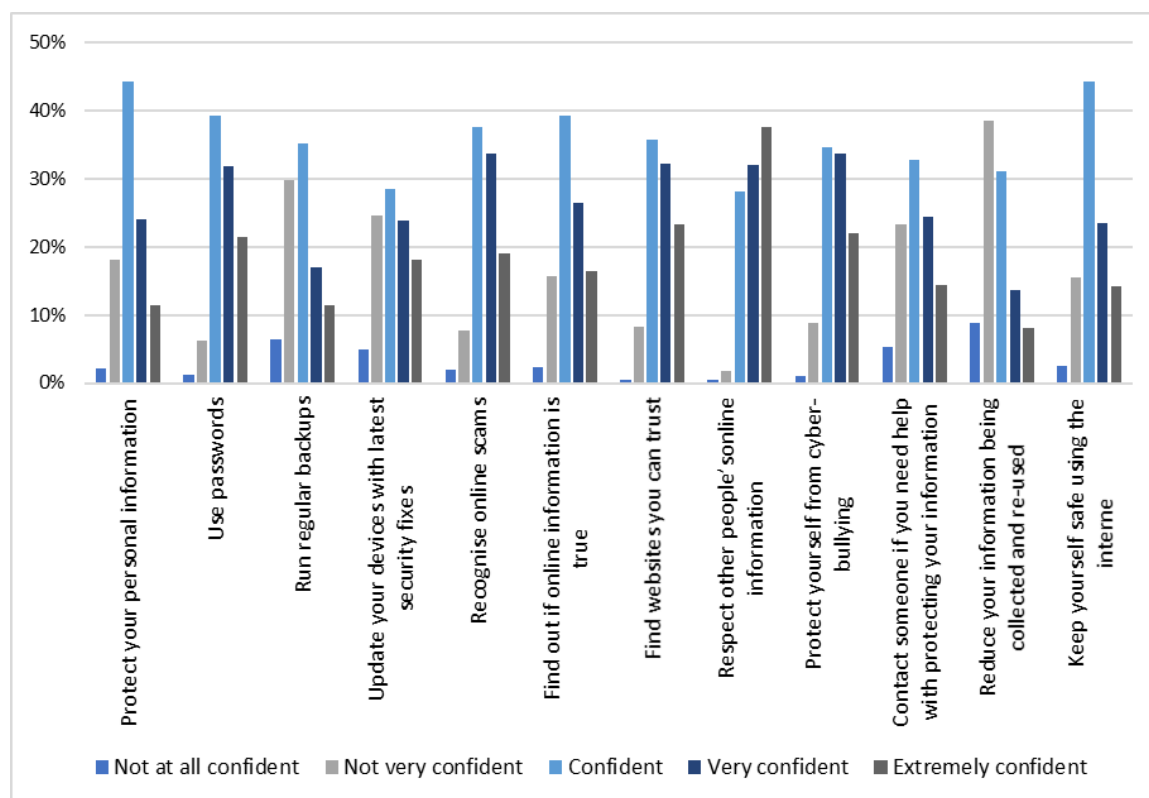
Figure 33. Library users' motivation to use the internet



Confidence to use the internet safely

Library users were also asked about their confidence to use the internet safely. Library users were generally confident (confident, very confident or extremely confident) to use the internet safely across a range of measures (see Figure 34, and Appendix 2, Table 8 for frequency counts). The only issue where respondents indicated they were less confident was reducing information being collected and reused by governments and companies (38% not very confident).

Figure 34. Library users' confidence to use the internet safely



Some respondents felt that trust issues were out of their control as the following comments indicate:

To make the internet useful, it's necessary to share data with others, so there has to be a certain degree of trust that other organisations & service companies will also secure & protect any personal identity data. (User 455)

I tend to take the approach with online security that the horse has already bolted from the stable as the saying goes, so tend to just accept I live in a world where governments, corporations etc. will have access to a lot more information than I know about. (User 228)

Other respondents highlighted a lack of confidence and skills of library users to use the internet safely:

Our [retired person's] group does inform members about watching for scams etc. but we can see that a lot of older people are disconnected from the modern technology, for example, online banking, because of their lack of understanding. (User 164)

Capability and Trust

The library staff and library users' surveys included multiple questions related to different areas of digital capability and trust. These aspects included accessing information and services, social media, online transactions, online safety and trust (e.g., identifying accurate information), entertainment, research and study, everyday digital skills, and advanced digital skills. A separate question asked both library staff and library users about foundational digital skills.

Library staff were asked how often they **supported library users with foundational digital tasks**. The majority indicated that they assisted library users more than once a week to connect a device to the internet, find a website, and turn on a device and enter account information. **Library users**

predominantly rated their foundational digital skills as good or excellent. However, a small number (5%) rated their skills as bad or very bad.

Factor analysis identified five main factors from **library users'** responses to questions about **their digital capabilities**. Library user respondents rated their skills as good to excellent in the areas of *accessing information, services and social media; everyday digital skills; and research and study*. A minority of library users had experience with *advanced digital skills* (i.e., programming, coding, and using 3D printers) and those who did rated their skills from very bad to okay. Responses to items about *online safety and trust* (e.g., identifying trustworthy information) were more varied, with a similar number of library users rating their skills as okay, good, or excellent. Results were then compared based on age, employment status, ethnic group, region, and further study. Significant differences were found between library users of different age groups and different employment status. Younger library users rated their capability more highly than older users on *online safety and trust; accessing information, services, and social media; and everyday digital skills*. Students rated their capability more highly than retired people on *accessing information, services and social media, and everyday digital skills*.

Factor analysis revealed six factors from **library staff** responses to questions about **their digital capabilities**. Library staff members rated themselves as having predominantly good or excellent skills in *social media and entertainment, accessing support services, online transactions, research and study, and everyday digital skills*. Most of the library staff members rated themselves as having very poor or poor skills for *advanced digital skills* (i.e. creating basic computer programs and apps and using basic computer languages). Comparisons were then made based on library region, and time in role. Significant differences were found between library staff with different duration in their role. Newer staff members rated their capability more highly than those who had been in the role for more than 10 years on *advanced digital skills*.

Five factors were identified in the analysis of **library staff** responses to questions about **their skills to support library users**. Most of the library staff members had good or excellent skills to support library users for *social media and entertainment, accessing services and information, and research and study*. For *online safety and trust*, library staff members indicated that their skills were okay, good or excellent. The distinctive factor was *advanced digital skills* (i.e. using a 3D printer, using basic computer languages, and creating basic computer programs and apps), where the majority of library staff indicated their skills were very poor or poor. Comparisons were made based on library region, and time in role. Significant differences were found between library staff with different time in their role. Newer staff members rated their capability to support library users more highly than those who had been in the role for more than 11-20 years with *advanced digital skills*.

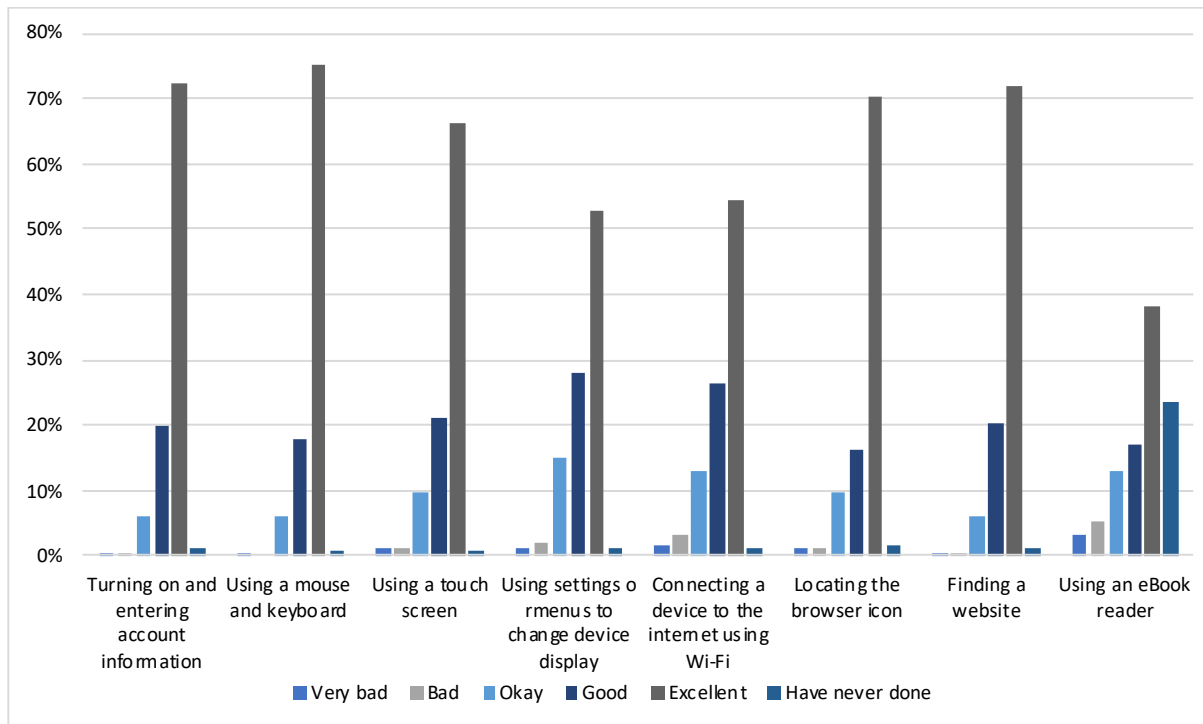
Five factors were also identified in the analysis of **library staff** responses to questions about **how often they supported library users' digital needs**. Library staff were supporting library users more frequently with *information, social media and entertainment; everyday digital skills; and research and study*. Library staff were supporting users less frequently with *online safety and trust*, and rarely providing support for *advanced digital skills* (i.e. creating basic computer programs and apps, using a 3D printer, and using basic computer languages). Comparisons were made based on library region, and time in role. Significant differences were found between library staff with different time in their role. Newer staff members were supporting library users with *advanced digital skills* more frequently than those who had been in the role for more than 11-20 years.

With the increasing requirement to provide digital skill support for library users, some libraries have introduced a **digital specialist role**. Just over half of **library managers**, who responded to the survey, indicated that their library had a specialist digital technologies role.

Foundational digital skills

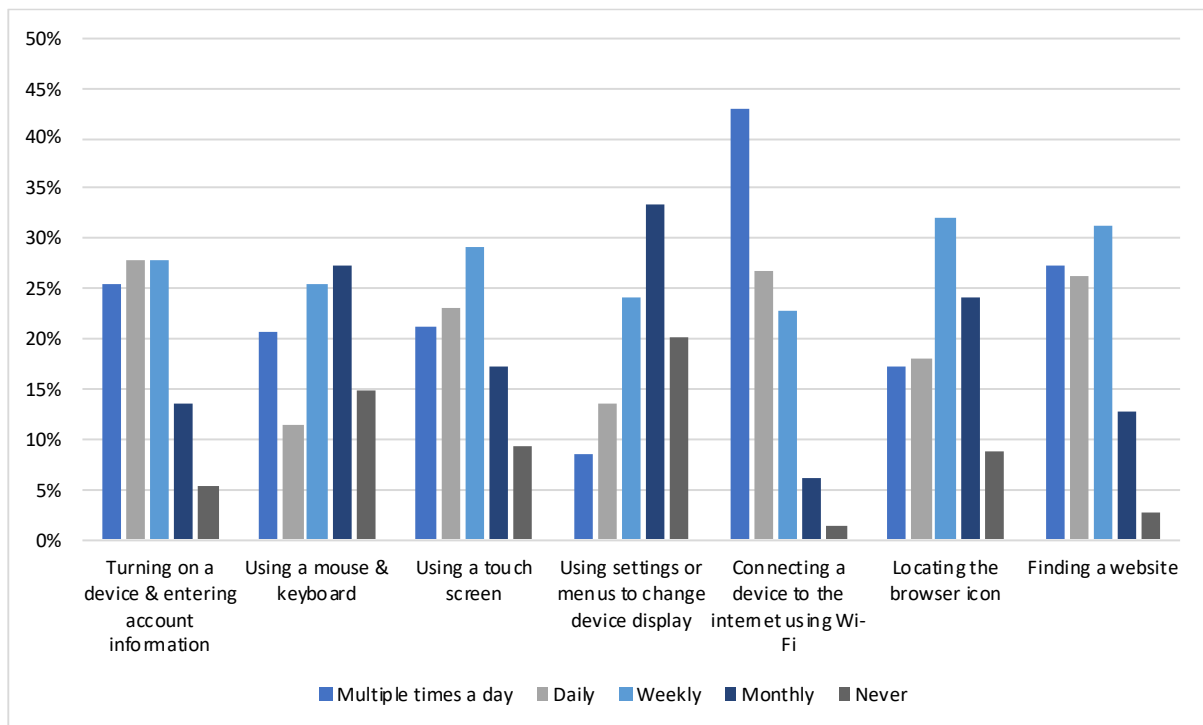
Library users predominantly rated their foundational digital skills as good or excellent. Approximately 5% or less of participants rated their skills as bad or very bad (see Figure 35, and Appendix 2, Table 9 for frequency counts). The responses to the question about eBook readers showed a slightly different pattern. Over 20% had never used an eBook reader.

Figure 35. Library users' foundational digital skills



Library staff were asked how often they supported library users with foundational digital tasks (see Figure 36, and Appendix 2, Table 10 for frequency counts). Notably, 93% (211/228) indicated that they assisted library users more than once a week to connect a device to the internet using Wi-Fi, of which 43% (98/228) were assisting users multiple times a day. Other tasks that library staff were assisting library users with on a regular basis were finding a website (85%, 193/228 more than once a week), and turning on a device and entering account information (81%, 184/227 more than once a week).

