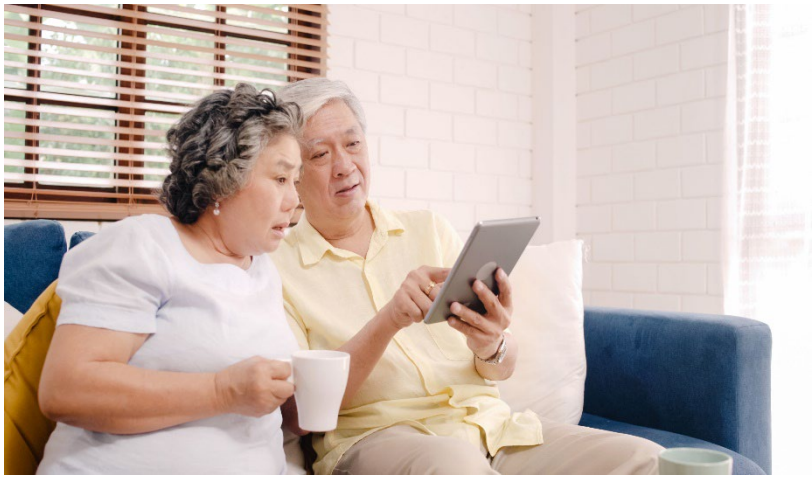
KHAZANAH
RESEARCH
INSTITUTE

VIEWS 14/24 | 21 AUGUST 2024

Simplify systems to make digital public services easier to use

Rachel Gong



Introduction

Inclusive digital transformation should enable everyone to benefit from digital technologies, regardless of their digital expertise or the quality of their devices. This means designing systems, both technological and processual, to be more user-centric by making them easier to use.

In Malaysia's context, that means digital services systems, especially public services that are widely used, should address the needs of a mid-range mobile-first market and an aging society.

In this article, I propose two strategies to make digital public services easier to use. The first is the use of single sign-ons (SSOs) for public services, which reduces the burden on the user to create and track multiple user accounts and passwords. The second is to develop mobile-friendly websites or web apps to complement mobile apps, thus standardising the user experience between desktop and mobile and reducing the need for multiple app installations.

This view was prepared by Dr. Rachel Gong, a researcher from the Khazanah Research Institute (KRI) with data visualisation by Laventhen Sivashanmugam. The author is grateful for valuable comments from Ilyana Mukhriz and Khoo Wei Yang.

Authors' email address:
rachel.gong@krinstitute.org

Information on Khazanah Research Institute publications and digital products can be found at www.KRInstitute.org.

Cover photo by tirachardz on Freepik

The government has committed to a digital-first public sector

Malaysia's Ministry of Digital announced its Digital First Strategy Shift (*Anjakan Strategi Digital First,* ASDF) in June 2024[1]. The FIRST in Digital First is an acronym for Fast, Interoperable, Reliable, Secure and Trust[ed]. It indicates the commitment of the National Digital Department (*Jabatan Digital Negara*, JDN) to government technology (GovTech) and digital transformation of the public sector, focusing on five ministries: education, health, transport, agriculture and food security, and tourism, arts and culture.

This commitment was first described in the Digital Economy Blueprint in 2021[2]. Strategies for public sector digital transformation included leveraging digital technology to improve workflow efficiency and productivity and increasing scope and quality of online services for better user experience. Specific targets were set, such as integrating government services to be online from end to end and providing cashless payment options for all public services. These services are intended to be inclusive, used by all walks of life.

Previously published research by KRI[3] described the challenges of migrating legacy paper-based systems to more efficient digital-based processes. In a case study of the online stamping process in 2022, offline processes were found to be more efficient than online processes[4]. The need to simplify tech and processes to improve usability for all, especially seniors, remains a challenge.

Seniors use digital public services selectively

In 2023, seniors aged 60 and above made up 11.3% of Malaysia's 33.4 million population. An estimated 86.9%[5] of seniors had internet access in that year.

Of those seniors with internet access, 96.1% used the internet to participate in online social networks, 81.4% searched for information on goods and services and 74.5% downloaded media such as movies and photos. In terms of shopping online, 65.6% of seniors ordered goods and services on platforms besides e-commerce, such as mudah.my or Whatsapp, while 35.3% used e-commerce platforms such as Lazada and Shopee.

These relatively high rates of online connectivity and consumerism reflect a global trend[6] of increased consumer internet use during the Covid-19 pandemic[7], including among seniors. During lockdowns when in-person social interactions were limited, most people accepted digital alternatives as a necessary substitute for their interactions with government, businesses and local communities and institutions.

