Managing Technology Risk among Senior Citizens and People Living with Disabilities in Guyana

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Abstract

According to the World Health Organisation (WHO), today, an estimated 1.3 billion people, or 16% of the global population, are living with a major impairment. As digital usage rises in Guyana, managing technological risk among the elderly (ages 65 and above), and disabled is a crucial concern. Barriers that vulnerable communities must overcome include low levels of computer literacy, limited financial resources, problems with accessibility, and vulnerability to cyberattacks. This research specifically examines the main technological hazards that these populations face, such as internet fraud, privacy issues with data, and challenges in obtaining necessary services. It examine Guyana's current support networks and policies while suggesting ways to reduce risks, like more robust cybersecurity, inclusive technology design, and focused digital literacy initiatives. The paper emphasises how government organizations, non-governmental organizations, and private sector players must work together to provide secure and fair digital inclusion for Guyana's elderly and disabled citizens.

Keywords: Digital Inclusion, Disability, Environmental Factors, Health Conditions, Human Experience, Pensioners, Technology Risk.

Introduction

From healthcare services to online banking, technology is becoming an indispensable part of everyday living in our increasingly digitised society. However, it can be extremely difficult for vulnerable groups to securely navigate these improvements, such as Guyana's elderly and disabled population. To make sure that these groups can take advantage of technological advancements without becoming victims of their drawbacks, it is essential to manage hazards associated with technology, such as cybersecurity threats, digital frauds, and accessibility restrictions [2].

Guyana's aged and disabled population face both opportunities and risks as a result of the country's increasing digital transformation. People with impairments may come across inaccessible platforms that deny them access to necessary services, and many elderly people lack computer literacy, which leaves them vulnerable to fraud. To address these hazards and promote a safer and more equitable digital world, certain tactics are needed, such as inclusive design, regulatory changes, and education [20].

In order to guarantee that no one is left behind in Guyana's digital transformation, this conversation examines the main technological hazards that impact the elderly and disabled in the nation and suggests solutions [5, 6].

Objectives of the Research

The following are the main goals of this study on Guyana's senior citizens and disabled population's technology risk management:

- **Determine Key Technology Risks:** Examine the main risks that these groups must deal with, including privacy issues, digital literacy gaps, cybersecurity threats (fraud, scams), and accessibility issues in digital platforms.
- **Examine Accessibility Issues:** Determine how well Guyana's digital platforms and services are made to suit people with disabilities (e.g., screen reader compatibility, user-friendly interfaces).
- **Encourage Digital Inclusion:** Ensure that people with disabilities and retirees can securely and successfully engage in Guyana's digital transformation by advocating for fair access to technology.

Review of Literature

The Stakes Are Too High to Not Solve the Rural Digital Divide - Overview

Prioritising well-being is crucial since changing socioeconomic conditions necessitate that rural policies take a more people-centered, well-being-focused stance. Globalisation and better infrastructure have strengthened rural-urban relations, opening new possibilities for integrated development. Policies must promote win-win situations to optimise these advantages, especially in rural areas close to urban centers, by strengthening corporate alliances, labour market exchanges, and *innovation networks* [1].

Through the creation of new jobs, enhanced service delivery, and the facilitation of effective movement of people and products, digital transformation is penetrating an evolutionary metamorphosis in rural economies. Communities and the environment can both gain from these innovations' potential to increase rural appeal and promote sustainable value development.

Deeper socioeconomic inequalities are reflected in the digital divide. Understanding the underlying causes, the wider ramifications, and the collective actions we can take to close this gap are also crucial. Although there is still a long way to go before a society is fully digitally inclusive, change is not only feasible but inevitable with understanding, effort, and cooperation.

It is evident that the problems associated with the rural digital divide are profoundly ingrained in rural Guyana's way of life. Every aspect of life is impacted by the lack of dependable internet and the risks associated with utilising technology, from the education of a youngster with special needs to the health consultation of an elderly person.

With the government and pertinent authorities at the forefront, addressing the digital divide (and risk involved), is an appeal for group effort. The risk in rural areas, which impacts senior citizens and individuals with disabilities, is a national issue that impacts the socioeconomic structure of the entire nation. Considering this, the government and stakeholders are key players with the means, influence, and authority to enact significant change.

One of the most significant issues of our day is the rural digital divide and technophobia, with its many facets and wide-ranging effects. However, as we've seen, there are answers, and with combined efforts, a connected, inclusive future is possible [1, 17].