Figure 36. Frequency of library staff support for library users' foundational digital skills



When asked about other support that library staff provided, 45% (84/188) indicated that library users requested help with additional digital devices, applications or services. The most commonly requested services were related to eBooks or eBook readers. The following comment is indicative of responses from staff:

Basic eReaders. The shops they buy them from state they are library ready, and they are not. (Staff 33)

Library staff also indicated that they were providing advice and assistance with library users' personal digital devices:

General phone assistance, how to call someone, send a text message etc. (Staff 217)

When asked about services that were not currently available in libraries, 40% (74/184) of library staff respondents indicated that library users requested access to new technologies, advanced technical support, advice and guidance with personal devices, and printing from personal devices. For example:

3D printer, coding apps for kids after school programs, and technology to support digital learning. (Staff 11)

Extended technical help, device repair. We help - but can't spend all day, nor can we rebuild HDDs, reinstall OS etc. Or replace broken screens. (though I'd like to offer tech repair cafes- google it). (Staff 207)

More time available than currently for solving individual problems, one on one, with devices. More time for individual learning especially by older people wishing to make better use (or just use) of smart phones, tablets etc. Great hunger for knowledge around specific apps and services. We have Digital Services Librarian available for one hour per week providing "Device advice". Limited so he can get other work done but some weeks he is there for 3 hours because he finds it difficult to turn people away. And he sneaks others in during the week. (Staff 124)

Wireless printing – asked for all the time. We are basically a CV writing and printing centre. (Staff 176)

Library staff and users’ digital capabilities

Exploratory factor analysis was used with responses to capability and online safety and trust questions, in both the library staff survey (staff skills, staff skills to support library users, and frequency of staff support for library users in a typical month) and the library users survey (library users’ skills), to reduce the large number of items related digital capabilities to a smaller number of important underlying factors. For details on how the factor analysis was conducted, see Appendix 3. Each of the retained factors were then named based on the items that constituted them (see Table 6 and Appendix 4).

Table 6. Factor loadings

Factor name	Library users’ skills	Library staff skills	Library staff skills to support library users	Frequency of library staff support for library users
Social media and entertainment	–	Factor 1	Factor 1	–
Information, social media and entertainment	–	–	–	Factor 1
Accessing support services	–	Factor 2	–	–
Accessing services and information	–	–	Factor 2	–
Accessing information, services and social media	Factor 2			
Online transactions	–	Factor 3	–	–
Online safety and trust	Factor 1	–	Factor 3	Factor 3
Research and study	Factor 5	Factor 4	Factor 4	Factor 5
Everyday digital skills	Factor 3	Factor 5	–	Factor 2
Advanced digital skills	Factor 4	Factor 6	Factor 5	Factor 4

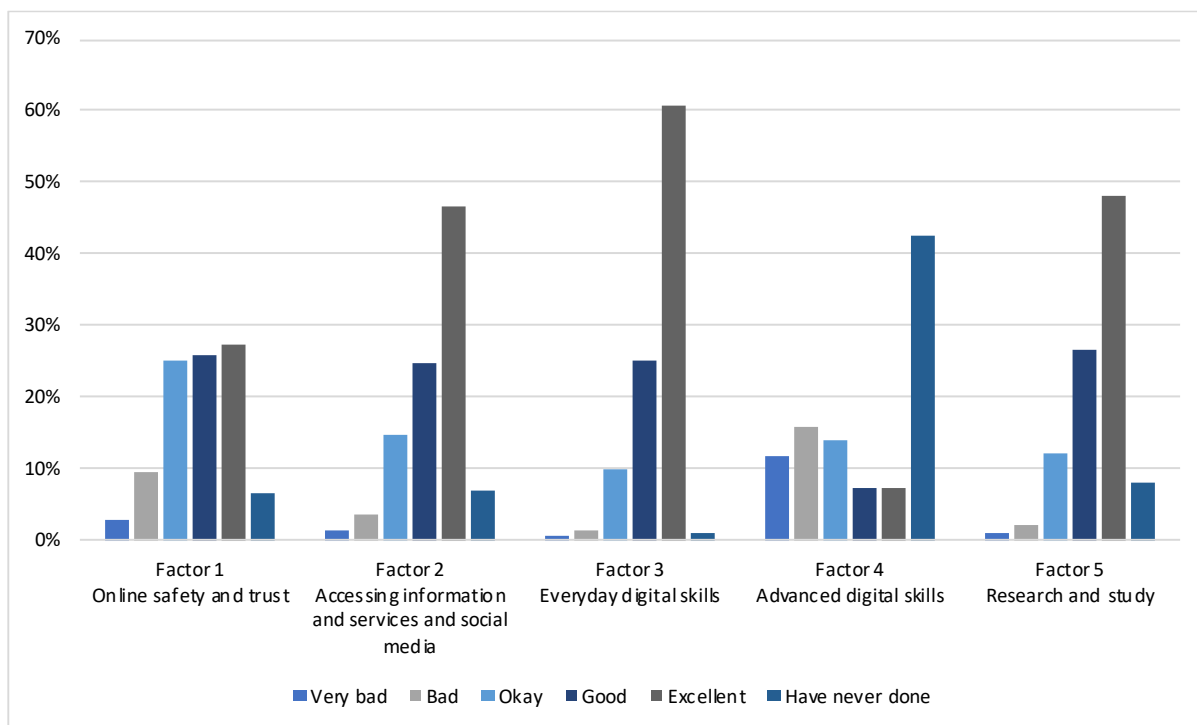
Library users’ digital skills

Five factors were identified in the analysis of **library users’** responses to questions about their digital capabilities. These are ordered by percentage of variance explained by each factor. Further detail about the factor loadings is available in Appendix 4, Table 16. The factors are:

- Factor 1: Online safety and trust
- Factor 2: Accessing information, services and social media
- Factor 3: Everyday digital skills
- Factor 4: Advanced digital skills
- Factor 5: Research and study

Further analysis revealed that the majority of the library users rated their skills as good to excellent in the areas of *accessing information, services and social media*; *everyday digital skills*; and *research and study*. A minority of library users had experience with *advanced digital skills*, and those who did rated their skills from very bad to okay. Advanced digital skills included using a 3D printer, using basic computer coding languages, and creating computer programs and apps using coding. Responses to items about *online safety and trust* resulted in a more varied distribution, with a similar number of library users rating their skills as okay, good, or excellent (see Figure 37, and Appendix 2, Table 11 for frequency counts).

Figure 37. Library users' digital skills



The factor scores from the library users' survey were then compared based on age, employment status, ethnic group, region, and further study. Significant differences were found between library users of **different age groups**. For Factor 1, *online safety and trust*, library users who were 25 years and younger rated their capability more highly (mean = 0.525) than users who were 46-65 years (mean = -0.124), Welch's $F(3, 79.429)=4.719$, $p<.005$). For Factor 2, *accessing information, services and social media*, users who were 25 years or younger rated their capability more highly (mean = 0.554) than users who were 26-45 years (mean = 0.067); and more highly than users who were 46-65 years (mean = -0.084); and more highly than users who were over 65 years (mean = -0.227), Welch's $F(3, 78.713)=6.080$, $p<.005$). For Factor 3, *everyday digital skills*, users who were 26-45 years rated their capability more highly (mean = 0.279) than users who were 46-65 years (mean = -0.157); and more highly than users who were over 65 years (mean = -0.150), Welch's $F(3, 73.853)=5.101$, $p<.005$).

Significant differences were also found between library users with **different employment status**. For Factor 2, *accessing information, services and social media*, students rated their capability more highly (mean = 0.594) than retired people (mean = -0.156, Welch's $F(3, 40.155)=3.465$, $p<.05$). For Factor 3, *everyday digital skills*, students rated their capability more highly (mean = 0.587) than unemployed people (mean = -0.240); and students rated their capability more highly (mean = 0.587) than retired people (mean = -0.162, $F(3, 359)= 3.402$, $p<.05$).

In summary, for the different age groups, younger library users rated their capability more highly than older users on *online safety and trust*; *accessing information, services, and social media*; and *everyday digital skills*. For the different employment status groups, students rated their capability more highly than retired people on *accessing information, services and social media*, and *everyday digital skills*.

Based on these results, it is apparent that additional support for older library users is required in the areas of *online safety and trust*; *accessing information, services, and social media*; and *everyday digital skills*. Figure 37 also highlights the need for *advanced digital skills* (e.g., creating computer programs and apps using coding, using basic computer programming languages, using a 3D printer) across all groups of library users.

Library staff digital skills

Six factors were identified in the analysis of **library staff** responses to questions about their digital capabilities. These are ordered by percentage of variance explained by each factor. Further detail about the factor loadings is available in Appendix 4, Table 17. The factors are:

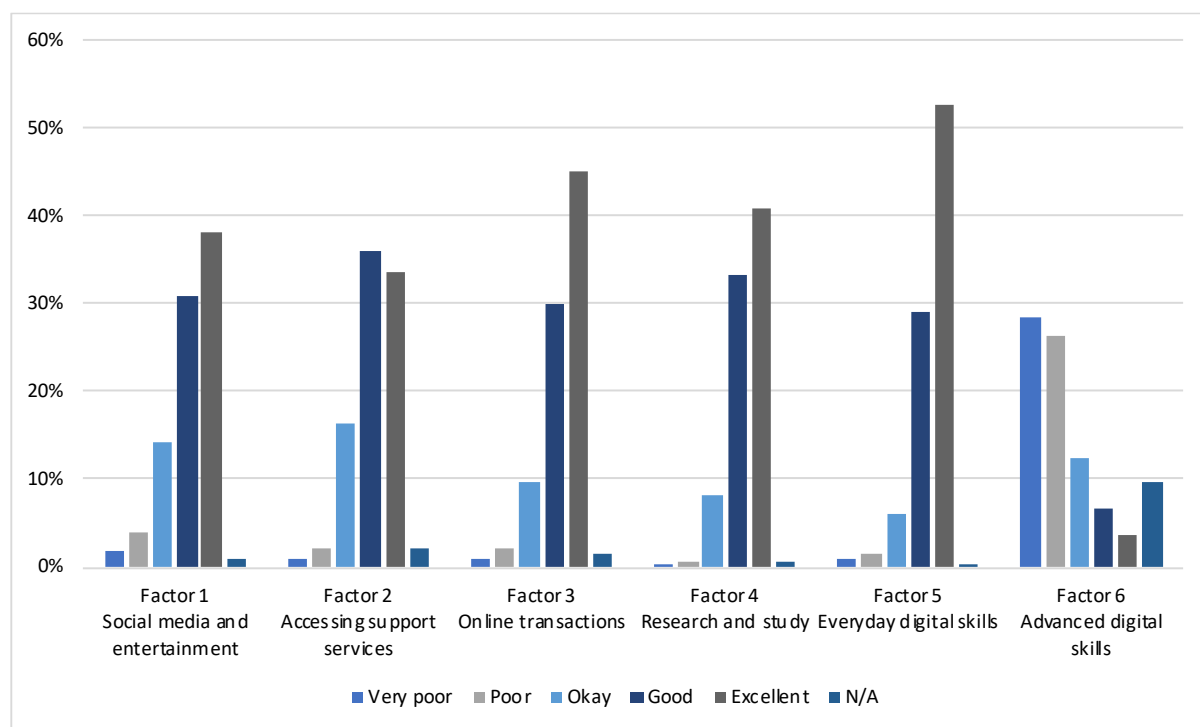
- Factor 1: Social media and entertainment
- Factor 2: Accessing support services
- Factor 3: Online transactions
- Factor 4: Research and study
- Factor 5: Everyday digital skills
- Factor 6: Advanced digital skills

Further analysis revealed that library staff respondents rated themselves as having predominantly good or excellent skills across the first five factors. The noticeable difference to this pattern is in Factor 6, *advanced digital skills* (e.g., creating computer programs and apps using coding, using basic computer programming languages). Most of the library staff respondents rated themselves as having very poor or poor skills (see Figure 38, and Appendix 2, Table 12 for frequency counts). Overall, the library staff respondents believed they had the digital capability to support the digital needs of their library users. However, there is room for further development of more advanced digital skills.

The factor scores from library staff digital skills were compared based on library region, and time in role. Significant differences were found between library staff with **different time in their role**. For Factor 6, *advanced digital skills*, staff who had been in their role for 11-20 years rated their capability lower (mean = -0.608) than staff who had been in their role for 0-1 year (mean = 0.490); and lower than staff who had been in the role for 2-5 years (mean = -0.185), Welch's $F(4, 24.866)=9.443$, $p<.0001$).

In summary, for staff who had been in their role for different lengths of time, newer staff members rated their capability more highly than those who had been in the role for more than 10 years on *advanced digital skills*. It appears that newer staff members are arriving in the role with more advanced digital skills. Based on these results, it is apparent that professional learning and development for library staff who have been in their role for more than 10 years may be required in advanced digital skills.

