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**FINAL REPORT**

**The state of digital literacy among elderly Guyanese in Regions 4, 5 & 10: Aging 2.0 a digital inclusive perspective**

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**This researched was funded by LACNIC under the Internet Governance theme of the Lideres 2.0 programme. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Latin America and Caribbean Internet Registry (LACNIC).**

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**This report is designed to serve as a resource to the many organizations in Guyana and the Latin America and Caribbean region who may like to write proposals for and/or implement projects related to digital literacy. The content of this report is available for use in all proposals designed to improve the elderly digital literacy in Regions 4, 5 and 10 in Guyana.**

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A person with a stethoscope around the neck

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# **Preface**

# **Acknowledgement**

**Table of Chapters**

[**Preface** 3](#_Toc89067937)

[**Acknowledgement** 3](#_Toc89067938)

[**Abstract** 6](#_Toc89067939)

[**Executive Summary** 7](#_Toc89067940)

[**Demographic Overview of Respondents** 7](#_Toc89067941)

[**Chapter 1.0** **Introduction** 8](#_Toc89067942)

[**1.1 Notes for Introduction** 8](#_Toc89067943)

[**Chapter 2.0** **Research Background** 9](#_Toc89067944)

[**2.1 Digital Literacy** 9](#_Toc89067945)

[**2.2 Elderly** 10](#_Toc89067946)

[**2.3 Digital Inclusion** 11](#_Toc89067947)

[**2.4 Objective of the Research** 11](#_Toc89067948)

[**2.5 Research Questions** 11](#_Toc89067949)

[**Chapter 3.0** **Research Methodology** 12](#_Toc89067950)

[**3.1 Sample Frame** 12](#_Toc89067951)

[**3.2 Survey Domain** 12](#_Toc89067952)

[Region 4: 12](#_Toc89067953)

[Region 5: 12](#_Toc89067954)

[Region 10 12](#_Toc89067955)

[**3.3 Target Population** 12](#_Toc89067956)

[**3.4 Sample Size** 12](#_Toc89067957)

[**Chapter 4.0** **Data Collection** 13](#_Toc89067958)

[**4.01 Household internet usage data** 13](#_Toc89067959)

[**4.02 Digital Literacy** 13](#_Toc89067960)

[**4.1 Digital Literacy Rating** 13](#_Toc89067961)

[**4.2 Digital Competence** 14](#_Toc89067962)

[**Chapter 5.0** **Household Demographic Attributes** 16](#_Toc89067963)

[**5.1 Demographic traits of households** 16](#_Toc89067964)

[**5.2 Household Traits** 17](#_Toc89067965)

[**5.3 Household Internet usage of respondents** 18](#_Toc89067966)

[**Chapter 6.0 Findings** 20](#_Toc89067967)

[**Chapter 7.0 Recommendations** 28](#_Toc89067968)

[**Chapter 8.0 Conclusion** 29](#_Toc89067969)

[**Chapter 9.0 Future Research Implications** 30](#_Toc89067970)

[**References** 31](#_Toc89067971)

[**Appendix** 32](#_Toc89067972)

[**Appendix A - Interval breakdown of digital literacy skill levels** 32](#_Toc89067973)

[**Appendix B – Scoring of the questionnaire** 33](#_Toc89067974)

[**Appendix C - Measuring Digital Literacy Skills** 33](#_Toc89067975)

[**Appendix D** 36](#_Toc89067976)

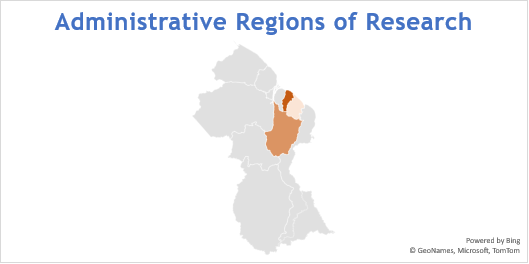
[**Appendix E** 36](#_Toc89067977)

[**Appendix F** 36](#_Toc89067978)

# **Abstract**

**Keywords**: Elderly, digital literacy, Guyana

# **Executive Summary**



## **Demographic Overview of Respondents**

A total of 117 respondents participated in the survey. 46 (39.3%) from region 4, 26 (22.2%) from region 5 and 45 (38.5%) from region 10. Of the 117 respondents, 70 (59.8%) were females and 47 (40.2%) were males.