A changing socio-economic landscape highlights the need for rural policies to shift towards a well-being oriented, people-centered approach. Rural-urban links have gained relevance with increasing globalisation and improved infrastructure. Seizing the benefits of these linkages requires integrated policies and developing win-win scenarios. Rural places close to cities are likely to benefit from improved corporate relationships, exchanges in labour markets and communication and innovation networks [5]. Technology and

digitalisation innovations are fast-paced and demand dynamic policy responses that accommodate these changes and leverage them for the benefit of people and the environment. Digitalisation creates new jobs, new ways to deliver services and transport people and goods, which can improve attractiveness and value creation in rural regions.

The Challenge

Low Level of Digital Literacy: Due to their inability of the proper usage of digital technologies, many seniors and people with disabilities are at risk of fraud, false information, and cyberattacks [2].

Barriers to Accessibility: People with visual, auditory, or mobility disabilities are not always able to use digital platforms because they frequently lack features like voice commands, screen readers, or simpler interfaces [4].

Gaps in Infrastructure and Affordability: Digital inclusion is hampered by high device, internet, and assistive technology expenses as well as erratic connectivity in remote locations [7].

Cybersecurity Risks: Because they are less aware of the dangers of the internet, the elderly and disabled are more vulnerable to phishing, fraud, and identity theft [13].

Absence of Tailored Support Systems: The digital requirements of these vulnerable groups are not adequately addressed by many community projects or training programs.

Opposition to Technology Adoption: Using digital services may be discouraged by a fear of complexity, privacy concerns, or a preference for more conventional approaches [16].

Policy & Regulatory Gaps: Inadequate legislative frameworks to safeguard vulnerable users from exploitation and enforce digital accessibility standards [15].

Dependency and Social Isolation: Without the right support, some people may become overly dependent on family members or caretakers, which limits their ability to use technology on their own [6].

Managing technology risk among senior citizens and people living with disabilities in Guyana – A Case Study.

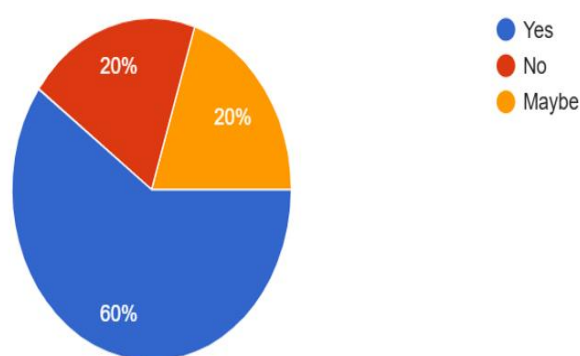## Do you know what is Technology Risk?

Figure 1. Responses from findings from the questionnaire conducted in regions 2, 3, 4, and 5. Managing technology risk among senior citizens and people living with disabilities in Guyana – A Case Study.

Which one of the following is the key technology risks faced by pensioners and people with disabilities in Guyana?
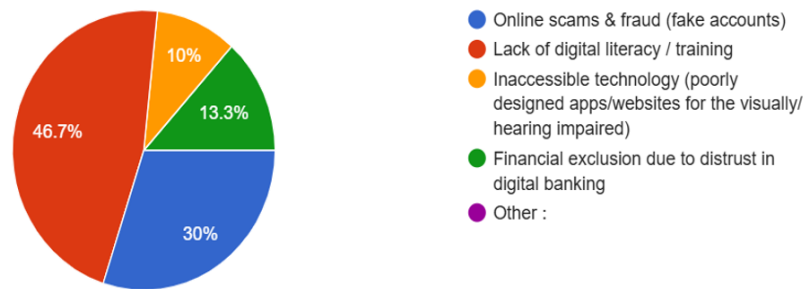

Legend:
- Online scams & fraud (fake accounts)
- Lack of digital literacy / training
- Inaccessible technology (poorly designed apps/websites for the visually/hearing impaired)
- Financial exclusion due to distrust in digital banking
- Other :

Pie values: 10%, 13.3%, 46.7%, 30%

Figure 2. Responses from Findings from questionnaire conducted in regions 2, 3, 4, and 5, 2024, Digital Transformation in Guyana while safeguarding rural communities and mental wellness.

Were you ever trained or being exposed to the safe usage of mobile devices and the internet?

Legend:
- Highly trainer
- Not highly trained
- Trained
- Not trained

Pie values: 46.7%, 16.7%, 30%

Figure 3. Responses from findings from questionnaire conducted in regions 2, 3, 4, and 5, 2024. Digital Transformation in Guyana while safeguarding rural communities and mental wellness.