Figure 38. Library staff digital skills



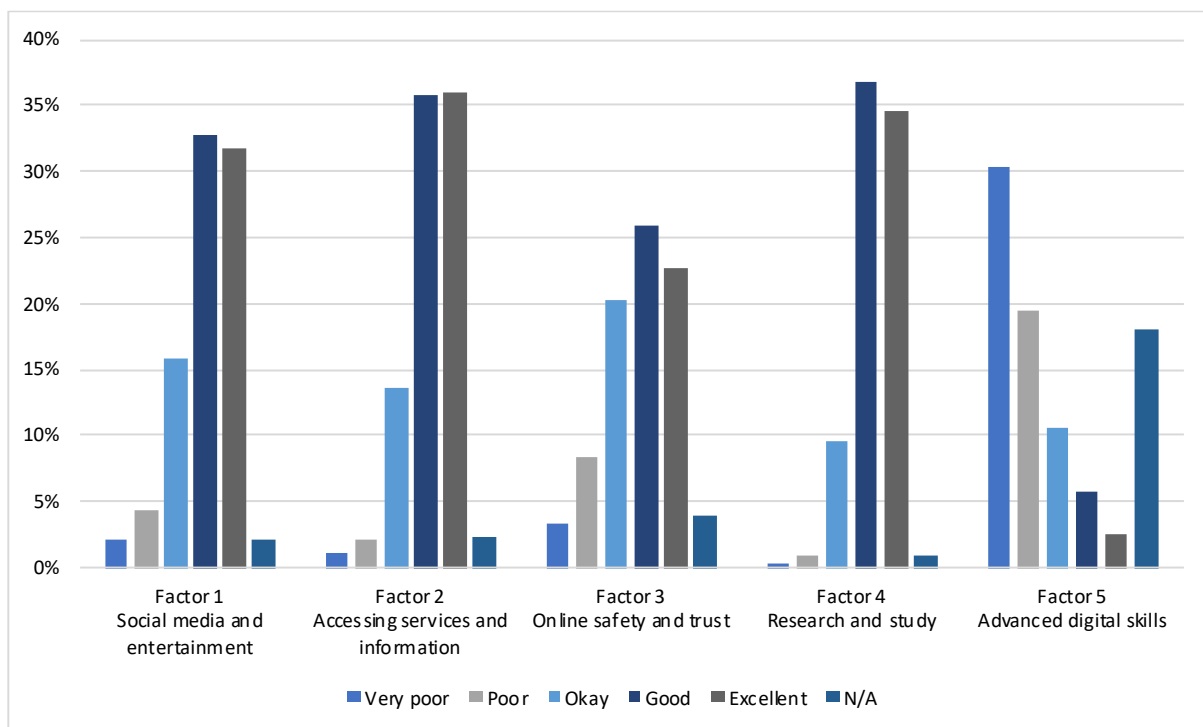
Library staff skills to support library users

Five factors were identified in the analysis of **library staff** responses to questions about their skills to support library users. These are ordered by percentage of variance explained by each factor. Further detail about the factor loadings is available in Appendix 4, Table 18. The factors are:

- Factor 1: Social media and entertainment
- Factor 2: Accessing services and information
- Factor 3: Online safety and trust
- Factor 4: Research and study
- Factor 5: Advanced digital skills

Further analysis showed that the majority of the library staff respondents had good or excellent skills to support library users for *social media and entertainment*, *accessing services and information*, and *research and study*. For *online safety and trust*, library staff respondents indicated that their skills were okay, good or excellent. The distinctive factor is *advanced digital skills* (e.g., using a 3D printer, using basic computer programming languages, and creating computer programs and apps using coding), where the majority of library staff indicated their skills were very poor or poor, and 18% indicated that they had no experience at all (see Figure 39, and Appendix 2, Table 13 for frequency counts).

Figure 39. Library staff skills to support library users



The factor scores from library staff digital skills to support library users were compared based on library region, and time in role. Significant differences were found between library staff with **different time in their role**. For Factor 5, *advanced digital skills*, staff who had been in their role for 11-20 years rated their capability lower (mean = -0.683) than staff who had been in their role for 0-1 year (mean = 0.259), and lower than staff who had been in their role 2-5 years (mean = 0.021), Welch's $F(4, 21.772)=6.407$, $p<.001$.

In summary, for staff who had been in their role for different lengths of time, newer staff members rated their capability more highly than those who had been in the role for more than 11-20 years on their skills to support library users' with *advanced digital skills*. It appears that newer staff members are arriving in the role with the capability to support users' advanced digital skills. As for the analysis above related to library staff digital skills, it is apparent that professional learning and development for library staff who have been in their role for more than 10 years may be required in advanced digital skills. Library staff need to develop their own advanced digital skills before they will be in a position to support library users with those same skills.

Frequency of library staff support for library users' digital needs

Five factors were identified in the analysis of **library staff** responses to questions about how often they support library users' digital needs. These are ordered by percentage of variance explained by each factor. Further detail about the factor loadings is available in Appendix 4, Table 19. The factors are:

- Factor 1: Information, social media and entertainment
- Factor 2: Everyday digital skills
- Factor 3: Online safety and trust
- Factor 4: Advanced digital skills
- Factor 5: Research and study

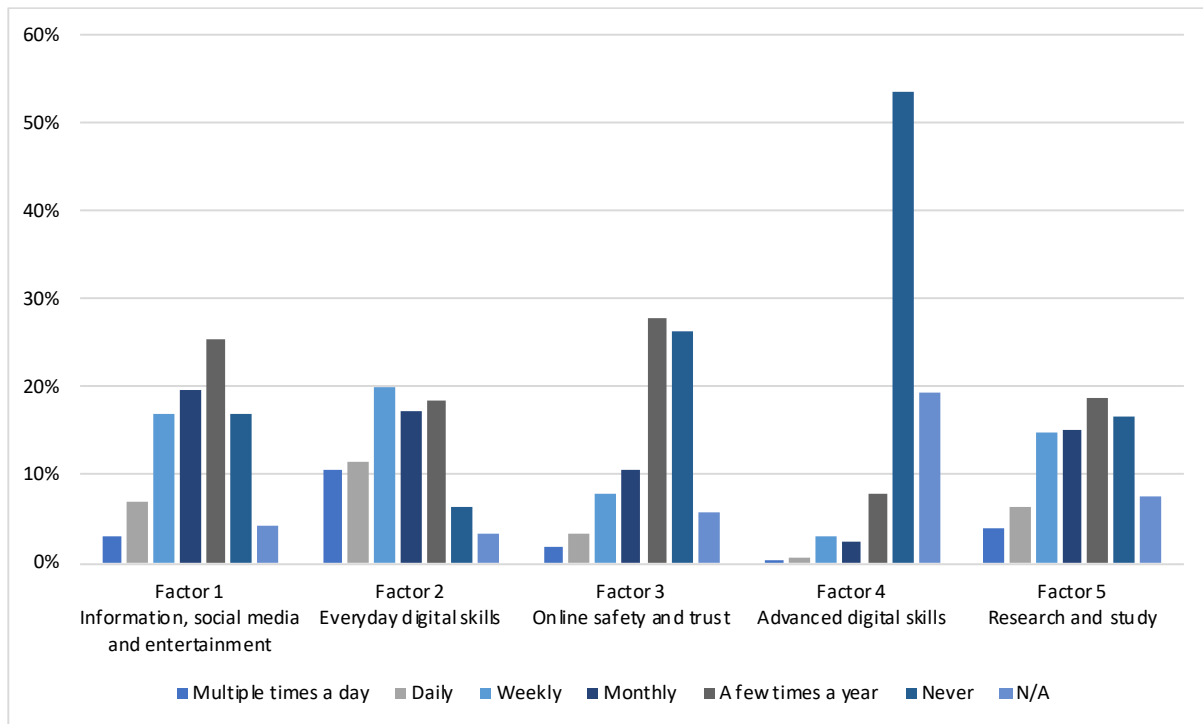
Further analysis highlighted that library staff were supporting library users more frequently with *information, social media and entertainment; everyday digital skills; and research and study*. Library

staff were supporting users less frequently with *online safety and trust* (e.g., using security software, identifying secure websites, identifying accurate and reliable information), and rarely providing support for *advanced digital skills* (see Figure 40, and Appendix 2, Table 14 for frequency counts).

The factor scores from library staff digital skills to support library users were compared based on library region, and time in role. Significant differences were found between library staff with **different time in their role**. For Factor 4, *advanced digital skills*, library staff who had been in their role for 11-20 years indicated they were supporting library users less often (mean = -0.482) than staff who had been in their role for 2-5 years (mean = 0.137), Welch's $F(4, 23.337)=3.933$, $p<.05$).

In summary, for library staff who had been in their role for different lengths of time, newer staff members were supporting library users with advanced digital skills more frequently than those who had been in the role for more than 11-20 years. It appears that newer staff members are not only arriving in the role with advanced digital capabilities, they are supporting library users' advanced digital skills more frequently than library staff who have been in their role for more than 10 years.

Figure 40. Frequency of library staff support for library users' digital needs



Digital specialist role in libraries

With the increasing requirement to provide digital skill support for library users, some libraries have introduced a digital specialist role. In the **library managers'** survey, 20 library managers (53%) indicated that their library had a specialist digital technologies role, whereas 18 (47%) indicated they did not. When responses were examined by library region, more than 50% of libraries in four of the six regions had a digital technology specialist (see Figure 41). The responses were equally distributed between libraries located in city and district council areas.

Figure 41. Digital technology specialist role by library region

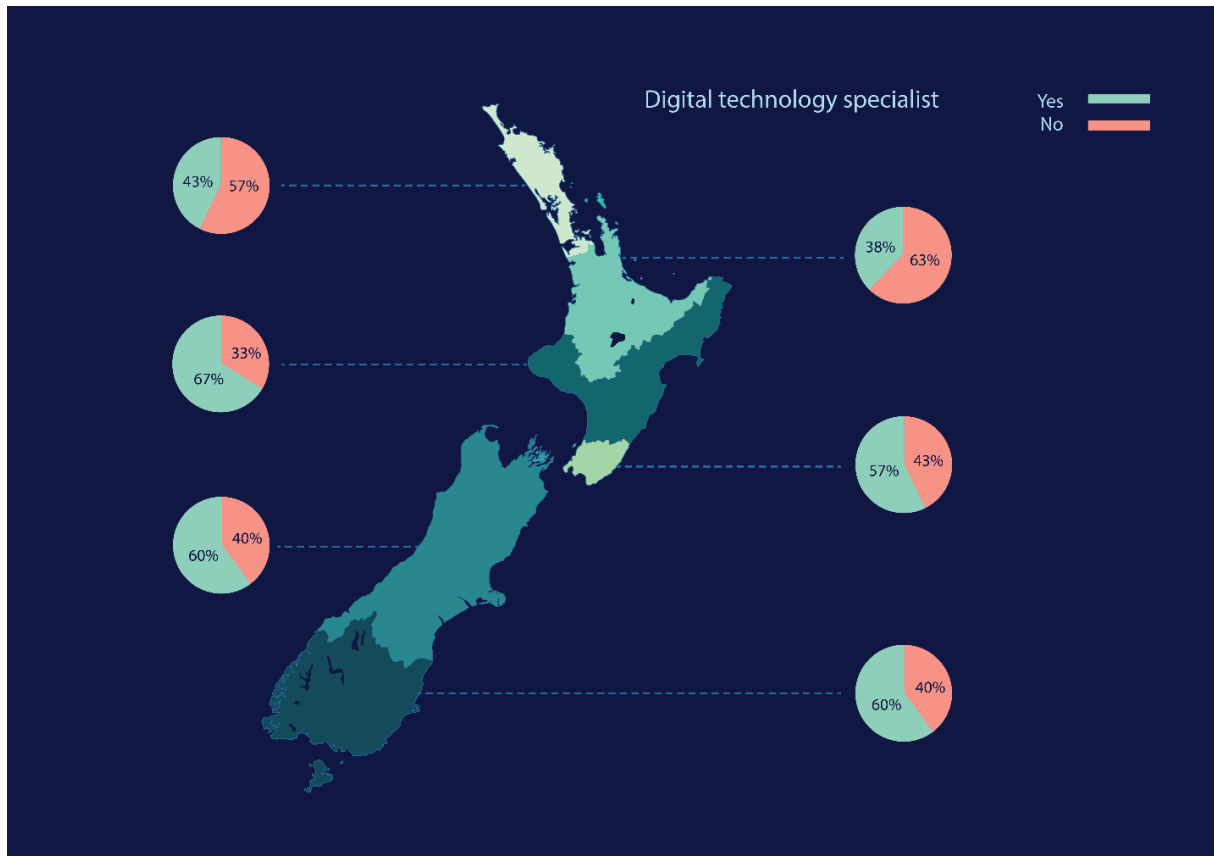
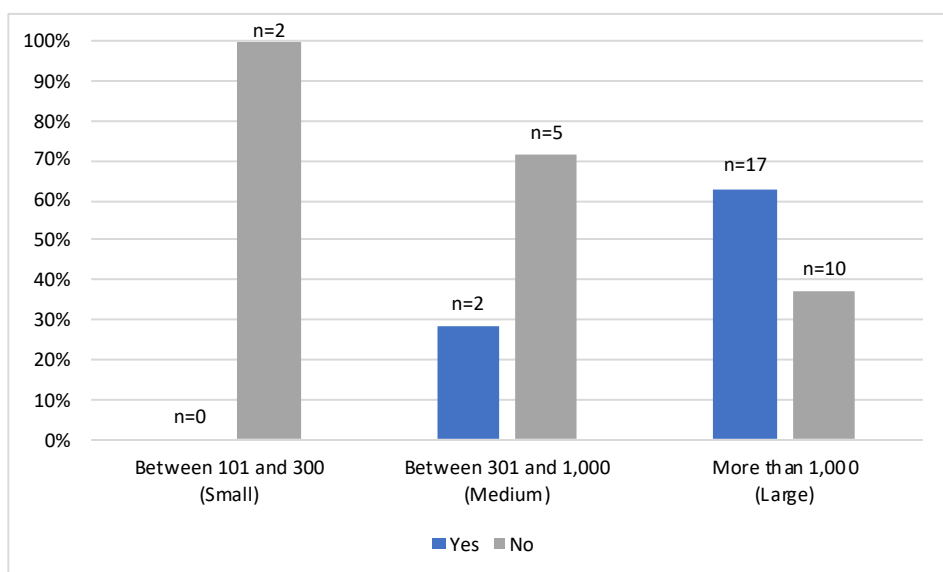


Figure 42 compares the number of community members who visit a library in a typical week with whether the library has a specialist digital technologies role. Results indicate that small libraries tended not to have a specialist role (0%, 0/2), just under one third of medium libraries (29%, 2/7) tended to have a specialist role, while about two thirds of large libraries (63%, 17/27) had a specialist role.

