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The visually impaired are getting left behind in the Smart Nation journey. It's important to include their needs in the digital drive.

Aaron Ng Yi Kai

With a smartphone, most essential life activities, such as banking, transport, shopping and transacting with the Government, can all be performed digitally anywhere, anytime.

While Singapore has made impressive strides in becoming a highly digitalised nation, many individuals still struggle with basic tasks that most of us take for granted.

Those who often face significant challenges in this area – particularly with smartphones – are the blind and visually impaired.

Despite the inclusion of accessibility features in most smartphones, these phones are fundamentally designed for people without disabilities. They can also be too expensive for visually impaired people who find it hard to land a job.

A group of my students at the Singapore Institute of Technology found that these were among several obstacles visually impaired Singaporeans face in navigating our increasingly digital society. Their study involved in-depth interviews with 12 such Singaporeans ranging from 23 to 62 years of age.

As we aspire towards a people-centric, inclusive digital future, these are crucial areas to consider.

THE PROBLEM WITH ONE-TIME PASSWORDS

One of the biggest obstacles the visually impaired face in accessing digital services is SMS one-time passwords (OTPs).

For security reasons, these passwords expire quickly, usually within a minute. For those of us with normal vision, that's plenty of time.

This is not so practical for those with severe visual impairment. They typically rely on screen readers to read out the SMS OTP.

The actual OTP code is often positioned near the end of the SMS, and by the time the screen reader reads out the OTP code, there's not much of the minute left.

The visually impaired require much more time to enter OTP codes on their mobile devices compared with people with conventional sight.

So it's virtually impossible for the visually impaired to independently perform digital banking on their mobile devices using SMS OTPs.

The lack of high-contrast mode – also often called dark mode – of displaying information in some mobile apps also makes it difficult for those with partial visual impairment to properly interact with them, because the screen is too bright.

Some of the bigger culprits include banking apps and online shopping apps. Given the extent to which banking in Singapore has been digitalised, the lack of a high-contrast mode in banking apps excludes most visually impaired from one of the most critical everyday tasks of living in a smart nation.

**OLD DEVICES THAT AREN'T USER-FRIENDLY**

Many of the visually impaired respondents said another major obstacle for them in a highly digitalised society is the affordability of smartphones.

This is difficult to imagine for many Singaporeans, especially when it is common to see even teenagers sporting the latest Apple iPhones.

Most of the visually impaired have difficulty being gainfully employed. As a result, they are unable to purchase newer smartphones with better accessibility features.

Some of my study's respondents still use Android mobile devices that are almost a decade old.

Aside from poorer accessibility, such outdated devices expose the visually impaired to much higher digital security risks than for the rest of us who can afford newer smartphones with updated operating systems.
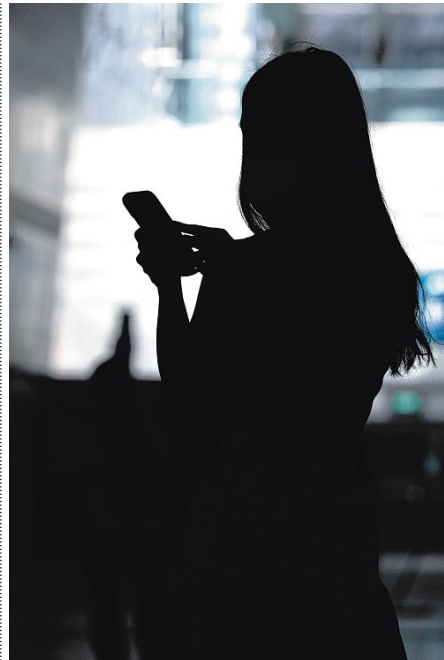
The digital inclusivity challenges faced by the visually impaired go beyond smartphones.

A visually impaired respondent recalled how she arrived at a bricks-and-mortar establishment with a digitalised queue management system.

She took a queue number and waited for her turn. After a long while, she sought assistance and found out she missed her queue number because the system did not have a voice announcement feature.

When it comes to challenges beyond using a mobile phone, there are other examples too.

Take touch screen self-service ordering kiosks or tablets, which make ordering and paying for food much easier for most people.

However, for the visually impaired, they become obstacles because they mostly do not come with a voice reader.

GETTING THE PRIVATE SECTOR ON BOARD

In our Smart Nation 1.0 journey, most of us raced ahead in enjoying the benefits and convenience of a highly digitalised society, not realising others have been left behind.

In Smart Nation 2.0, it's time to help those left behind to catch up.

According to the Ministry of Digital Development and Information's Smart Nation 2.0 report, the Government will take the lead in pushing for greater digital inclusivity, setting accessibility targets for government websites and articulating standards agencies should follow to ensure that digital services are accessible, inclusive and usable.

For the private sector, the Government's approach towards improving digital inclusivity is engagement through raising awareness, knowledge sharing and co-creating solutions instead of a regulatory approach.

A regulatory approach may not be well-received by the private sector because improving the accessibility of digital content and services involves financial costs.

Small and medium-sized enterprises, in particular, may not have the finances to improve the accessibility of digital content and services.

However, without some form of regulation, there could be less motivation for the private sector to improve accessibility of digital content and services.

In the United States, fear of compliance lawsuits citing violations of the Americans with Disabilities Act drive most private companies to ensure their digital content and services conform to recognised accessibility standards, such as Web Content Accessibility Guidelines (WCAG).

Here, the Government can do more to incentivise the private sector to undertake steps to quickly and significantly improve the accessibility of digital content and services.

Perhaps it can consider a recognition scheme that differentiates private sector companies that have demonstrated strong commitment to digital inclusivity from those which have not, and provide certain benefits to them.

Despite the absence of regulation, there are Singaporean companies that are increasingly recognising the importance of digital inclusivity.

I shared the research findings from my students' project with telecoms company StarHub and OCBC Bank. Both are revamping their digital content and services platforms, and digital inclusivity is among their key priorities.

Future digital platforms and services will be designed to conform with WCAG guidelines, making it easier not just for the visually impaired to access digital services, but for users with other forms of impairment as well.

While such a response is an excellent step forward to greater digital inclusivity, companies must engage the disability community to understand how digital content and services are actually experienced by them.

For example, companies can consider hiring people with disabilities as user experience testers. Not only do companies benefit from real-world testing, they also provide meaningful employment to people with disabilities, who are often more likely to be unemployed.

With a rapidly ageing population, more Singaporeans will suffer from physical impairments such as vision or hearing loss. According to the United Nations, more than 46 per cent of older people – those aged 60 and above – have some form of disability.

Our high life expectancy also means that we can expect many more Singaporeans with disabilities living in the upcoming Smart Nation 2.0.

The intersection of ageing and disability means that digital inclusivity is no longer a mere luxury. With Smart Nation 1.0, Singapore grew much smarter digitally and technologically. For Smart Nation 2.0 and beyond, our digital heart needs to grow much bigger to accommodate people with disabilities.

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Affordability of smartphones is an issue for many of the visually impaired respondents. Many have difficulty being gainfully employed and are unable to buy newer smartphones with better accessibility features. ST PHOTO: BRIAN TEO

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