What recommendations can improve technology risk management for pensioners and disabled persons in Guyana?

Legend:
- Government-led digital literacy programs (tailored for elderly/disabled users)
- Mandatory accessibility standards for banking & government websites
- Fraud hotlines & reporting mechanisms for vulnerable groups
- Partnerships with NGOs to provide assistive tech training

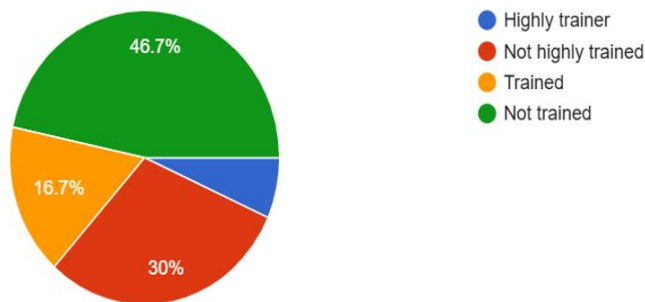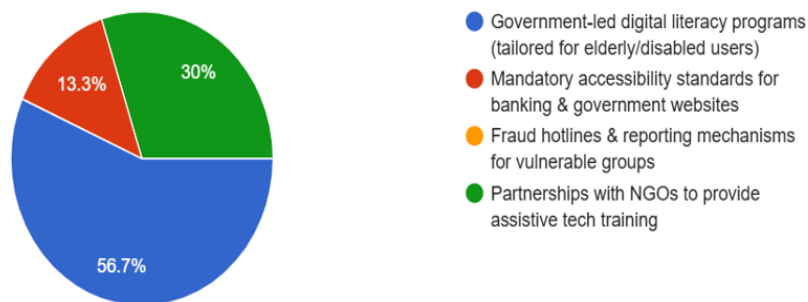Pie values: 13.3%, 30%, 56.7%

Figure 4. Responses from findings from questionnaire conducted in regions 2, 3, 4, and 5, 2024: Digital Transformation in Guyana while safeguarding rural communities and mental wellness.

Summary of the Findings and Possible Solution

A multi-stakeholder approach that combines legislation, education, technological design, and community support is crucial to addressing the digital hazards that these vulnerable populations confront. Key solutions are as follows:

Improve Awareness & Digital Literacy with Customised Training Programs: Provide free, community-based workshops with materials in plain English and accessible forms (such as braille or audio) on cybersecurity (such as identifying scams), safe internet use, and fundamental digital skills.

Intergenerational Learning: Collaborate with educational institutions and youth organisations to establish mentorship programs in which tech-savvy volunteers help the elderly and disabled.

Implement Accessibility Guidelines: Require WCAG (Web Content Accessibility Guidelines) compliance for screen readers, voice navigation, and customizable fonts and colors for government websites, banking platforms, and other critical services.

Affordable Assistive Technology: Provide financial assistance for equipment such as one-touch interfaces, speech-to-text software, and magnifiers for people with limited mobility.

Boost Fraud Prevention Campaigns and Cybersecurity Measures: Work together with banks and telecom companies to use voice and short messaging system (SMS) messages to warn people about typical frauds, such as phishing calls.

Dedicated Helplines: Provide a national helpline in easily accessible formats for reporting cybercrimes and requesting tech assistance.

Increase Affordability & Access: Provide subsidized smartphones, data plans, or free public Wi-Fi in remote regions to seniors as part of programs like Guyana's ICT Access for Persons with Disabilities Initiative.

Community Tech Hubs: Install computers and trained personnel to help patrons in libraries or elder centers.

Advocacy and Policy Measures National Digital Inclusion Strategy: Include perspectives on aging and disabilities in Guyana's Digital Transformation Strategy, along with specific implementation dates.

Public-Private Partnerships: Use subsidies or tax advantages to encourage companies to create inclusive apps and services.

Fight Social Isolation: Peer Support Networks: Establish clubs or online discussion boards where seniors and people with disabilities can exchange stories and solutions.

Telehealth & Remote Services: To lower barriers to medical care, increase the number of easily accessible e-health platforms.

The most vulnerable inhabitants of Guyana can be empowered to use technology securely and independently if policy reform, education, accessibility, and affordability are given top priority. Prior to a national rollout, pilot initiatives (such as training in Georgetown or Linden) could test solutions [18].

Success in Bridging the Digital Divide

Guyana must implement quantifiable, long-term plans that include legislative action, community participation, and innovation in order to successfully reduce the hazards associated with technology for the elderly and disabled. This is how one can succeed. More people with disabilities and elderly are actively (and safely) utilising digital services such as government portals, healthcare, and online banking.