Figure 42. Digital specialist role by size of library



Of the 20 library managers who said there was a digital specialist role in their library, 65% (13/20) identified a customer and/or staff training and support dimension to the role. The following comments were indicative of the managers' perspectives:

Supporting staff and the public with digital training, equipment and space. (Manager 10)

Offer weekly group sessions for the general public to learn about any aspect of a device or software; one on one sessions up to 15 minutes; outreach digital services to smaller communities, inclusion of digital content in public programmes or events. (Manager 18)

In addition, 60% (12/20) of library managers reported that their library's digital specialist fulfilled a technical support role. For example:

Technology leader responsible for keeping on top of technology being used at the library (both to run the library and for our patrons). (Manager 42)

We have a team of technology specialists (five in total, one of which is the team manager) who are responsible for the development, delivery, support and maintenance of all library-specific digital solutions (hardware and software). They are also responsible for identifying and experimenting with emerging developments in technology, which might add value to our service. (Manager 43)

Where libraries did not have a digital specialist role, this was often due to lack of staffing resources:

Insufficient staff to have a specialist role. (Manager 3)

Partnerships to provide digital technology services

The majority of **library managers** (89%, 34/38) indicated that their library had an established partnership with a digital technology organisation or provider. Three quarters (76%, 25/33) indicated that their library had a relationship with Aotearoa People's Network Kaharoa (APNK) (who provide free access to broadband internet and computing equipment within the public library network); 73% (24/33) had a partnership with the Spark Foundation to offer Spark Jump – now Skinny Jump (a low cost pre-pay internet service for families with children under the age of 18); 70% (23/33) provided access to the Stepping Up digital literacy programme offered in partnership with the Digital Inclusion Alliance Aotearoa; and 21% (7/33) had partnerships with local organisations (e.g. a regional digital hub) or schools, focused on digital technology access or services.

Comments from library users suggested that they valued these partnerships:

I belong to a retired person's group and am aware and concerned at the lack of technical knowledge within the members. ... Our library has held courses about mobile phones and other digital devices which were extremely popular, so I believe there is a need for continual education for our older citizens. (User 164)

Professional learning and development

The library managers' and library staff surveys included several questions related to different aspects of digital skills professional learning and development (PLD). These included managers' PLD and their perceptions of its effectiveness, library managers' understandings of PLD opportunities for library staff, library staff experiences of PLD, and library staff future PLD needs.

In an open-ended survey question, **library managers** were asked about their engagement in professional learning and development (PLD) opportunities to develop their digital skills in the past twelve months. The majority, 57% (16/28), had undertaken self-directed, informal training. A further 29% (8/28) had participated in informal online training. Only 14% (4/28) had attended a formal, external PLD opportunity. The following quotes are indicative of comments made by library managers:

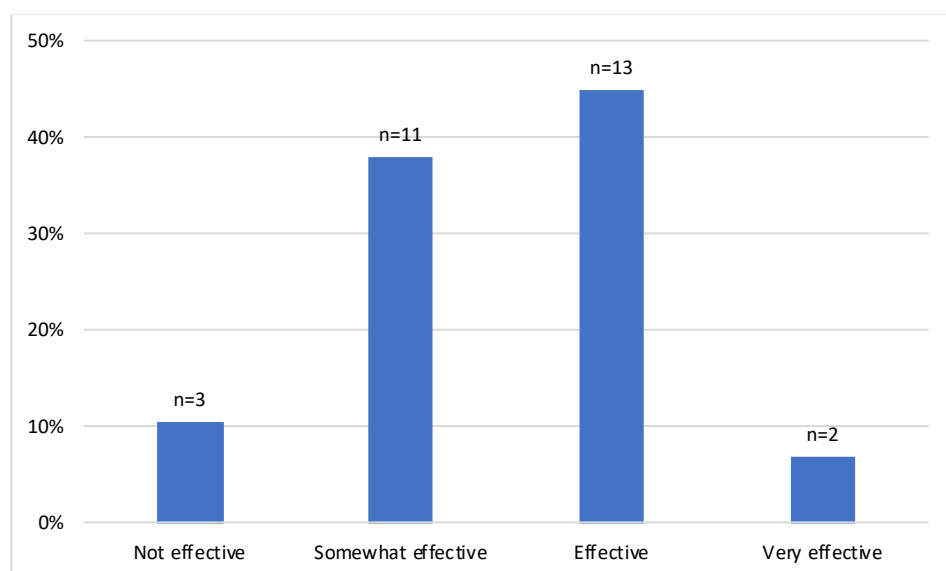
Mostly self-paced self-taught. Centres around the needs of what I am doing. e.g. at present been organising a lot of cloud computing / cloud storage training for my team – so I had to go and learn some of this myself first. (Manager 16)

Google drive training. (Manager 44)

Attended sessions provided by APNK and SirsiDynix. (Manager 34)

Library managers were then asked about the effectiveness of their PLD. Results indicate that over half (52%, 15/29) felt that their PLD was effective or very effective (see Figure 43).

Figure 43. Library managers' perceptions of effectiveness of their PLD



The library managers were also asked about the PLD opportunities associated with digital competencies for staff in their libraries. Of those who responded, 47% (15/32) indicated that there were external PLD opportunities available for their staff members, and 44% (14/32) indicated that in-house opportunities were available. Only 6% (2/32) of the library managers stated that the

training opportunities for staff were adequate, while 34% (11/32) felt that there were inadequate PLD opportunities. As library managers noted:

Our council support training opportunities, so any training the team need to develop their digital skills is supported and organised on an as needed basis. (Manager 42)

Our Technology team provide a robust, evidence-based and measurable Learning Framework, for people leaders throughout our full Libraries team to use together with their staff. (Manager 43)

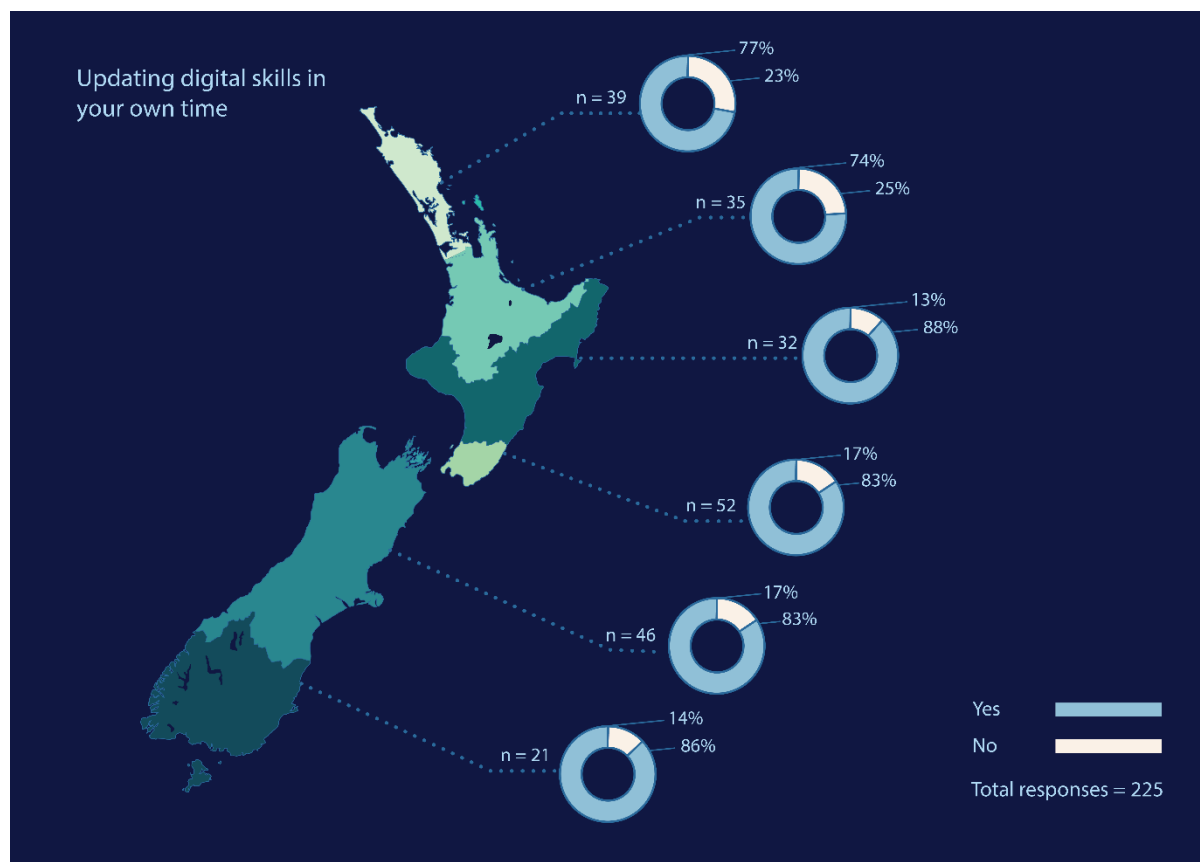
Not a lot available - mostly staff upskill themselves by working with users and by using digital technologies in their personal lives. (Manager 6)

Furthermore, 58% (11/19) of library managers would like their staff to receive more digital skills training:

More enhanced training on digital trends. More and more services are offered online, and we barely keep up with the different systems and how they are navigated around. (Manager 15)

Library staff were also given the opportunity to comment on their experiences of professional learning and development related to digital skills. Responses showed that 81% (183/225) of the library staff updated their digital skills in their own time. A regional breakdown shows that this is a consistent pattern across the country (see Figure 44).

Figure 44. Library staff responses on updating digital skills in own time by region



This informal PLD typically involved experimentation with their own devices, looking at the internet, and talking to colleagues:

I love technology and play with technology at home I also buy myself lots of technology too like 3-D printers, Raspberry Pi, Sphero, iPad, iPhone, Android phone and tablet Phablet, windows tablet, Chromebook and are constantly doing online courses, and generally just having a look at what's out there on the internet. I try new things like Pinterest, Spotify, Instagram, coding websites, games and more, I try out lots of apps, have my grandkids keep me on my toes too. (Staff 74)

Time spend looking in journals, on the internet and chatting to colleagues. Often in staff meetings someone will share what they have learnt or being exploring with others. (Staff 104)

About a third (35%, 65/184) of library staff respondents indicated that they had attended formal PLD sessions (e.g. conferences, workshops or training sessions run by an expert) related to digital devices, applications or services in the past 12 months. For those who had undertaken professional learning and development, it covered a range of areas from 3D printer training, to eBooks and audio book platforms, to LIANZA weekend school (including topics on creative commons, future libraries), through to social media.

Those who had not attended PLD in the past 12 months (65%, 119/184) indicated that there were limited opportunities available in their area. Some felt that they did not need PLD related to digital technologies. Others indicated that there was a lack of resources (funding, time, staffing) to enable their attendance.

Library staff were subsequently asked what PLD they would like to receive in the future. Of the 131 responses, 20% (26/131) wanted training on new applications and devices, 14% (18/131) said they required no additional PLD, 12% (16/131) wanted anything related to digital PLD, 12% (16/131) wanted PLD related to coding, and 10% (13/131) wanted PLD associated with specific digital services offered by their library. As their comments indicated:

Training by Microsoft, Apple and Android on how to use their resources, as it is through these resources that most other digital activities take place. (Staff 23, new apps and devices)

It would be good to have regular professional development on new skills and trends we need in order to provide up to date services to our customers and to feel more confident with this. (Staff 47, new apps and devices)

What I receive each year in my specialist area is excellent. I don't seek anything more. (Staff 30, nothing)

I am very open to any professional development in this area, I really enjoy this aspect of my job and would love to be more skilled. (Staff 128, anything)

I would like to learn more about coding and 3D printing. (Staff 114, coding)

Keeping up to date with digital services that we offer in the library, being aware of changes. (Staff 48, library digital services)

Conclusions

Effective participation in life, work and society involves one's ability to navigate the digital realm and to productively use digital technologies. UNESCO (2017) highlights that the development of equitable and high-quality digital skills requires holistic approaches, that include policy, implementation, funding, and partnerships. Understanding the role that Aotearoa New Zealand libraries may play within this scenario is crucial, so that effective strategies may be devised to address issues associated with technology access, digital skills and competencies, digital agency and so on.

This research was informed by the digital inclusion framework as outlined by InternetNZ (2018). The conclusions from the three surveys are presented using the four overarching categories of access, motivation, capability, and trust.

Access

Approximately half of the library managers indicated that their council had a digital strategy, and one third had a library digital strategy. All managers indicated that their library had wireless internet access, but only half had ultrafast broadband. Most libraries had internet-connected desktop computers available for library users, and more than half provided dedicated spaces where users could use their own digital devices. Just over half indicated that their library had a specialist digital technologies role.

Half of the library managers rated their library as effective to very effective at meeting the digital needs of their library users. Libraries were effective at meeting the digital needs of the elderly, children and young people, and users from low socioeconomic communities. However, there was room for improvement in meeting the digital needs of those who were blind or had low vision, the deaf and hard of hearing, and those with physical impairments and complex needs.

Main enablers that supported the digital needs of library users were partnerships or support from external partners, up-to-date digital equipment or sufficient equipment capacity, appropriate staff digital expertise, and staff capacity. The main barriers were limited staff knowledge, lack of staff time, lack of funding, lack of physical resources, and lack of staff capacity.

Motivation

Most library staff were motivated to support the digital needs of library users. In most cases, library staff indicated that they had the digital knowledge to provide the support needed, they recognised the importance of digital technologies, they felt confident when using digital technologies, and were interested in doing so. Most library users were motivated to undertake common digital activities, but less so with creating content (e.g., videos, photos, writing). Users were also generally confident to keep themselves safe online.

Capability and trust

When it came to foundational digital skills, most library users saw themselves as capable. However, the majority of library staff indicated that assisting library users with foundational digital tasks was a regular part of their role. These results suggest that the library user respondents were more capable than the users that library staff regularly assist. In other words, users who have greater digital capability and/ or trust needs may not have completed the survey.