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Chart 1 – Respondents’ age classification Chart 2 – Respondents’ gender classification

# **Introduction**

This research focused on evaluating digital literacy among elderly citizens in Guyana, specifically in the administrative Regions 4, 5 and 10 in order to understand the levels of digital literacy among the elderly. This research paper is a follow-up to the master’s thesis “ICT integration for retired teachers – a digital inclusive perspective” authored by Malisa Richards and Fauya Cromwell in 2021. The master’s thesis focused on digitally including retired teachers who were not digitally literate, to effectively use ICT in teaching and learning activities in the classroom. Teachers and students at the Grade 4 level participated in the project.

The rationale for this research stemmed from the belief that more needs to be done by policy makers and educational institutions with respect to the elderly and their digital literacy levels. Therefore, this research attempts to provide evidence that will aid the requisite changes. The exploration of digital literacy levels among the elderly will contribute to the body of research knowledge specific to the Guyana situation.

The use of digital technologies by elderly citizens was fast tracked with the occurrence of the COVID-19 pandemic. This meant that all ages of society (the elderly included) depended heavily on these technologies daily. Digital literacy for the elderly must be prioritized as one of the focal points in Guyana to facilitate improvement of digital literacy levels among Guyanese citizens while closing existing digital gaps.

In this research, the definition of digital literacy was adopted from the European Framework for Digital Literacy (EFDL). Due to its generic nature, it provides a variety of tools to equip educators in arriving at a common understanding of the underlying factors relevant to digital literacy. Hence, the definition takes into consideration the ability, awareness, and application of digital technology use among the elderly.

This report provides an overview of the research conducted in Guyana in the administrative Regions 4, 5 and 10. The research was conducted during October 1, 2021, to December 6, 2021. A definition of digital literacy, a summary of the research methodology, data collection, the key findings, analysis, and conclusion will be presented.

## **1.1 Notes for Introduction**

* *Digital literacy* refers to “the awareness, attitude and ability of persons to appropriately use digital technologies and tools to identify, access, manage and integrate digital resources, construct new knowledge, create media expressions, and socially communicate with others in order to enable constructive social action” Martin, A. (2006, p.155)
* *Elderly* refers to a person(s) who attained the chronological age of 50 years and older.
* *Information literacy* refers to “the use of digital technologies, communications tools, and/or networks to access, manage, evaluate, and create information in order to function in a knowledge society.” (International ICT Literacy Panel, 2002, p. 2)

# **Research Background**

According to OECD, the elderly played a critical role in much of the digital technologies used in today’s technological world, hence “now is the time to bring technology to the entire aging population.” The COVID-19 pandemic, without prior notice, required all ages of society to use digital technologies in their daily lives to conduct business, attend classes, and communicate with loved ones. The disruption completely changed the then technological norm creating a new dependence on Information and Communication Technologies (ICTs) and requiring citizens to be digitally literate. The mandatory lockdown measures instituted, significantly prohibited large gatherings, and required extensive periods of isolation. Those who were not technologically savvy were now required to use these technologies in their daily lives thus improving their digital literacy levels. Further, the COVID-19 pandemic significantly highlighted the existing digital divide among all ages in society and simultaneously expanded the existing gaps. As such, the COVID-19 pandemic provides great opportunity to understand digital literacy among the elderly in Guyana particularly, in the administrative regions 4 (Demerara – Mahaica), 5 (Mahaica – Berbice) and 10 (Linden).

## **2.1 Digital Literacy**

Digital literacy is critical for survival in a technologically driven society (ILO, 2020). Therefore, the acquisition of such skills by the elderly is necessary to ease their adoption and transition process when utilising ICTs (Chetty et al., 2018). Various researchers highlighted that the elderly, when highly motivated, can equally attain comparative knowledge levels of the younger generation and higher (Lordache et al., 2017; Ragnedda eta al., 2018; Falloon, 2020). To attain this knowledge level the elderly must be digitally literate. Digital literacy in this research was classified at three levels, namely, basic (the simplest level when using ICTs and telecommunication services), intermediate (the use of ICTs and telecommunication services allows the elderly to be more efficient), and advanced (the use of ICTs and telecommunication services allows the elderly to create digital content distinguishing themselves via digital identity). The classification levels of digital literacy outlined all have one common foundation and that is information literacy. Information literacy can be defined as the application of knowledge and digital skills acquired by the elderly to find relevant information via a digital platform (Herrera et al., 2015). Information literacy positively contributes to the application of knowledge and digital skills acquired by the elderly. To improve their information literacy levels, the elderly must then take information literacy one step further i.e., critically analyzing data and reconstructing the data into a meaningful form proving that they’re digitally efficient (Lordache et al., 2017). The critical analysis and reconstruction process demonstrates digital intelligence among the elderly when socially communicating with others; it is also a demonstration of an awareness, attitude, and ability to appropriately use digital technologies and tools (Rahman et al., 2021; Martin, A. 2006).