Decreased Victimisation: These demographics have been the target of fewer reported instances of fraud, scams, or cyber exploitation.

Better Accessibility: Increased adherence to accessibility guidelines in digital services, both public and private.

Stronger Policy Frameworks: Legislation requiring cybersecurity safeguards for

susceptible users and inclusive design. The National Digital Inclusion Task Force is a government-led organization that will supervise implementation and include representatives from senior advocacy groups, social services, ICT, and disability NGOs [14].

Local Champions: Educate community leaders as "digital ambassadors" to offer continuing assistance, such as librarians and medical professionals.

Train the Trainer (ToT) Models: Give social professionals, family members, and caregivers the tools they need to support vulnerable users over the long run.

Campaigns for Public Awareness: Teach the fundamentals of cybersecurity (e.g., "Don't share PINs") via radio, television, and community gatherings (in several languages).

Research Design

The research methodology and design utilized consisted mostly of a mixed-method approach as the primary method; with online survey (forms) being the primary data collection method. The form was sent to known individuals and focus groups (senior citizens and persons living with disabilities).

This inquiry sought in-depth understanding of the opinions, concepts and experiences on the social, economic and political phenomena within the rural communities in Guyana. This formed part of the primary data gathered to be expounded and used during this research. Secondary data collected via visits to the public and private agencies such as the national archives, libraries, the University of Guyana, Texila American University, Ministry of Human Services and Social Security, Ministry of Health and many other relevant institutions. The sample size and target areas are mostly in the rural areas located on the coastal and high land (regions) in Guyana. Focuses were placed on regions 3 and 4 [19].

Analysis

Statistical tools - The responses are recorded using the "response" feature in a google form that was specifically tailored to capture the relevant data. The said form can be found using the link below: https://docs.google.com/forms/d/1PO3iR0Lhk-NAFcZag_hJdDy21M3qOPXpnGZidSpeYU8/edit?userstoinvite=teerandaihp@gmail.com&sharingaction=manageaccess&role=p&ts=687998a1#responses (the form) was designed in such a way to depict tables, graphs, and charts.

The Analysis (both numerical and graphical), was executed by using various data analytical software, and application tools such as:

- Google Forms
- Google Sheets
- Microsoft PowerBI

Results

This naturalistic study intended to gain a thorough grasp of the attitudes, concepts, and experiences of rural Guyana residents regarding social, economic, and political issues. These findings were part of the primary data collected, which was then expanded on and used in the research.

Success Story

Guyana has made great progress in managing technological risks, particularly as the country undergoes fast digital transformation driven by its thriving oil and gas sector [13].

Research Gaps (Limitations)

The majority of current study on technology dangers concentrates on industrialised nations, which leaves a knowledge gap about the particular difficulties encountered by Guyana's elderly and disabled population.

To find out how socioeconomic factors affect these populations' vulnerability to cyber-attacks, more research is required. In Guyana, little is known about the cultural perspectives of

older persons and individuals with disabilities regarding the adoption of technology.

The period of the aforementioned research was far longer than anticipated since elderly and individuals with disabilities have been deterred from using digital tools by fear of technology (technophobia, for example) and worry over online fraud.

Studies evaluating these populations' levels of digital literacy and cybersecurity risk awareness are needed in Guyana.

Ethical Considerations

The study maintains the principles of voluntary participation, guaranteeing that no one is pressured into submitting information. Minors under the age of 18 were not permitted to participate unless their parents or legal guardians provide explicit authorization. The study follows legal and humanitarian norms, protecting participants' rights and dignity.

To safeguard privacy, all collected data is anonymised, with no personally identifiable information stored. The project also stresses community and stakeholder interaction, incorporating their feedback to ensure the research meets their needs and objectives.

If any unforeseen ethical concerns arise throughout the study, quick remedial measures will be taken, such as changes to the research technique or requesting additional ethical review as needed. Transparency, accountability, and respect for participants remain key to this project.

Conclusion

The insights collected have helped uncover new potential for utilizing digital transformation to protect and benefit senior citizens and people living with disabilities, making them a valuable resource for policymakers and future development efforts.

The study's findings show that Guyana's digital landscape can have a significant impact on socio-cultural development practices, initiatives, and policies. This study, which examines the junction of technology and societal change, makes sound recommendations for further research and policy formulation. Furthermore, it provides important insights on cultural adaptation and community dynamics, allowing for the development of more responsive and inclusive social policies.

Acknowledgement

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