Library user respondents rated themselves highly in the areas of everyday transactional, leisure, service, and information digital skills. A minority had experience with advanced digital skills such as using a 3D printer, using basic computer coding languages, and creating computer programs and apps using coding. Library users were generally confident to use the internet safely across a range of

measures but were less confident about reducing personal information being collected and reused by organisations. Younger library users rated their capability to use digital technologies more highly than older users, and students rated their digital capability more highly than retired people in most areas.

Library staff rated themselves as capable digital technology users. They rated their capability as high regarding everyday transactional, leisure, service, and information digital skills. The majority of library staff also rated their skills to support library users in using technology as high. Library staff were supporting library users regularly with these digital skills. However, many library staff members indicated they lacked advanced digital skills (i.e. using a 3D printer, using basic computer coding languages, and creating computer programs and apps using coding), most rated their ability to support library users' advanced digital skills as poor, and therefore rarely provided support in this area.

Library staff members who had advanced digital skills, the skills to support library users' advanced digital needs, and were supporting users more frequently, tended to be new in their role. It appears that newer staff members were not only arriving in the role with advanced digital capabilities, they were supporting library users' advanced digital skills more frequently than library staff who had been in their role for longer.

Professional learning and development

The majority of library managers had undertaken self-directed, informal professional learning and development regarding digital technologies. A minority had attended a formal, external PLD opportunity. Over half felt that their PLD was effective or very effective.

Approximately half of library managers indicated there were in-house or external PLD opportunities associated with digital competencies for staff in their libraries. Very few reported that PLD opportunities for staff were adequate. In comparison, most library staff updated their digital skills in their own time. This informal PLD typically involved experimentation with their own devices, looking at the internet, and talking to colleagues. About a third of library staff respondents indicated that they had attended formal PLD sessions. Two thirds indicated that there were limited PLD opportunities available in their area. Some felt that they did not need PLD related to digital technologies. Others indicated that there was a lack of resources (funding, time, staffing) to enable their attendance. Library staff members indicated that they were interested in any digital-related PLD opportunities that might be available.

Recommendations

These findings indicate that public libraries are already effectively meeting the needs of many of their library users. The recommendations below identify areas where public libraries and library staff can further develop capacity and capability to meet the future digital needs of their users and communities. The recent \$58.8 million government funding boost to support libraries (Martin, 2020) may help to support these recommendations.

Libraries

- Prioritise the development of a digital strategy for those public libraries where a strategy does not currently exist and link it to the council digital strategy.
- Promote further development of partnerships with external partners (e.g. APNK Network, Spark Jump (now Skinny Jump), Stepping Up Programme) that support digital inclusion.
- Invest in professional learning and development to address identified barriers that hinder the digital needs of library users including lack of staff knowledge, time and capacity, funding, and physical resources (e.g. space, equipment).

- Prioritise the creation of digital specialist roles in libraries.
- Provide additional expertise and support for specialist groups of library users, including those who are blind or have low vision, the deaf and hard of hearing, and those with physical impairments and complex needs.

Library staff

- Have the amount of time staff currently dedicate to supporting library users' digital skills (including foundational skills) recognised as an important part of their workload.
- Include ongoing PLD requirements as part of library staff roles.
- Prioritise and fund a systematic approach to PLD so that all staff can develop their digital capabilities to support the ongoing digital needs of users.
- Provide advanced digital professional learning and development opportunities to staff who have pre-existing digital capability and interest, thereby enabling them to support library users seeking to develop these skills.
- Provide targeted support to develop library users' online safety capabilities.

Library users

- Provide support for library users who lack basic foundational digital skills.
- Provide support to upskill library users' online safety knowledge and skills.
- Offer support to library users seeking to develop advanced digital skills.

Limitations

As with all research, there are limitations associated with this project. Primary among them is the relatively low response rate from library users and that most responses came from the upper South Island. Therefore, findings cannot be considered representative of public libraries in general in New Zealand. In addition, most users who responded to the survey indicated they saw themselves as reasonably effective users of digital technologies, at least at the foundational level. The views of those who are considered digitally marginalised are harder to capture, and as such were less evident in the survey results. While a paper-based alternative to the online survey option was provided to libraries who requested them, the length and digital literacy required to complete the survey is likely to have been a barrier to some. The research team also acknowledges that is unlikely to have been a priority for many library users.

Future Research

This report primarily focused on the quantitative findings from the three surveys. Responses to open-ended survey questions were used as illustrative quotes where appropriate in the report. More detailed analysis of all open-ended data is planned. The findings reported here will also be used to identify relevant areas for a further phase of research involving case studies and focus groups.

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Appendices

Appendix 1. Surveys

Library Managers' Survey

The Library as a Space for Digital Inclusion: Survey for Library Managers

Public libraries in New Zealand have an important role to play in the promotion of digital inclusion, especially for people with restricted access to networked technologies, or those lacking skills and knowledge about the digital world. Digital inclusion occurs when people are able to “participate in, contribute to, and benefit from the digital world” (Dept of Internal Affairs, 2019).

We are a group of researchers from the Massey University [Centre for Equity through Education](#). We are working in partnership with [PLNZ](#) to research the role of public libraries in ensuring that everyone in New Zealand has access, opportunities and skills to use digital technologies. The research is supported by [LIANZA](#) and is funded by [InternetNZ](#). Further information about the project can be found in the following [blog post](#).

The goal of this national survey is to find out about the resources and services that libraries provide that enable New Zealanders to access and use digital technologies.

Confidentiality: All of your responses will remain confidential. The data from the survey will be combined together and reported to InternetNZ. The findings will be shared with Public Libraries New Zealand to provide an evidence-based approach to support their strategic planning.

Completing this survey: This survey should take about 20-25 minutes to complete. Completing the survey implies your consent to participate in the research. You may decline to answer any particular question simply by leaving it blank. If you wish to save your responses, please close the browser window. **Click on the survey link from the same computer or device to go back into the survey to continue your responses.**

Research team: This research is being conducted by Dr Maggie Hartnett, Associate Professor Mandia Mentis, Associate Professor Alison Kearney, Dr Lucila Carvalho, and Dr Philippa Butler.

Queries: If you have any questions about the research or about this survey, please contact Maggie Hartnett, at m.hartnett@massey.ac.nz.

THANK YOU FOR TAKING THE TIME TO RESPOND TO THIS SURVEY

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named in this document are responsible for the ethical conduct of this research. If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Professor Craig Johnson, Director (Research Ethics), email humanethics@massey.ac.nz.

The Library as a Space for Digital Inclusion: Survey for Library Managers

Please complete this survey in relation to the library that you manage. If you manage multiple branches of the same library, please use the 'other' option where available to describe the variety of your digital offering. Please also use the final question in the survey ('any other comments') for anything you have not be able to describe elsewhere.

1. In which library region is your library located?

- | | |
|---|--|
| <input type="radio"/> Auckland/Northland | <input type="radio"/> Wellington/Kāpiti/Wairarapa Upper South Island |
| <input type="radio"/> Waikato/Bay of Plenty | <input type="radio"/> Lower South Island |
| <input type="radio"/> Central North Island | |

2. What is the name of the council where your library is located?

3. What is your role in this library?

4. How long have you been in this role?

- | | |
|----------------------------------|--|
| <input type="radio"/> 0-1 year | <input type="radio"/> 11-20 years |
| <input type="radio"/> 2-5 years | <input type="radio"/> More than 20 years |
| <input type="radio"/> 6-10 years | |

5. How many staff of each category work in your library?

Librarians (please indicate how many)

Library Assistants (please indicate how many)

Volunteers (please indicate how many)

Specialists (please indicate how many)

Other (please specify and indicate how many)

6. How many members of the community visit your library in a typical week?

- ☐ Fewer than 100
- ☐ Between 100 and 300
- ☐ Between 301 and 1000
- ☐ More than 1000
- ☐ Unsure/don't know

7. Please rate the level of support you receive from your council in relation to meeting the digital technology needs of your community

No support Poor support Okay support Good support Excellent support

Please elaborate:

8. Does your council have a digital strategy?

☐ Yes ☐ No ☐ Don't know

9. Did you or someone from your library have input into the council digital strategy?

☐ Yes ☐ No

If yes, please describe the nature of this input:

10. What does the council digital strategy cover?

11. How effective is the council digital strategy in meeting the digital needs of your community?

Not effective Somewhat effective Effective Very effective

12. Does your library have a digital strategy?

☐ Yes ☐ No ☐ Don't know

13. Who had input into the library digital strategy?

14. What does the library digital strategy cover?

15. Is there reference to providing digital access to marginalised or disadvantaged community members?

☐ Yes ☐ No

16. How effective is the library digital strategy in meeting the digital needs of your library users?

Not effective Somewhat effective Effective Very effective

In this survey, the term **digital device** refers to equipment such as a computer, smartphone, laptop, or tablet. **Digital application** refers to a software program or an app. **Digital service** refers to information, support or resources that you can access or use online.

17. What type of internet access is available to library users at your library?

- ☐ ADSL/VDSL Broadband
- ☐ Satellite or Wireless (e.g. rural areas)
- ☐ Ultrafast fibre (UFB)
- ☐ Rural Broadband (RBI)
- ☐ Don't know
- ☐ Other (please specify)

18. Which of the following resources and devices are available in your library for public use?
(Please tick as many as apply)

- ☐ Wireless internet access
- ☐ In-library laptops/notebooks
- ☐ Internet connected desktop computers
- ☐ Tablets (e.g. iPad etc.)
- ☐ eBook readers (e.g. Kindle etc.)
- ☐ Dedicated charging stations (for mobile devices)
- ☐ The ability to project sound and visuals for a group (such as a data projector or TV screen) Interactive AV display (interactive whiteboard or interactive screen)
- ☐ Other (please specify)

19. What digital applications and services are available in your library for public use?

20. Is there a specialist role in your library in the area of digital technology?

☐ Yes ☐ No

If yes, please provide a short explanation of this role. If no, do you think there should be a specialist role, and what should this involve?

21. Does your library have any partnerships or sponsorships with organisations, schools etc. in relation to digital devices, applications and services (e.g. Stepping Up, Spark Jump, Code Club Aotearoa, Aotearoa People's Network Kaharoa (APNK), Digital Inclusion Alliance Aotearoa, etc.)

☐ Yes ☐ No ☐ Don't know

If yes, please specify:

22. How effective is your library at meeting the digital needs of your library users?

Not effective Somewhat effective Effective Very effective

23. How effective is your library at supporting the digital needs of the following users?

	Not effective	Somewhat effective	Effective	Very effective
Elderly				
Blind and Low Vision				
Deaf and hard of hearing				
Physically impaired or complex needs				
Children and young people				
People from low socio-economic backgrounds				
Māori				
Pacific Peoples				
Refugees				
Speakers of English as a second language				
Other (please specify)				

24. Does your library have dedicated space(s) to which users can bring their own digital devices?

☐ Yes ☐ No

25. How effective are the digitally equipped spaces in your library at meeting the needs of

your library users?

Not effective

Somewhat effective

Effective

Very effective

26. What are the 3 main barriers to your library supporting the digital needs of library users?

1.

2.

3

27. What are the 3 main enablers to your library supporting the digital needs of library users?

1.

2.

3.

28. What professional learning and development is available to library staff to develop their digital skills?

29. How effective is the professional learning and development for library staff?

Not effective

Somewhat effective

Effective

Very effective

30. What other professional learning and development would you like your library staff to receive?

31. What professional learning and development opportunities have you engaged in to develop your digital skills in the past 12 months?

32. How effective was this professional learning and development?

Not effective

Somewhat effective

Effective

Very effective

33. What professional learning and development does your library provide for library users to develop their digital skills?

34. What other things does your library plan to offer to develop the digital skills of your library users?

35. How important do you think it is for public libraries to support people to access and use digital technologies?

Not important Somewhat important Important Very important

36. What role do you think public libraries currently play in overcoming inequitable access to digital technologies in New Zealand?

No role A somewhat important role An important role A very important role

37. Overall, how effective are public libraries at supporting the digital needs of library users?

Not effective Somewhat effective Effective Very effective

38. Are there any other comments you would like to make about the role of libraries in providing for the digital needs of users?

39. FURTHER RESEARCH ON LIBRARIES AND DIGITAL INCLUSION

In addition to this survey and a survey for library staff, we plan to run a library users survey to find out about users' digital inclusion needs and the roles libraries play in supporting those needs. To do this we need your help.

If you are willing to help with the next phase of this research, by making the users survey available in your library, please enter your name and contact details below. This information will not be linked to your response to this survey, so your feedback about your library's digital activities will remain confidential.

Name:

Current email:

Current phone:

40. Do you have any suggestions about how we could get a good response rate from library users who use public libraries in New Zealand?

THANK YOU FOR TAKING THE TIME TO RESPOND TO THIS SURVEY

If you have any questions about this research, please contact Maggie Hartnett,
m.hartnett@massey.ac.nz.

Library Staff Survey

The Library as a Space for Digital Inclusion: Survey for Library Staff

Public libraries in New Zealand have an important role to play in the promotion of digital inclusion, especially for people with restricted access to networked technologies, or those lacking skills and knowledge about the digital world. Digital inclusion occurs when people are able to “participate in, contribute to, and benefit from the digital world” (Dept of Internal Affairs, 2019).

We are a group of researchers from the Massey University [Centre for Equity through Education](#).

We are working in partnership with [PLNZ](#) to research the role of public libraries in ensuring that everyone in New Zealand has access, opportunities and skills to use digital technologies. The research is supported by [LIANZA](#) and is funded by [InternetNZ](#). Further information about the project can be found in the following [blog post](#).

The goal of this national survey is to find out how library staff promote digital inclusion. You will be asked about the types of digital activities you help library users with.

Confidentiality: You will not be asked for your name in this survey. All of your responses will be completely anonymous. The data from the survey will be combined together and reported to InternetNZ. The findings will be shared with Public Libraries New Zealand to provide an evidence-based approach to support their strategic planning.

Completing this survey: This survey should take about 20 minutes to complete. Completing the survey implies your consent to participate in the research. You may decline to answer any particular question simply by leaving it blank.