This demonstration by the elderly creates digital inclusion by bridging the digital divide between the elderly and the younger generation in Guyana. To achieve the goal of digital inclusion, a collaborative and holistic approach must be taken. It therefore means that all the various stakeholders within society are required to contribute to making this a reality. Using the example of the Australian Department of Social Services and Swinburne University, the government’s approach to the digitally include the elderly was achieved via collaborative national prioritization. This approach proved that collaboration was critical at its core levels, because of the diverse nature of the organisation involved, namely libraries, computer hubs, retirement homes, among others, to ensure that they reached all levels within the local community. Some of the benefits achieved were 9,800 elderly digital mentors; learners were classified as emerging, evolving, and accomplished; online learning platforms were current, adaptive, and flexible; the impact was statistically significant; and they attained a positive social return on investment.

## **2.2 Elderly**

2021 – 2030 was declared by the United Nations the Decade of Healthy Aging. This declaration endorsed the above-mentioned example of the Australian Department of Social Services and Swinburne University by mobilizing stakeholders from all sectors of society to collaboratively prioritize the elderly. According to ITU’s publication “Aging in a Digital World,” “the world is digital, and society is aging,” hence by 2050, it is estimated that globally 1.5 billion people would have attained the chronological age of 65 years. ECLAC’s 2019 publication “Older Adults in the Digital Age in Latin America: Bridging the Digital Age Divide” highlighted Latin American countries as entering a stage of sustained population aging. To digitally include the elderly, consideration must be given to the following areas attitudes, competency, skills, and accessibility.

The COVID-19 pandemic introduced additional threats directly affecting the elderly. This impact required the elderly to immediately transition without prior notice in utilising ICTs and telecommunication services in their daily lives (Moore et al., 2020). According to the October 2021 editorial on Tackling the Digital Divide published in the Lancet Healthy Longevity “*one of the most striking, especially where movement outside home was legally prohibited or curtailed, was the unequal access to and use of digital technologies*.” Statistics on ICT supporting the Latin American region clearly shows the distinct and deepening gap that exists between the elderly and younger populations. However, consideration must also be given to the challenges faced by the elderly when addressing digital gaps.

In addressing these challenges, researchers used several approaches, namely, psychological, health, and socio-economic. The psychological context identified anxiety as one of the key factors[[1]](#footnote-1) along with frustration,[[2]](#footnote-2) pessimistic view point,[[3]](#footnote-3) safety and data protection.[[4]](#footnote-4) The health context addressed visual impairment, reduced physical mobility, and decreasing cognitive abilities.[[5]](#footnote-5) The socio-economic context addressed literacy levels, financial stability, previous work experience, and educational background.[[6]](#footnote-6) The three categories identified provides context when attempting to understand challenges encountered by the elderly from a digital inclusion perspective. These also support (Al Harbi 2014) proposition that cites challenges such as the lack of technology-oriented skills and knowledge, lack of confidence and lack the understanding of why they are using the technology. Therefore, unification of perspective relevant to elderly digital inclusion can be intersected with Martin, A. (2006, p.155) definition of digital literacy and (Al Harbi 2014)’s propositions.

## **2.3 Digital Inclusion**

Digital inclusion takes into consideration attitudes, competencies, skills, and accessibility of aging lecturers. However, the critical and culturally based perspective explores the role of policies at the national and international levels, analyzing how the policies influence the integration of aging individuals, daily practices, conceptualized aging, the way technology is framed to aging populations and media interventions. The Austrian Lifelong learning 2020 Strategy outlined that training programs aimed at lifelong learning are the most critical intervention method for digital inclusion. In the Austrian Lifelong learning 2020 Strategy, the main goal was to demonstrate that quality of life was a national concern. Secondly, digital inclusion was classed as a secondary goal because the main target was quality of life. Thirdly, demographics and usage of the internet were classified under lifelong learning. Fourthly, lifelong learning, support services, and education were classed as critical interventions. Lastly, digital inclusion was coined with individual learning as a measure used to solve challenges with the digital divide thereby digital inclusion was identified as the problem and solved via motivation to learn. It is noteworthy that digital inclusion was not identified as a structural challenge.