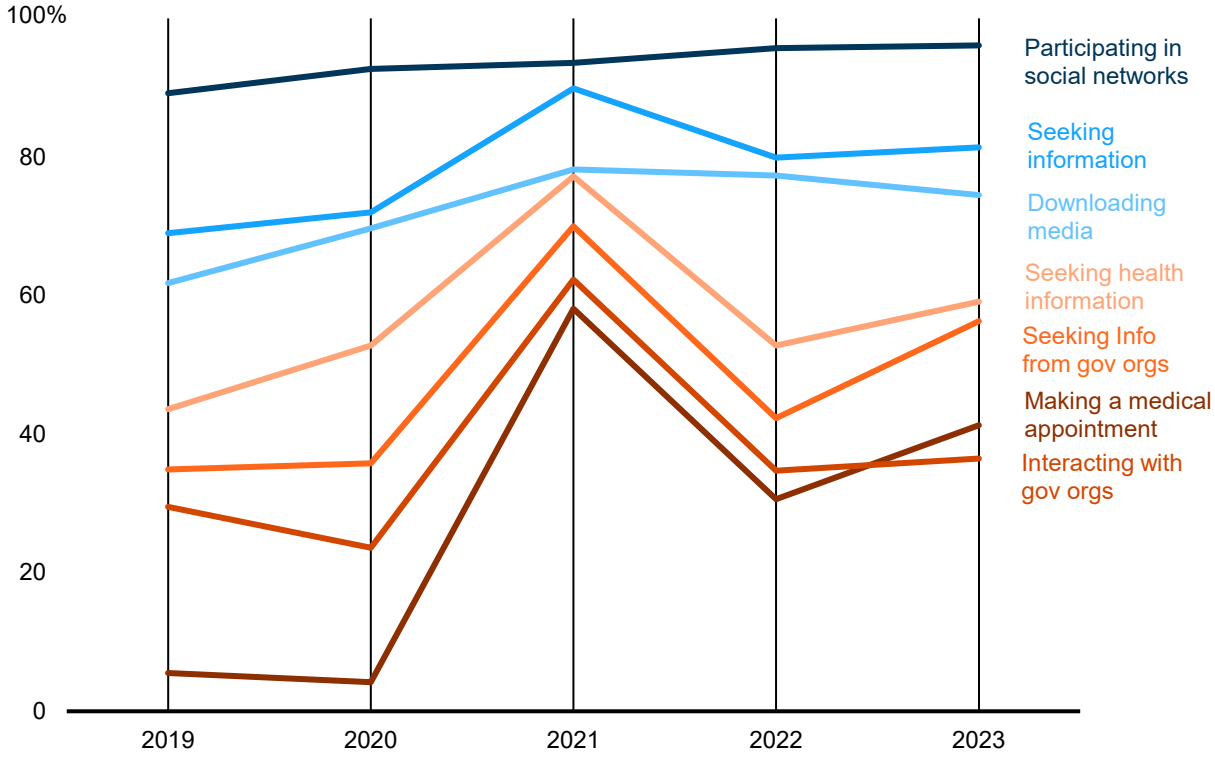
---

[1] National Digital Department (2024)
[2] EPU (2021)
[3] Loke and Gong (2022)
[4] Ibid.
[5] DOSM (2024)
[6] Rinderud (2021)
[7] Khairani Afifi Noordin (2020)

However, seniors' internet use was lower in certain areas such as digital health services and engagement with government. For example, 59.1% of seniors used the internet to look up health information compared to 41.3% who made a medical appointment online. Similarly, 56.3% of seniors used the internet to get information from government organisations compared to 36.5% who interacted with government organisations online.

This suggests that internet use trends among seniors are inconsistent. Certain types of internet usage among seniors have been consistently high pre- and post-pandemic, such as online socialising and downloading entertainment. But other types of internet usage, such as making medical appointments online or interacting with government organisations online, rose sharply during the pandemic and fell sharply once movement restrictions were relaxed (see Figure 1).

Figure 1. Selected internet use by seniors, 2019–2023



Source: DOSM ICTHS (2019–2023)

This rise and fall also suggests that seniors are capable of using digital technologies when they need to but prefer not to use them if they do not have to. Despite the drop in certain uses, post-pandemic use rates are generally higher than pre-pandemic use rates indicating there has been persistent digital adoption among some seniors.

As Malaysia becomes an aging society, further research is warranted on seniors' preferences for certain types of internet use, including seeking information on goods and services online, especially if they may be at higher risk for misinformation and scams[8].

Regardless of their preferences, improvements can be made to digital public services and systems to make them easier to use and perhaps more appealing to reluctant users such as seniors. Existing research[9] suggests that seniors' perception of digital technologies influence their adoption rates. Seniors are more likely to use digital tools that they think are useful, easy to use and that are already being used by their friends and families.

Two strategies to make digital public services easier to use

Designing digital systems and processes to be more inclusive and user-centric can improve their efficiency. Inclusion by design can also improve perceptions of usefulness and usability of technologies. I propose two strategies for inclusion by design.