The survey has been set so that more than one person can make a response from the same computer. That means **you won't be able to re-enter the survey once you have exited it, so please make sure you finish all your answers in one session.**

Research team: This research is being conducted by Dr Maggie Hartnett, Associate Professor Mandia Mentis, Associate Professor Alison Kearney, Dr Lucila Carvalho, and Dr Philippa Butler.

Queries: If you have any questions about the research or about this survey, please contact Maggie Hartnett, at m.hartnett@massey.ac.nz.

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The Library as a Space for Digital Inclusion: Survey for Library Staff

1. Which library region do you work in?

- ☐ Auckland/Northland
- ☐ Waikato/Bay of Plenty
- ☐ Central North Island
- ☐ Wellington/Kāpiti/Wairarapa Upper South Island
- ☐ Lower South Island

2. What is the name of the council where your library is located?

3. What is your role?

- ☐ Librarian
- ☐ Library Assistant
- ☐ Specialist (please specify below)
- ☐ Other (please specify below)

Please specify role:

4. How long have you been in this role?

- ☐ 0-1 year
- ☐ 2-5 years
- ☐ 6-10 years
- ☐ 11-20 years
- ☐ More than 20 years

5. How are you employed at your library?

- ☐ Full time ☐ Part-time ☐ Voluntary

Other (please specify)

6. Digital foundation skills underpin all essential digital skills. For each activity below, please consider how often you help library users with the activity in a typical month

	Multiple times a day	Daily	Weekly	Monthly	Never	N/A
Turning on a device and entering account information as required						
Using a mouse and keyboard on a computer						
Using a touch screen on a smart phone or tablet						
Using settings or menus to change device display to make content easier to read						
Connecting a device to the internet using the Wi- Fi settings						
Locating the browser icon on a device						
Finding a website						

In this survey, the term **digital device** refers to equipment such as a smartphone, laptop, or tablet. **Digital application** refers to a software program or an app. **Digital service** refers to information, support or resources that you can access or use online.

7. For each activity below, please consider:

- your current knowledge of the activity,
- how important it is for you to know about the activity, and
- how interested you are in the activity

	a) Knowledge	b) Importance	c) Interest
Using digital devices, applications, and services			
Experimenting with new digital devices, applications, and services			
Developing your digital skills			
Learning about new or unfamiliar digital devices, applications, and services			
Supporting library users to learn about digital devices, applications, and services			

8. If you are asked a question about digital devices, applications, or services that you don't know how to answer, how confident do you feel to find the answer?

Not confident

Somewhat confident

Confident

Very confident

9. If you are asked a question about digital devices, applications, or services that you don't know how to answer, what would you do?

10. Do you keep your digital skills up to date in your own time?

☐ Yes

☐ No

11. For each activity below, please consider:

(a) your skills in the activity,

(b) your skills to help library users in the activity, and

(c) how often you help library users with the activity in a typical month

	Your skills to help	Skills to help library users	How often
Using a search engine to look for information			
Bookmarking useful websites and services			
Accessing new sources of entertainment and games			
Looking for news online (local, national, international)			
Looking for travel information online			
Looking for jobs or work online			
Looking for health information			
Accessing central government services (e.g. Work & Income, IRD, hospitals, Internal Affairs, ACC, etc.)			
Accessing local government services (e.g., your local or regional council, water provider, etc)			
Accessing support groups (e.g. environmental, political, gender, mental health, disability, aged)			
Accessing a cloud storage account (e.g. Apple iCloud, Google drive)			

12. For each activity below, please consider:

- (a) your skills in the activity,
- (b) your skills to help library users in the activity, and
- (c) how often you help library users with the activity in a typical month

	Your skills to help	Skills to help library users	How often
Using email			
Sending instant messages/chat			
Making or receiving video calls over the internet (e.g. Skype, Facetime)			
Using social media (e.g., Facebook, Twitter, Instagram, Snapchat, YouTube, etc.)			
Re-posting or sharing links (e.g. via email, text, social media)			
Communicating with organisations about their products and services			

13. For each activity below, please consider:

- (a) your skills in the activity,
- (b) your skills to help library users in the activity, and
- (c) how often you help library users with the activity in a typical month

	Your skills to help	Skills to help library users	How often
Setting up an online account (e.g. email, e-government, social media, etc.)			
Buying or selling things via online auction sites (e.g. TradeMe, eBay)			
Buying products and services online (e.g. Amazon, MightyApe, online clothing stores, online pharmacies, etc.)			
Making travel reservations/bookings online			
Paying bills online or using internet banking			
Buying or installing apps on a device			

14. For each activity below, please consider:

- (a) your skills in the activity,
- (b) your skills to help library users in the activity, and
- (c) how often you help library users with the activity in a typical month

	Your skills to help	Skills to help library users	How often
Using word processing software			
Printing, copying or scanning a document			
Completing online application forms			
Using basic computer coding languages			
Creating content (e.g. videos, photos, writing)			
Creating something new from existing online images, music or video			
Creating a CV or submitting a job application			
Creating computer programs and apps using coding			
Using a 3D printer			

15. For each activity below, please consider:

- (a) your skills in the activity,
- (b) your skills to help library users in the activity, and
- (c) how often you help library users with the activity in a typical month

	Your skills to help	Skills to help library users	How often
Accessing online support services			
Using a personal digital device (e.g. smartphone or tablet)			
Setting up a brand new personal digital device from scratch			
Accessing assistive technologies (e.g. speech to text, changing font size and type, screen magnification, speech notifications)			
Solving a problem with a device or digital service (e.g. providing technical support)			
Downloading or streaming music, podcasts or video (e.g. YouTube, Spotify)			
Using dating sites and apps			

16. For each activity below, please consider:

- (a) your skills in the activity,
- (b) your skills to help library users in the activity, and
- (c) how often you help library users with the activity in a typical month

	Your skills to help	Skills to help library users	How often
Finding information for school, work or study			
Researching a given topic			
Finding out about courses or schools in the area			
Engaging with social issues online (e.g. environmental, political, gender, mental health, disability, aged)			
Accessing online learning for interest, study or job training			

17. For each activity below, please consider:

- (a) your skills in the activity,
- (b) your skills to help library users in the activity, and
- (c) how often you help library users with the activity in a typical month

	Your skills to help	Skills to help library users	How often
Using online authentication to verify your identity (e.g. RealMe, email accounts, other online accounts)			
Applying privacy settings to protect personal information (e.g. Facebook, Instagram, websites)			
Activating pop-up blockers to reduce the threats from malicious sites			
Creating secure passwords			
Using security software (e.g. antivirus, antimalware, antispyware etc.) to prevent threats to devices and personal information			
Identifying secure websites (e.g. padlock and https in address)			
Identifying accurate and reliable online information and resources			
Understanding digital rights management (e.g. copyright, intellectual property, creative commons etc.)			

18. Are there any other digital devices, applications, or services that library users request help within your library?

☐ Yes ☐ No

If yes, please specify:

19. Are there any digital devices, applications, or services that library users want that are unavailable in your library?

☐ Yes ☐ No

If yes, please specify:

20. Over a typical week, how many library users do you help to use digital devices, applications, or services?

- ☐ No users
- ☐ 1-5 users
- ☐ 6-10 users
- ☐ 11-20 users
- ☐ 21-50 users
- ☐ 51-100 users
- ☐ 101-200 users
- ☐ 201-300 users
- ☐ 301 users or more

21. Approximately what percentage of your typical working week is spent helping library users with digital devices, applications, or services? (sliding scale)

0%

50%

100%

22. How do you keep yourself up-to-date with emerging digital devices, applications, and services?

23. In the last 12 months, have you attended professional learning and development related to digital devices, applications, or services (conferences, workshops or training sessions run by an expert)?

☐ Yes ☐ No

24. If yes, what topics have been covered by this professional learning and development?

25. If no, why not?

26. Has any of the professional learning and development you have undertaken in the last 12 months been self-funded?

☐ Yes ☐ No

If yes, please describe this professional learning and development and why you paid for this yourself:

27. What professional learning and development would you like to receive?

28. What factors make it easy to attend professional learning and development opportunities when they are offered?

29. What factors make it difficult to attend professional learning and development opportunities when they are offered?

30. Are there any other comments you would like to make about the digital support your library provides for users?

THANK YOU FOR TAKING THE TIME TO RESPOND TO THIS SURVEY

If you have any questions about this research, please contact Maggie Hartnett,
m.hartnett@massey.ac.nz.

Thank you to the following people who helped with the development of the survey: Helen McCubbin, Kate Peterson, Joanne Dillon, Heather Lamond, and Hilary Beaton.



The Library as a Space for Digital Inclusion: Survey for Library Users

ABOUT THIS RESEARCH

We are five researchers (Lucila Carvalho, Maggie Hartnett, Alison Kearney, Mandia Mentis and Philippa Butler) from Massey University and we would like to invite you to answer a survey about your confidence and competence at using computers, the internet, tablets and other digital devices, and how public libraries help you to do this.

Anybody who uses a public library can take part in this research, but you need to be 16 years of age or older.

If you complete this survey, you can enter a prize draw to win one of two tablets (worth about \$300 each). To enter, you will need to provide your name and contact details at the end of the survey.

The survey will take around 15 minutes to complete. If doing this survey makes you feel unhappy or you want to talk to someone, here are some places where you can get help:

- 1737 Need to talk contact? Free call or text any time
- What's Up 0800 942 8787 (for young people up to 18 years old)
- www.depression.org.nz

What will happen to your answers

Answers to the survey will be kept on a computer that only the researchers can access and destroyed after seven years. Your name will not be used when writing up the results of the survey which could be used to write articles in journals and books. There will be a summary of the results that will go to public libraries that you can access.

No answers that you give in the survey will be linked to you. Even if you give us your name for the prize draw, we will remove this information from your survey.

If you would like a copy of what we find out, you can email us at: m.hartnett@massey.ac.nz

You do not have to take part in this research but if you do complete the survey it means that you have agreed to take part and let us use your answers. If there are some questions that you do not want to answer, you do not have to, you can just answer the questions that you want to.

Who to contact

If you have any questions you can contact one of the researchers:

Dr. Maggie Hartnett
m.hartnett@massey.ac.nz
06 3569099 ext 84409

Committee Approval Statement

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 19/36. If you have any concerns about the conduct of this research, please contact Dr Rochelle Stewart-Withers, Chair, Massey University Human Ethics Committee: Southern B, telephone 06 356 9099 x 83657, email humanethicssouthb@massey.ac.nz.

The Library as a Space for Digital Inclusion: Survey for Library Users

1. Year of birth: _____

2. Gender:

- ☐ Male ☐ Other
☐ Female ☐ Prefer not to say

3. What ethnic group or groups do you belong to? (Please tick all that apply)

- ☐ Māori
☐ Pākehā/New Zealand European
☐ Pacific Peoples (please specify below)
☐ Asian (please specify below)
☐ Other European (please specify below)
☐ Other (please specify below)

Please specify ethnic group/s here: _____

4. Age when you left school:

- | | | |
|---|---------------------------------------|--|
| <input type="checkbox"/> Still at school | <input type="checkbox"/> 12 years old | <input type="checkbox"/> 16 years old |
| <input type="checkbox"/> Less than 10 years old | <input type="checkbox"/> 13 years old | <input type="checkbox"/> 17 years old |
| <input type="checkbox"/> 10 years old | <input type="checkbox"/> 14 years old | <input type="checkbox"/> 18 years old |
| <input type="checkbox"/> 11 years old | <input type="checkbox"/> 15 years old | <input type="checkbox"/> 19+ years old |

5. Have you completed any further education courses or qualifications after finishing school?

- ☐ Yes ☐ No

If yes, what did you study? _____

6. Employment status:

- ☐ Employed full-time (30 hours per week or more)
☐ Employed part-time (less than 30 hours per week)
☐ Self-employed
☐ Unemployed
☐ Disability/ACC benefit
☐ Sole parent benefit
☐ Stay at home caregiver
☐ Student
☐ Retired
☐ Other (please specify): _____

7. The library you visit the most is in the council area of:

- | | | |
|---|--|---|
| <input type="checkbox"/> Ashburton District Council | <input type="checkbox"/> Kāpiti Coast District Council | <input type="checkbox"/> Southland District Council |
| <input type="checkbox"/> Auckland Council | <input type="checkbox"/> Kawerau District Council | <input type="checkbox"/> Stratford District Council |
| <input type="checkbox"/> Buller District Council | <input type="checkbox"/> Mackenzie District Council | <input type="checkbox"/> Tararua District Council |
| <input type="checkbox"/> Carterton District Council | <input type="checkbox"/> Manawatu District Council | <input type="checkbox"/> Tasman District Council |
| <input type="checkbox"/> Central Hawke's Bay District Council | <input type="checkbox"/> Marlborough District Council | <input type="checkbox"/> Taupo District Council |
| <input type="checkbox"/> Central Otago District Council | <input type="checkbox"/> Masterton District Council | <input type="checkbox"/> Tauranga City Council |
| <input type="checkbox"/> Chatham Islands Council | <input type="checkbox"/> Matamata-Piako District Council | <input type="checkbox"/> Thames-Coromandel District Council |
| <input type="checkbox"/> Christchurch City Council | <input type="checkbox"/> Napier City Council | <input type="checkbox"/> Timaru District Council |
| <input type="checkbox"/> Clutha District Council | <input type="checkbox"/> Nelson City Council | <input type="checkbox"/> Upper Hutt City Council |
| <input type="checkbox"/> Dunedin City Council | <input type="checkbox"/> New Plymouth District Council | <input type="checkbox"/> Waikato District Council |
| <input type="checkbox"/> Far North District Council | <input type="checkbox"/> Opotiki District Council | <input type="checkbox"/> Waimakariri District Council |
| <input type="checkbox"/> Gisborne District Council | <input type="checkbox"/> Otorohanga District Council | <input type="checkbox"/> Waimate District Council |
| <input type="checkbox"/> Gore District Council | <input type="checkbox"/> Palmerston North City Council | <input type="checkbox"/> Waipa District Council |
| <input type="checkbox"/> Grey District Council | <input type="checkbox"/> Porirua City Council | <input type="checkbox"/> Wairoa District Council |
| <input type="checkbox"/> Hamilton City Council | <input type="checkbox"/> Queenstown Lakes District Council | <input type="checkbox"/> Waitaki District Council |
| <input type="checkbox"/> Hastings District Council | <input type="checkbox"/> Rangitikei District Council | <input type="checkbox"/> Waitomo District Council |
| <input type="checkbox"/> Hauraki District Council | <input type="checkbox"/> Rotorua Lakes Council | <input type="checkbox"/> Wellington City Council |
| <input type="checkbox"/> Horowhenua District Council | <input type="checkbox"/> Ruapehu District Council | <input type="checkbox"/> Western Bay of Plenty District Council |
| <input type="checkbox"/> Hurunui District Council | <input type="checkbox"/> Selwyn District Council | <input type="checkbox"/> Westland District Council |
| <input type="checkbox"/> Hutt City Council | <input type="checkbox"/> South Taranaki District Council | <input type="checkbox"/> Whakatane District Council |
| <input type="checkbox"/> Invercargill City Council | <input type="checkbox"/> South Waikato District Council | <input type="checkbox"/> Whanganui District Council |
| <input type="checkbox"/> Kaikoura District Council | <input type="checkbox"/> South Wairarapa District Council | <input type="checkbox"/> Whangarei District Council |
| <input type="checkbox"/> Kaipara District Council | | |
| <input type="checkbox"/> Other (please specify): _____ | | |