## **2.4 Objective of the Research**

During this process, the researchers achieved the following objective:

* Determine digital literacy levels among elderly citizens in regions 4, 5 and 10 in Guyana.

## **2.5 Research Questions**

* What is the current state of digital literacy among the elderly in regions 4, 5 and 10?
* What were the underlying issues impacting their digital literacy levels?

# **Research Methodology**

The research was conducted using mixed methods allowing the researchers to collect both quantitative and qualitative data. Quantitative data were collected via a structured survey while the qualitative data were gathered through telephone interviews.

Guyana has 10 administrative regions. Of these 10, the research focused on regions 4, 5 and 10.

## **3.1 Sample Frame**

The frame has 9 clusters across the three administrative regions. The frame allowed the researchers to attain statistically significant samples that were suitable and representative of the population.

## **3.2 Survey Domain**

### Region 4:

* East Bank
* East Coast
* Georgetown

### Region 5:

* West Coast Berbice
* West Bank Berbice

### Region 10

* Kwakwani
* Wismar
* Mackenzie
* Amelia’s Ward

The major towns included Georgetown in Region 4 and Mackenzie in Region 10. The rural areas included East Bank and East Coast in Region 4, West Coast and West Bank Berbice in Region 5 and Kwakwani in Region 10. The urban areas included Wismar and Amelia’s Ward in Region 10.

## **3.3 Target Population**

The estimated population for the three administrative regions are:

* Region 4 - 235,017
* Region 5 - 15,290
* Region 10 - 44,690

## **3.4 Sample Size**

To ensure that the research was statistically significant, the researchers required a minimum of 25 respondents per administrative region. A purposeful sample size of 100 respondents was identified with the breakdown as follows: 45 from Region 4, 25 from Region 5 and 30 from Region 10.

# **Data Collection**

The data collection phase utilised questionnaire and telephone interviews. The questionnaire was distributed via online survey.

The elderly respondents surveyed were 50 years and over. Respondents were required to give consent before starting the survey. Respondents who did not give consent were unable to complete the survey. Respondents were asked questions captioned under the following heading:

* Demographic data (age, gender, marital status, ethnicity)
* Household data (total persons in household under 18, over 18)
* Household Internet usage data (type of internet access, device type)
* Digital literacy data (duration of pc use, rating of typing, computer, and internet literacy)

The data presented were collected from three administrative regions in Guyana, namely, Regions 4, 5 & 10. This data was collected in October 2021 via questionnaire. Data collection was conducted over a 25-day period from October 6th to 31st 2021. The telephone interviews lasted approximately 15 minutes. Due to the regulations in place for COVID-19 pandemic, the survey was publicly distributed via all social media platforms and telephone interviews were conducted also.

The survey design utilised self-assessment and ICT household techniques to achieve a measurable outcome for digital literacy. The sections of the questionnaire that brought out this information were:

* Household Internet Usage: data gathered in this section of the questionnaire utilised two scales, namely “Yes or No” and “Agree, Neither, Disagree.”
* Digital Literacy: the data gathered in this section of the questionnaire utilised self-assessment via a Likert scale namely “Very poor, Poor, Acceptable, Good, Very good.” The “Yes or No” scale directly assessed the respondent’s ability to perform a variety of practical tasks via various devices.

## **4.1 Digital Literacy Rating**

Digital literacy rating refers to the ability of the population to use digital technologies expressed as a percentage of the total population (Department of Census and Statistics Sri Lanka 2020). To determine digital literacy, the indicators were self-rating by respondents with respect to typing skills via desktop/laptop; web search skills; computer literacy; and digital literacy skills. Table 1 provides the question and the ratings per question.

|  |  |  |
| --- | --- | --- |
| Number | Question | Response |
| Q1 | How would you rate your typing skills via desktop/laptop? | 0 – very poor  1 – poor  2 – acceptable  3 – good  4 – very good |
| Q2 | How would you rate your web search skills? | 0 – very poor  1 – poor  2 – acceptable  3 – good  4 – very good |
| Q3 | How would you rate your computer literacy (the ability to use the computer?) | 0 – very poor  1 – poor  2 – acceptable  3 – good  4 – very good |
| Q4 | How would you rate your digital literacy skills (the ability to use digital technologies) | 0 – very poor  1 – poor  2 – acceptable  3 – good  4 – very good |

Table 1- questions used to derive digital literacy rating-

Each response was scored 0 to 4, where 0 corresponded to ‘very poor’, 1 corresponded to ‘poor’, 2 corresponded to ‘acceptable’, 3 corresponded to ‘good’, and 4 corresponded to ‘very good’. The digital literacy rating was subsequently defined as:

Digital rating =

where n represents the total number of questions, ri represents the response value associated with the question. This score was then measured against the years of experience using the computer and highest level of education. The range of years used were 0-5 years, 6-10 years, 11-15 years, and 16 or more years. Education level was classified as primary, secondary, certificate, associate degree, bachelor’s degree, master’s degree and doctorate degree.

The digital literacy rating returned the arithmetic mean of the years of experience using the computer based on typing skills via desktop/laptop; web search skills; computer literacy; and digital literacy skills.

## **4.2 Digital Competence**

Digital competence refers to the ability of the population to use digital technologies to achieve goals related to work, employability, learning, leisure, inclusion and/participation in society expressed as a percentage of the total population (Redecker 2017). To determine digital competence, the indicators were use of keyboard shortcuts; using the computer to learn; use of social media; online friends never met; competence when using digital learning resources; using mobile apps for learning a language; change computer screen brightness and contrast; minimize, maximize and move windows screen; using search command to locate a file; scan a disk for viruses; save files to USB drive, CD, or DVD; create and update webpages; take and edit digital photos; record and edit digital audio and videos; and download and use apps on digital devices.

Each response was scored 0 to 1, where 0 corresponded to ‘No’, 1 corresponded to ‘Yes’. Table 2 provides further context in this regard.

|  |  |  |
| --- | --- | --- |
| Number | Question | Response |
| Q1 | Do you use keyboard shortcuts? | No = 0  Yes = 1 |
| Q2 | Do you use the computer for learning purposes? | No = 0  Yes = 1 |
| Q3 | Do you use social media? | No = 0  Yes = 1 |
| Q4 | Do you have any online friend you have never met? | No = 0  Yes = 1 |
| Q5 | Do you feel competent using digital learning resources? | No = 0  Yes = 1 |
| Q6 | Do you have mobile apps that you use for language learning purposes? | No = 0  Yes = 1 |
| Q7 | Can you change the computer screen brightness and contrast? | No = 0  Yes = 1 |
| Q8 | Can you minimize, maximise, and move the windows on the screen? | No = 0  Yes = 1 |
| Q9 | Can you use the search command to locate a file on the computer? | No = 0  Yes = 1 |
| Q10 | Can you scan a disk for viruses? | No = 0  Yes = 1 |
| Q11 | Can you save a file to a CD, DVD or USB drive? | No = 0  Yes = 1 |
| Q12 | Can you create and update webpages? | No = 0  Yes = 1 |
| Q13 | Can you take and edit digital photos? | No = 0  Yes = 1 |
| Q14 | Can you record and edit digital audio? | No = 0  Yes = 1 |
| Q15 | Can you record and edit digital videos? | No = 0  Yes = 1 |
| Q16 | Can you download and use apps on digital devices? | No = 0  Yes = 1 |

Table 2-questions used to derive digital competence

The digital literacy rating was subsequently defined as:

Digital competence =

where n represents the total number of questions, ri represents the response value associated with the question. This score was then measured against the years of experience using the computer and highest level of education. The range of years used were 0-5 years, 6-10 years, 11-15 years, and 16 or more years. Education level was classified as primary, secondary, certificate, associate degree, bachelor’s degree, master’s degree, and doctorate degree.

The digital competence returned the arithmetic mean of the years of experience using the computer based on use of keyboard shortcuts; using the computer to learn; use of social media; online friends never met; competence when using digital learning resources; using mobile apps for learning a language; change computer screen brightness and contrast; minimize, maximize and move windows screen; using search command to locate a file; scan a disk for viruses; save files to USB drive, CD, or DVD; create and update webpages; take and edit digital photos; record and edit digital audio and videos; and download and use apps on digital devices.

# **Household Demographic Attributes**

## **5.1 Demographic traits of households**

Demographic is defined as the statistical characteristics of the research respondents (such as age and gender) used to identify the sample research population (Webster, M. 2021). The process of aging commences at conception and concludes at death. This continuous process is subdivided into three main phases, namely child development, adolescence, and adulthood. The context of this research endorses aging to refer to a person attaining the chronological age of 50 years and older, i.e., the chronological age sequence detailing the numeric lifetime achieved thus far.