8. How often do you go to the public library in a typical month?

- ☐ Multiple times a day ☐ Daily ☐ Weekly ☐ Once or twice ☐ Never

9. How often do you use the library website (from a place other than the library) in a typical month?

- ☐ Multiple times a day ☐ Daily ☐ Weekly ☐ Once or twice ☐ Never

10. Why do you go to the library? (Please select as many as apply)

- ☐ To use the library collections (e.g. books, music, DVDs, etc.)
- ☐ To use the library facilities (e.g. do research, read books, listen to books, etc.)
- ☐ To use wireless internet access
- ☐ To use digital equipment I don't have at home
- ☐ To use in-library desktop computers, laptops, chromebooks, tablets, iPads, etc.
- ☐ To use library eBook readers (e.g. Kindle, Kobo, etc.)
- ☐ To use things like printers, photocopiers, scanners, 3D printers, etc.
- ☐ To use a charging station for my own computer or phone, etc.
- ☐ To get help with digital equipment or services
- ☐ To go to meetings or social groups
- ☐ To attend courses (e.g. Stepping Up, Code Club Aotearoa) (please specify below)
- ☐ Other (please specify below)

Please specify here: _____

11. Do you have any difficulties that make it hard for you to use computers? (Please select all that apply)

- ☐ I have difficulty with my eyesight
- ☐ I have difficulty with my hearing
- ☐ I have difficulty moving
- ☐ I have difficulty with English
- ☐ I have difficulty reading
- ☐ I have difficulty understanding how to use computers
- ☐ Other (please specify): _____
- ☐ None of these

There are many reasons for people to use the internet. The following questions ask about **your reasons** for using the internet and **how confident you are about keeping safe online**.

12. How motivated are you to use the internet for the following purposes?

	Not at all motivated	Not very motivated	Motivated	Very motivated	Extremely motivated
To find information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To make life easier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To save time in everyday life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To avoid feeling bored	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To avoid feeling lonely	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To keep in touch and communicate with people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To do online transactions (e.g. filling out forms, buying or selling things online)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To create content (e.g. making YouTube videos, a blog, websites, using Twitter)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To solve problems (e.g. finding an answer to a question or learn how to do something)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please add any other reasons or purposes for using the internet:

13. How confident are you to do the following?

	Not at all confident	Not very confident	Confident	Very confident	Extremely confident
Protect your personal information online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use passwords on your devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Run regular backups on your devices to keep your information safe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Update your devices to ensure that you have the latest security fixes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recognise online scams (e.g. emails that try to trick you)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Find out if online information is true or false (e.g. fake news)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Find websites you can trust (e.g. getting information from a government website rather than a company/personal website)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respect other people's information online (e.g. not sharing other people's photos without asking them first; not texting rude or hurtful messages)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Protect yourself from cyber-bullying and harmful communications (e.g. rude or hurtful texts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contact someone if you need help with protecting your personal information online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce your information being collected and re-used by governments and companies (e.g. through buying products online)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Keep yourself safe when using the internet and your devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please add any other comments about your safety and well-being when using the internet and your devices:

The following questions talk about **digital devices** which include things like computers, laptops, chromebooks, phones, tablets, etc. They also talk about **digital services** which include information, support or resources that you can access or use online (e.g. email, filling out forms, online shopping, government information, etc.).

14. How good are you at:

	Very bad	Bad	Okay	Good	Excellent	Have never done
Turning on and logging into a device (e.g. phone, computer)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using a mouse, trackpad and keyboard on a computer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using a touch screen on a phone, tablet, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changing the settings to make text easier to read	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Connecting a device to the internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finding the icon (e.g. Chrome, Firefox, Safari, Internet Explorer) that will take me to the internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finding a website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using an eBook reader (e.g. Kindle, Kobo, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. How good are you at:

	Very bad	Bad	Okay	Good	Excellent	Have never done
Using a search engine (e.g. Google) to look for information online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bookmarking useful websites and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessing new sources of entertainment and games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Looking for news online (local, national, international)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Looking for travel information online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Looking for jobs or work online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Looking for health information online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessing central government services (e.g. Work & Income, IRD, hospitals, Internal Affairs, ACC, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessing local government services (e.g. your local or regional council, water provider, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessing support groups (e.g. environmental, political, gender, mental health, disability, aged)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessing a cloud storage account (e.g. Apple iCloud, Google Drive)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. How good are you at:

	Very bad	Bad	Okay	Good	Excellent	Have never done
Using email	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sending instant messages/chat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Making or receiving video calls over the internet (e.g. Skype, Facetime)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using social media (e.g. Facebook, Twitter, Instagram, Snapchat, YouTube, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Re-posting or sharing links (e.g. via email, text, social media)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communicating with organisations about their products and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Setting up an online account (e.g. email, e-government, social media, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Buying or selling things via online auction sites (e.g. TradeMe, eBay)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Buying products and services online (e.g. Amazon, MightyApe, online clothing stores, online pharmacies, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Making travel reservations/bookings online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paying bills online or using internet banking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Buying or installing apps on a device (e.g. phone, tablet)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. How good are you at:

	Very bad	Bad	Okay	Good	Excellent	Have never done
Using word processing software (e.g. Word, Google Docs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Printing, copying or scanning a document	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Completing online application forms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using basic computer coding languages (e.g. python, java, html)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating content (e.g. videos, photos, writing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating something new from existing online images, music or video	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating a CV or submitting a job application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating computer programs and apps using coding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using a 3D printer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. How good are you at:

	Very bad	Bad	Okay	Good	Excellent	Have never done
Accessing online support services (e.g. counselling, citizens advice)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using a personal digital device (e.g. phone or tablet)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Setting up a brand new personal digital device from scratch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessing assistive technologies (e.g. speech to text, changing font size and type, screen magnification, speech notifications)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solving a problem with a device or digital service (e.g. providing technical support)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Downloading or streaming music, podcasts or video (e.g. YouTube, Spotify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using dating sites and apps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finding information for school, work or study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Researching a topic or issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finding out about courses or schools in your area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joining in with social issues online (e.g. environmental, political, gender, mental health, disability, aged)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessing online learning for interest, study or job training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. How good are you at:

	Very bad	Bad	Okay	Good	Excellent	Have never done
Using online authentication to verify your identity (e.g. RealMe, email accounts, other online accounts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applying privacy settings to protect your personal information (e.g. Facebook, Instagram, websites)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activating pop-up blockers to reduce the threats from malicious sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating secure passwords	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using security software (e.g. antivirus, antimalware, antispyware, etc.) to prevent threats to your devices and personal information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identifying secure websites (e.g. padlock and https in address)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identifying accurate and reliable online information and resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Understanding digital rights management (e.g. copyright, intellectual property, creative commons, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. Are there digital devices or services that you would like to be able to use at the library that aren't there at the moment?

21. Are there any other comments you would like to make?

THANK YOU for taking the time to tell us about your library use. If you have any questions about this survey, or would like a summary of results when the research is complete, please email Maggie Hartnett on m.hartnett@massey.ac.nz.

If doing this survey has made you feel unhappy or you want to talk to someone, here are some places where you can get help:

- 1737 Need to talk contact? Free call or text any time
- What's Up 0800 942 8787 (for young people up to 18 years old)
- www.depression.org.nz

To show our appreciation for answering our questions, we are offering **two tablets** as prizes.

Please enter your contact details if you wish to enter the **PRIZE DRAW**. We will remove your name from your survey responses, so your answers to the questions will remain completely confidential.

Name: _____

Phone: _____

Email: _____

Appendix 2. Supporting Data

Table 7. Library users' motivation to use the internet

	Not at all motivated	Not very motivated	Motivated	Very motivated	Extremely motivated	Total
To find information	0	6	46	137	216	405
To make life easier	8	14	87	135	147	391
To save time in everyday life	12	23	107	106	140	388
To avoid feeling bored	35	67	114	80	82	378
To avoid feeling lonely	98	98	86	50	42	374
To keep in touch and communicate with people	7	32	90	133	136	398
To do online transactions	17	21	75	125	157	395
To create content	166	107	49	21	37	380
To solve problems	1	10	69	142	177	399

(accompanies Figure 33)

Table 8. Library users' confidence to use the internet safely

	Not at all confident	Not very confident	Confident	Very confident	Extremely confident	Total
Protect your personal information online	9	73	179	97	46	404
Use passwords on your devices	5	25	158	128	86	402
Run regular backups on your devices to keep your information safe	26	119	141	68	46	400
Update your devices to ensure that you have the latest security fixes	20	98	114	95	72	399
Recognise online scams	8	31	151	135	76	401
Find out if online information is true or false	9	63	157	106	66	401
Find websites you can trust	2	33	144	130	94	403
Respect other people's information online	2	7	113	128	151	401
Protect yourself from cyber-bullying and harmful communications	4	35	137	134	87	397
Contact someone if you need help with protecting your personal information online	21	93	130	97	57	398
Reduce your information being collected and re-used by governments and companies	35	153	124	54	32	398
Keep yourself safe when using the internet and your devices	10	62	177	94	57	400

(accompanies Figure 34)

Table 9. Library users' foundational digital skills

	Very bad	Bad	Okay	Good	Excellent	Have never done	Total
Turning on and logging into a device	1	1	25	80	291	4	402
Using a mouse, trackpad and keyboard	1		24	71	302	3	401
Using a touch screen	4	5	39	84	267	3	402
Changing the settings to make text easier to read	4	8	60	112	212	5	401
Connecting a device to the internet	7	13	52	105	219	5	401
Finding the icon that will take me to the internet	4	4	39	65	282	6	400
Finding a website	2	1	24	81	288	5	401
Using an eBook reader	13	20	51	68	153	94	399

(accompanies Figure 35)

Table 10. Frequency of library staff support for library users' foundational digital skills

	Multiple times a day	Daily	Weekly	Monthly	Never	Total
Turning on a device and entering account information as required	58	63	63	31	12	227
Using a mouse and keyboard on a computer	47	26	58	62	34	227
Using a touch screen on a smart phone or tablet	48	52	66	39	21	226
Using settings or menus to change device display to make content easier to read	19	31	55	76	46	227
Connecting a device to the internet using the Wi-Fi settings	98	61	52	14	3	228
Locating the browser icon on a device	39	41	73	55	20	228
Finding a website	62	60	71	29	6	228

(accompanies Figure 36)

Table 11. Library users' digital skills

	Very bad	Bad	Okay	Good	Excellent	Have never done	Missing	Total
Factor 1: Security and trust	3%	9%	25%	26%	27%	7%	2%	100%
Factor 2: Accessing information and services and social media	1%	4%	15%	25%	47%	7%	2%	100%
Factor 3: Everyday digital skills	1%	1%	10%	25%	61%	1%	1%	100%
Factor 4: Advanced digital skills	12%	16%	14%	7%	7%	43%	1%	100%
Factor 5: Research and study	1%	2%	12%	27%	48%	8%	2%	100%

(accompanies Figure 37; averages responses across all variables in a factor)

Table 12. Library staff digital skills

	Very poor	Poor	Okay	Good	Excellent	N/A	Missing	Total
Factor 1: Social media and entertainment	2%	4%	14%	31%	38%	1%	10%	100%
Factor 2: Accessing support services	1%	2%	16%	36%	34%	2%	9%	100%
Factor 3: Online transactions	1%	2%	10%	30%	45%	2%	11%	100%
Factor 4: Research and study	0%	1%	8%	33%	41%	1%	16%	100%
Factor 5: Everyday digital skills	1%	1%	6%	29%	53%	0%	9%	100%
Factor 6: Advanced digital skills	29%	26%	12%	7%	4%	10%	13%	100%

(accompanies Figure 38; averages responses across all variables in a factor)

Table 13. Library staff skills to support library users

	Very poor	Poor	Okay	Good	Excellent	N/A	Missing	Total
Factor 1: Social media and entertainment	2%	4%	16%	33%	32%	2%	11%	100%
Factor 2: Accessing services and information	1%	2%	14%	36%	36%	2%	9%	100%
Factor 3: Security and trust	3%	8%	20%	26%	23%	4%	15%	100%
Factor 4: Research and study	0%	1%	10%	37%	35%	1%	17%	100%
Factor 5: Advanced digital skills	30%	19%	11%	6%	3%	18%	13%	100%

(accompanies Figure 39; averages responses across all variables in a factor)

Table 14. Frequency of library staff support for library users' digital needs

	Multiple times a day	Daily	Weekly	Monthly	A few times a year	Never	N/A	Missing	Total
Factor 1: Information, social media and entertainment	3%	7%	17%	20%	25%	17%	4%	7%	100%
Factor 2: Everyday digital skills	11%	12%	20%	17%	19%	6%	3%	12%	100%
Factor 3: Security and trust	2%	3%	8%	10%	28%	26%	6%	17%	100%
Factor 4: Advanced digital skills	0%	1%	3%	2%	8%	54%	19%	13%	100%
Factor 5: Research and study	4%	6%	15%	15%	19%	17%	8%	16%	100%

(accompanies Figure 40; averages responses across all variables in a factor)

Appendix 3. Factor Analysis

As a first step, the data were tested for suitability for factor analysis. This involved a Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO), where the KMO for each measure was considered excellent (all above 0.9) (Field, 2018). A Bartlett's Test of Sphericity was used to confirm that there was correlation between the items. This meant that factor analysis was possible which allowed the large set of responses to be simplified to several common factors. All Bartlett's Test results were significant to $p < .0001$ (see Table 15).