Figure - age breakdown of respondents by region

As shown in Figure 1, overall, a total of 117 respondents participated in the survey. Of the total population 47 respondents resided in Region 4, 26 in Region 5 and 45 in Region 10. 70 respondents were females while 47 were males. A comparison between the three regions determined that Region 10 age range 60-69 recorded the highest respondents, followed by Region 4, 50-59 age range and Region 5, 70-79 age range. Both Region 4 and 10 did not record any respondents 90 & over while Region 5 recorded one respondent.

Figure - gender breakdown of respondents per Region

Figure 2 shows Region 4 recorded a total of 46 respondents. 13 of the respondents were male and 33 females, while Region 5 attained 14 males and 12 females and Region 10 recorded 20 males and 25 females. Regions 4 and 10 recorded the highest number of female respondents while Regions 5 and 10 recorded the highest number of male respondents. Region 5 recorded the lowest female respondents while Region 4 recorded the lowest male respondents.

## **5.2 Household Traits**

A household refers to the members residing within a home (Union, 2014). Survey domains in this report refers to the areas within each region in which the survey was conducted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Domain | Region 4 | Domain | Region 5 | Domain | Region 10 |
| Georgetown | 24 | West Bank Berbice | 8 | Amelia's Ward | 18 |
| East Bank Demerara | 11 | West Coast Berbice | 18 | Mackenzie | 14 |
| East Coast Demerara | 11 |  | **26** | Kwakwani | 3 |
|  | **46** |  |  | Wismar | 5 |
|  |  |  |  | Wisroc | 5 |
|  |  |  |  |  | **45** |

Table -breakdown of survey domains

Table 1 provides a breakdown of the survey domains and the total respondents. For Region 4, Georgetown recorded the highest number of respondents; while for Region 5, West Coast Berbice and Region 10, Amelia’s Ward. Contrastingly, overall Kwakwani recorded the lowest number of respondents.

Figure 3 - number of persons residing in household

As shown in Figure 4, overall, the total households where one person lived tallied 12; 25 for households with 2 persons; 24 for households with 3 persons; 21 for households with 4 persons; 16 for households with 5 persons; and 19 for households with 6 or more persons.

Figure 4 - No of children under 18 residing in household

As shown in Figure 5, overall, the total households with children under 18 years of age with one child tallied 64; 21 for households with 2 children; 19 for households with 3 children; 9 for households with 4 children; 0 for households with 5 children; and 1 for households with 6 or more children.

## **5.3 Household Internet usage of respondents**

Household internet refers to members within a home with access to digital technologies or services (Union, 2014).

Figure 5- use of internet by region

As shown in Figure 6, overall, 104 respondents used the internet across the 3 regions. Regions 4 and 10, recorded the highest respondents that use the internet. Overall, a total of 13 respondents indicated that they do not use the internet. There wasn’t any significant difference among the 3 regions regarding users who did not use the internet.

Figure 6-reasons for not using the internet

Overall, a total of 13 respondents from the various regions indicated they did not use the internet. 4 respondents did not give any reasons from the options available on the questionnaire, of which 3 resided in Region 4 and 1 from Region 10.

Figure 7-gender breakdown per region with internet access

Of the 47 respondents from Region 4, 14 were males and 33 were females; with respect to region 5, 14 were males and 12 were females; and region 10 recorded 20 males and 25 females. Regions 4 and 10 recorded more female respondents compared to region 5 which recorded more males than female respondents.

# **Chapter 6.0 Findings**

## **6.1 Education background and use of the Internet**

Figure 8 shows that most of the respondents with a secondary (26%) and certificate (21%) educational background used the internet the most, while in contrast, the respondents with an associate (16%) and bachelor’s (12%) degree closely trailed and respondents with post-graduate and master’s degree recorded the lowest rates. Contrastingly, there were no respondents with bachelor’s degree or post-graduate diploma that didn’t use the internet.

Figure 8- use of internet by education

There was a 5% difference in between respondents with a secondary and certificate educational background. While for the academic qualifications there was a 4% difference. It must be noted that the survey revealed 1% of respondents with certificate, associate and bachelor’s degree did not use the internet. However, these respondents did not provide reasons for not using the internet. A combined total of 8% of the respondents with secondary (5%) and primary (3%) did not use the internet. The reasons cited by these respondents for not using the internet were as follows:

* Primary and secondary education level:
  + Cannot afford to pay internet bill
    - 4 respondents agreed
    - 4 respondents disagreed
    - 1 respondent chose neither
  + Internet connection in my area is too unreliable
    - 2 agreed
    - 5 respondents disagreed
    - 1 respondent chose neither
  + I don’t have a device to access the internet
    - 5 respondents agreed
    - 4 respondents disagreed
    - 1 respondent chose neither
  + Other reasons cited for not using the internet were:
    - 2 respondents cited visual impairment
    - 1 respondent cited it’s for young people
    - 1 respondent cited it’s for business purposes

## **6.2 Computer experience by region and education background**

As shown in Figure 9, Region 4 recorded the highest percentage of users with 16+ years of computer experience, followed by region 10 with 22% while Region 5 recorded the lowest percentage, that is 5% of the respondents had more than 16 years’ experience using the computer. Regions 4 and 10 recorded extremely low levels of computer users with 6-10 years’ experience while Region 5, most of the respondents recorded 6-10 years.

Figure 9- years of computer use by region

Figure 10-years of computer use by education

Figure 10 reveals respondents 16+ years account for the majority. Certificate holders with 16+ years of experience recorded the highest proportion, followed by 10% associate degree holders, 9% bachelor’s degree holders, 7% secondary education holders, 3% postgraduate holders, and 2% primary education holders. Secondary (29%) and certificate (23%) holders overall recorded the highest proportion years of computer experience.

Figure 11-digital rating and digital competence by education

Respondents with a master’s education attained a digital rating of 68% and 66% were digitally competent. Postgraduate respondents attained a digital rating of 64% and 8% were digitally competent. Bachelor’s degree holders attained a digital rating of 71% and 61% were digitally competent. Associate degree holders attained a digital rating of 72% and 59% were digitally competent. Certificate holders attained a digital rating of 64% and 54% were digitally competent. Secondary education holders attained a digital rating of 58% and 46% were digitally competent. Primary education holders attained a digital rating of 29% and 26% were digitally competent.

Figure 12-digital rating and digital competence by years of usage

Respondents with 0-5 years computer experience attained a digital rating of 28% and 26% were digitally competent. 6-10 years computer experience attained a digital rating of 45% and 52% were digitally competent. 11-15 years’ experience attained a digital rating of 51% and 62% were digitally competent. 16+ years’ experience attained a digital rating of 61% and 73% were digitally competent.

Figure 13-digital competence by region and employment

52% of region 4’s respondents with full-time employment status were digitally competent, 87% with a part-time employment status were digitally competent and 52% with retired status were digitally competent and 72% who were seeking employment were digitally competent.

70% of region 5’s respondents with full-time employment status were digitally competent, 88% with a part-time employment status were digitally competent and 52% with retired status were digitally competent and 70% who were seeking employment were digitally competent.

74% of region 10’s respondents with full-time employment status were digitally competent, 81% with a part-time employment status were digitally competent and 45% with retired status were digitally competent and 15% who were seeking employment were digitally competent.

Figure 14-digital competence by age and gender

Overall, 71% of respondents in the age range 50-59, 74% in the age range 60-69, 38% in the age range 70-79, and 47% in the age range were digitally competent.

For females, 69% of respondents in the age range 50-59, 70% in the age range 60-69, 41% in the age range 70-79, and 52% in the age range were digitally competent.

For males, 73% of respondents in the age range 50-59, 78% in the age range 60-69, 32% in the age range 70-79, and 48% in the age range were digitally competent.

Figure 15- likelihood of device usage by region

For region 4, 41% owned a laptop, 34% a desktop, 61% a smart phone, 48% a tablet and 41% other. For region 5, 40% owned a laptop, 33% a desktop, 60% a smart phone, 47% a tablet and 40% other. For region 10, 44% owned a laptop, 37% a desktop, 66% a smart phone, 51% a tablet and 44% other.

Figure 16-likelihood of device usage and digital competence by region

For region 4, owners of devices with digital competence, were as follows: 41% laptop, 34% desktop, 61% smart phone, 48% tablet and 41% other. 7% of the respondents were not owners of any device

For region 5, owners of devices with digital competence, were as follows: 40% laptop, 33% desktop, 60% smart phone, 47% tablet and 40% other. 7% of the respondents were not owners of any device

For region 10, owners of devices with digital competence, were as follows: 44% laptop, 37% desktop, 66% smart phone, 51% tablet and 44% other. 7% of the respondents were not owners of any device

Overall, 66% of region 10 respondents who were device owners were digitally competent, 60% of region 5 respondents who were device owners were digitally competent, and 61% of region 4 respondents who were device owners were digitally competent

Figure 17- device usage in the past 6 months

Regarding device usage in the past 6 months, 40% used a laptop, 33% a desktop, 60% a smart phone, 46% a tablet, 40% other and 6% none.