Table 15. KMO and Bartlett's Test results

		Staff skills	Staff skills to support library users	Frequency of staff support for library users	Library users' skills
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.929	0.935	0.901	0.941
Bartlett's Test of Sphericity	Approx. Chi-Square	3301.053	2438.729	1980.031	9420.286
	Degrees of freedom	465	378	561	703
	Significance	.000	.000	.000	.000

The next step was to run an exploratory factor analysis on each set of data. Missing data were excluded on a pairwise basis. Items with less than 0.4 loading on any factors were excluded from the analysis, as were items that cross-loaded on multiple factors where primary-secondary loading difference was less than 0.3. Promax rotation (oblique rotation) was used to simplify the factor structure so that items primarily loaded onto one factor allowing factors to be clearly distinguished from each other (Matsunaga, 2010).

The number of factors to retain was determined by examining the resulting eigenvalues greater than 1 and the inflexion point on the scree plot for each dataset. The exploratory factor analyses resulted in a six-factor solution (library staff skills) or a five-factor solution (library staff skills to support library users, frequency of library staff support for library users, and library users' skills). The factor solutions accounted for 69% of the variance for library staff skills; 70% of the variance for library staff skills to help others; 60% of the variance for frequency of library staff support for library users; and 60% of the variance for library users' skills.

Appendix 4. Factor Loadings

Table 16. Library users' digital skills – factor loadings

	Factor				
	1	2	3	4	5
Percentage of variance explained	40.6%	7.5%	5.6%	3.4%	3.0%
ONLINE SAFETY AND TRUST					
19.6. Identifying secure websites (e.g. padlock and https in address)	0.846				
19.8. Understanding digital rights management (e.g. copyright, intellectual property, creative commons, etc.)	0.823				
19.5. Using security software (e.g. antivirus, antimalware, antispymware, etc.) to prevent threats to your devices and personal information	0.782				
19.2. Applying privacy settings to protect your personal information (e.g. Facebook, Instagram, websites)	0.767				
18.5. Solving a problem with a device or digital service (e.g. providing technical support)	0.746				
19.7. Identifying accurate and reliable online information and resources	0.717				
19.3. Activating pop-up blockers to reduce the threats from malicious sites	0.711				
19.1. Using online authentication to verify your identity (e.g. RealMe, email accounts, other online accounts)	0.611				
18.3. Setting up a brand new personal digital device from scratch	0.593				
19.4. Creating secure passwords	0.515				
18.4. Accessing assistive technologies (e.g. speech to text, changing font size and type, screen magnification, speech notifications)	0.474				
ACCESSING INFORMATION, SERVICES AND SOCIAL MEDIA					
16.10. Making travel reservations/bookings online		0.826			
16.9. Buying products and services online (e.g. Amazon, MightyApe, online clothing stores, online pharmacies, etc.)		0.769			
15.5. Looking for travel information online		0.761			
16.8. Buying or selling things via online auction sites (e.g. TradeMe, eBay)		0.713			
16.3. Making or receiving video calls over the internet (e.g. Skype, Facetime)		0.63			
16.11. Paying bills online or using internet banking		0.603			
15.3. Accessing new sources of entertainment and games		0.576			
16.4. Using social media (e.g. Facebook, Twitter, Instagram, Snapchat, YouTube, etc.)		0.557			
16.2. Sending instant messages/chat		0.553			
15.9. Accessing local government services (e.g. your local or regional council, water provider, etc.)		0.525			
15.7. Looking for health information online		0.491			
15.11. Accessing a cloud storage account (e.g. Apple iCloud, Google Drive)		0.487			
15.10. Accessing support groups (e.g. environmental, political, gender, mental health, disability, aged)		0.417			
EVERYDAY DIGITAL SKILLS					
16.1. Using email			0.819		
17.2. Printing, copying or scanning a document			0.754		
17.1. Using word processing software (e.g. Word, Google Docs)			0.739		
15.1. Using a search engine (e.g. Google) to look for information online			0.675		
17.3. Completing online application forms			0.604		
15.4. Looking for news online (local, national, international)			0.436		
ADVANCED DIGITAL SKILLS					
17.8. Creating computer programs and apps using coding				0.886	
17.4. Using basic computer coding languages (e.g. python, java, html)				0.832	
17.9. Using a 3D printer				0.741	
17.6. Creating something new from existing online images, music or video				0.700	
RESEARCH AND STUDY					
18.12. Accessing online learning for interest, study or job training					0.784
18.10. Finding out about courses or schools in your area					0.756
18.8. Finding information for school, work or study					0.677
18.9. Researching a topic or issue					0.572

Table 17. Library staff digital skills – factor loadings

	Factor					
	1	2	3	4	5	6
Percentage of variance explained	46%	7%	5.5%	4%	3.5%	3%
SOCIAL MEDIA AND ENTERTAINMENT						
13.1.6. Buying or installing apps on a device	0.897					
12.1.2. Sending instant messages/chat	0.887					
12.1.4. Using social media (e.g., Facebook, Twitter, Instagram, Snapchat, YouTube, etc.)	0.879					
12.1.5. Re-posting or sharing links (e.g. via email, text, social media)	0.862					
15.1.2. Using a personal digital device (e.g. smartphone or tablet)	0.761					
12.1.3. Making or receiving video calls over the internet (e.g. Skype, Facetime)	0.683					
15.1.6. Downloading or streaming music, podcasts or video (e.g. YouTube, Spotify)	0.68					
15.1.3. Setting up a brand new personal digital device from scratch	0.671					
11.1.3. Accessing new sources of entertainment and games	0.481					
13.1.1. Setting up an online account (e.g. email, e-government, social media, etc.)	0.475					
ACCESSING SUPPORT SERVICES						
11.1.10. Accessing support groups (e.g. environmental, political, gender, mental health, disability, aged)		0.819				
11.1.7. Looking for health information online		0.815				
11.1.9. Accessing local government services (e.g., your local or regional council, water provider, etc.)		0.717				
16.1.4. Engaging with social issues online (e.g. environmental, political, gender, mental health, disability, aged)		0.632				
15.1.1. Accessing online support services		0.618				
12.1.6. Communicating with organisations about their products and services		0.594				
ONLINE TRANSACTIONS						
13.1.5. Paying bills online or using internet banking			0.782			
13.1.4. Making travel reservations/bookings online			0.727			
13.1.2. Buying or selling things via online auction sites (e.g. TradeMe, eBay)			0.663			
13.1.3. Buying products and services online (e.g. Amazon, MightyApe, online clothing stores, online pharmacies, etc.)			0.646			
RESEARCH AND STUDY						
16.1.2. Researching a given topic				0.888		
16.1.1. Finding information for school, work or study				0.855		
16.1.5. Accessing online learning for interest, study or job training				0.656		
16.1.3. Finding out about courses or schools in the area				0.526		
EVERYDAY DIGITAL SKILLS						
11.1.1. Using a search engine to look for information online					0.736	
14.1.1. Using word processing software					0.67	
17.1.6. Identifying secure websites (e.g. padlock and https in address)					0.637	
11.1.2. Bookmarking useful websites and services					0.539	
12.1.1. Using email					0.453	
ADVANCED DIGITAL SKILLS						
14.1.8. Creating computer programs and apps using coding						0.961
14.1.4. Using basic computer coding languages						0.921

Table 18. Library staff skills to support library users' digital needs – factor loadings

	Factor				
	1	2	3	4	5
Percentage of variance explained	48%	7.8%	6.1%	4.7%	3.6%
SOCIAL MEDIA AND ENTERTAINMENT					
13.2.6. Buying or installing apps on a device	0.908				
12.2.4. Using social media (e.g., Facebook, Twitter, Instagram, Snapchat, YouTube, etc.)	0.906				
12.2.2. Sending instant messages/chat	0.862				
12.2.5. Re-posting or sharing links (e.g. via email, text, social media)	0.824				
15.2.2. Using a personal digital device (e.g. smartphone or tablet)	0.77				
15.2.3. Setting up a brand new personal digital device from scratch	0.638				
12.2.3. Making or receiving video calls over the internet (e.g. Skype, Facetime)	0.575				
15.2.6. Downloading or streaming music, podcasts or video (e.g. YouTube, Spotify)	0.48				
ACCESSING SERVICES AND INFORMATION					
13.2.4. Making travel reservations/bookings online		0.95			
13.2.5. Paying bills online or using internet banking		0.94			
13.2.3. Buying products and services online (e.g. Amazon, MightyApe, online clothing stores, online pharmacies, etc.)		0.806			
13.2.2. Buying or selling things via online auction sites (e.g. TradeMe, eBay)		0.744			
11.2.6. Looking for jobs or work online		0.569			
11.2.5. Looking for travel information online		0.515			
11.2.9. Accessing local government services (e.g., your local or regional council, water provider, etc.)		0.508			
11.2.8. Accessing central government services (e.g. Work & Income, IRD, hospitals, Internal Affairs, ACC, etc.)		0.502			
ONLINE SAFETY AND TRUST					
17.2.6. Identifying secure websites (e.g. padlock and https in address)			0.873		
17.2.5. Using security software (e.g. antivirus, antimalware, antispyware etc.) to prevent threats to devices and personal information			0.775		
11.2.2. Bookmarking useful websites and services			0.741		
17.2.8. Understanding digital rights management (e.g. copyright, intellectual property, creative commons etc.)			0.69		
17.2.3. Activating pop-up blockers to reduce the threats from malicious sites			0.689		
RESEARCH AND STUDY					
16.2.2. Researching a given topic				0.966	
16.2.1. Finding information for school, work or study				0.927	
16.2.3. Finding out about courses or schools in the area				0.697	
16.2.5. Accessing online learning for interest, study or job training				0.626	
ADVANCED DIGITAL SKILLS					
14.2.9. Using a 3D printer					0.858
14.2.4. Using basic computer coding languages					0.836
14.2.8. Creating computer programs and apps using coding					0.804

Table 19. Frequency of library staff support for library users' digital needs – factor loadings

	Factor				
	1	2	3	4	5
Percentage of variance explained	37.8%	6.5%	5.9%	5.4%	4.9%
INFORMATION, SOCIAL MEDIA AND ENTERTAINMENT					
11.3.5. Looking for travel information online	0.855				
12.3.2. Sending instant messages/chat	0.831				
12.3.5. Re-posting or sharing links (e.g. via email, text, social media)	0.785				
11.3.3. Accessing new sources of entertainment and games	0.721				
11.3.7. Looking for health information online	0.701				
12.3.3. Making or receiving video calls over the internet (e.g. Skype, Facetime)	0.698				
11.3.4. Looking for news online (local, national, international)	0.66				
11.3.2. Bookmarking useful websites and services	0.639				
13.3.5. Paying bills online or using internet banking	0.568				
12.3.4. Using social media (e.g., Facebook, Twitter, Instagram, Snapchat, YouTube, etc.)	0.567				
EVERYDAY DIGITAL SKILLS					
14.3.7. Creating a CV or submitting a job application		0.834			
15.3.5. Solving a problem with a device or digital service (e.g. providing technical support)		0.752			
14.3.3. Completing online application forms		0.699			
13.3.1. Setting up an online account (e.g. email, e-government, social media, etc.)		0.696			
14.3.1. Using word processing software		0.681			
15.3.2. Using a personal digital device (e.g. smartphone or tablet)		0.681			
13.3.6. Buying or installing apps on a device		0.612			
11.3.11. Accessing a cloud storage account (e.g. Apple iCloud, Google drive)		0.602			
14.3.2. Printing, copying or scanning a document		0.599			
15.3.3. Setting up a brand new personal digital device from scratch		0.526			
ONLINE SAFETY AND TRUST					
17.3.5. Using security software (e.g. antivirus, antimalware, antispyware etc.) to prevent threats to devices and personal information			0.838		
17.3.6. Identifying secure websites (e.g. padlock and https in address)			0.808		
17.3.7. Identifying accurate and reliable online information and resources			0.798		
17.3.8. Understanding digital rights management (e.g. copyright, intellectual property, creative commons etc.)			0.777		
17.3.3. Activating pop-up blockers to reduce the threats from malicious sites			0.703		
15.3.6. Downloading or streaming music, podcasts or video (e.g. YouTube, Spotify)			0.587		
17.3.2. Applying privacy settings to protect personal information (e.g. Facebook, Instagram, websites)			0.496		
14.3.6. Creating something new from existing online images, music or video			0.422		
ADVANCED DIGITAL SKILLS					
14.3.8. Creating computer programs and apps using coding				0.839	
14.3.9. Using a 3D printer				0.783	
14.3.4. Using basic computer coding languages				0.746	
RESEARCH AND STUDY					
16.3.1. Finding information for school, work or study					0.698
16.3.2. Researching a given topic					0.617
15.3.7. Using dating sites and apps					-0.467