# **Chapter 7.0 Recommendations**

**Quick (Short-term) Wins**

**Medium-term Wins**

**Long-term Wins**

# **Chapter 8.0 Conclusion**

# **Chapter 9.0 Future Research Implications**

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# **Appendix**

## **Appendix A - Interval breakdown of digital literacy skill levels**

To derive at the breakdown below, the total score was divided by 3 (i.e., 3 skill levels) to determine the intervals.

|  |  |
| --- | --- |
| Skill Level | Interval |
| Basic | 0 to 33 |
| Intermediate | 34 to 66 |
| Advanced | 67 - 99 |

Figure 18 - Classification of digital skills

## **Appendix B – Scoring of the questionnaire**

|  |  |
| --- | --- |
| Survey Section | Total Score |
| Household data | 2 |
| Household Internet usage data | 53 |
| Digital Literacy Data | 44 |

Figure 19- Scoring of the questionnaire

## **Appendix C - Measuring Digital Literacy Skills**

|  |  |  |
| --- | --- | --- |
| Skill | Questionnaire Category | Item |
| Basic | Household internet usage data | * May use the internet * Have access to internet subscriber * Access a tablet, desktop/laptop, etc * Use the internet at home / work |
|  | Digital literacy data | * Can use at least one digital technology * Can type via a desktop/laptop * Can take photos / videos via a tablet or smart device * Awareness of social media platforms * Use TV to learn about new digital technologies * Can send a photo / video on social media * computer literacy (very poor / poor) * Internet literacy (very poor / poor) * digital literacy skills (very poor / poor) * does not understand the basic functions of computer hardware components * do not use the computer for learning purposes * don’t find it easy to learn something by reading/watching it on the computer * don’t feel competent in using digital learning resources * Can take a photo or record a video on a digital device. |
| Intermediate | Household internet usage data | * Use the internet * Have access to internet subscriber * Access to a tablet, desktop/laptop, smartphone * Use the internet at home / work/retail or public places several times a week * Streamed movie in the past 6 months via desktop/laptop, tablet, smartphone * Search the internet for information needed * Participate in an online forum * Completed an online course * Apply for a job |
|  | Digital literacy data | * Can use multiple digital technologies * Have been using computers for 6+ years * Can type via a desktop/laptop * Awareness of operating system installed on the pc * Use websites, social media to learn about new digital technologies * Can take photos / videos via a tablet or smart device * Awareness of social media platforms * computer literacy (Acceptable) * Internet literacy (acceptable) * digital literacy skills (acceptable) * understand the basic functions of computer hardware components * use the computer for learning purposes * find it easy to learn something by reading / watching it on the computer * feel competent in using digital learning resources * Can download apps on digital devices * Can take photos and/or record videos * Can record and/or edit audio * Can save to a USB flash, CD, or DVD |
| Advanced | Household internet usage data | * Use the internet * Have access to internet subscriber * Access to a tablet, desktop/laptop, smartphone * Use the internet at home / work, daily and may use the internet in retail or public places * Streamed movies & TV shows; posted pictures/videos; looked for information on health, nutrition or exercise; participated in an online forum or activity; did a course online; via laptop/desktop, tablet or smart phone in the past 6 months |
|  | Digital literacy data | * Have been using computers for 6+years * Awareness of operating system installed on pc, tablet, smartphone * Use 5 or more sources to find out about new digital technologies * typing skills via a desktop/laptop (Good / very good) * web search skills (good / very good) * computer literacy (good / very good) * Internet literacy (good / very good) * digital literacy skills (good / very good) * understand the basic functions of computer hardware components * have a personal webpage on the web e.g., social media * use keyboard shortcuts * use the computer for learning purposes * find it easy to learn something by reading / watching it on the computer * use social media * feel competent in using digital learning resources * have used mobile apps for language learning purposes * Can change the computer screen brightness and contrast * Can minimize, maximize and move windows on the computer screen * Can save files onto a CD, DVD or USB drive * Can take and/or edit digital photos * Can record and/or edit digital audio * Can record and/or edit digital videos * Can download and use apps on digital devices |

Figure 20- Measuring digital literacy skills

## **Appendix D**

## **Appendix E**

## **Appendix F**

A picture containing text

Description automatically generated

1. Cattaneo, M., Malighetti, P., & Spinelli, D. 2016. *The impact of university of the third age courses on ICT adoption*. Computers in Human Behavior, 63, 613–619. <https://doi.org/10.1016/j.chb.2016.05.087> [↑](#footnote-ref-1)
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