Use single sign-ons to access digital public services

The first strategy is the use of single sign-ons (SSOs) for public services, which reduces the burden on the individual to create and track multiple user accounts. People wanting to access digital public services only have to create one account which they can use for all services. For example, Sarawak plans to introduce Sarawakpass[10] in 2025, a single account through which a user can access a variety of public and private services, including online payments and public transport.

The use of SSOs reduces the need to remember multiple passwords, which also reduces password fatigue. When people are required to remember many passwords, they tend to create passwords that are easier to remember, which are also easier to guess or hack, thus increasing their cyber security risk. Using only a single password means they only have to remember one password, which can then be more complicated and harder to hack.

Of course, if this one password is compromised, all accounts are accessible. Thus, cybersecurity measures to protect personal data must be in place together with SSOs, including multi-factor authentication and risk-based authentication. Multi-factor authentication is already practiced by most banks requiring additional verification besides a password before proceeding with a transaction. Risk-based authentication would include system monitoring to flag multiple failed log-in attempts or multiple log-in attempts coming from unexpected addresses, both of which suggest someone trying to break into an account.

[8] Nurul Alieyah Azam et al. (2024)
[9] Nur Anita Nur Azman and Norhahinah A. Gani (2023)
[10] DayakDaily (2024)

Develop mobile-friendly websites to complement mobile apps

The second strategy is to develop mobile-friendly websites to complement mobile apps. This can reduce the need to install multiple apps and standardise the user experience across platforms regardless of whether a desktop or mobile device is used. A consistent digital experience across platforms adds an element of familiarity that eases the process of digital adoption.

Mobile broadband subscriptions in Malaysia were ten times higher than fixed broadband subscriptions as at the first quarter of 2023 (43.8 million mobile broadband subscriptions compared to 4.3 million fixed broadband subscriptions[11]). This indicates Malaysia is a mobile-first market when it comes to internet use. As such, digital public services need to be mobile-friendly to encourage higher take-up rates.

As at 2024, Malaysia's government has developed over 250 smartphone apps[12] as part of the digital transformation of the public sector. An informal analysis in 2022[13] revealed several shortcomings of these apps, such as overly specific and limited functions, for example registering guests in a specific building. About half the apps at the time of analysis (97 out of 199 apps) had been downloaded less than 1000 times and there were apps that had not been updated since 2019.

The MyJPJ app, released in 2023, initially had a security flaw that required only a user's MyKad number to register an account without any further identity verification. This flaw has since been addressed by requiring additional information before an account can be created[14].

Digital transformation of public sector services should include creating mobile-friendly websites to complement mobile apps. Take, for example, apps that perform the same function in different jurisdictions like state-specific or local council-specific parking payment apps. A resident of Selangor traveling to Negeri Sembilan would not need to install two state parking payment apps if mobile-friendly websites were available for the transaction. Public services would be easier to access because websites would be lightweight and easy to open in a browser without requiring people to download apps.

Granted, apps add a degree of cybersecurity because they are harder to fake (or spoof) than websites, but they also add a degree of difficulty of use that may hinder seniors from digital adoption. The use of mobile-friendly verifiable websites to complement apps could help overcome that barrier.

[11] MCMC (2023)
[12] National Digital Department (2024)
[13] Ong Kian Ming (@imokman) (2022)
[14] Bernama (2023)

Conclusion

The Malaysian government's efforts to make the public sector and public services digital-first are commendable. More can and should be done to make digital public services more inclusive and accessible to the public. This should be done in Malaysia's context, where people predominantly use their phones to access the internet and the population is aging.

Simplifying technology and digital processes can improve usability and encourage digital adoption among the public, especially seniors. Two strategies for simplifying digital systems are using SSOs across digital public services and developing mobile-friendly websites to complement mobile apps. By adopting these strategies, Malaysia can ensure that its digital transformation benefits every segment of society, fostering a more inclusive and efficient public sector.

References

Bernama. 2023. 'Vulnerability in MyJPJ Application Resolved before Being Launched - Fahmi'. NST Online. 12 February 2023. https://www.nst.com.my/news/nation/2023/02/879088/vulnerability-myjpj-application-resolved-being-launched-fahmi.

DayakDaily. 2024. 'Premier: Sarawakpass to Be Digital Platform to Disburse Targeted Assistance to Sarawakians'. DayakDaily. 12 January 2024. https://dayakdaily.com/premier-sarawakpass-to-be-digital-platform-to-disburse-targeted-assistance-to-sarawakians/.

DOSM. 2024. 'ICT Use and Access by Individuals and Households Survey Report 2023'. Putrajaya. https://www.dosm.gov.my/uploads/release-content/file_20240626114512.pdf.

EPU. 2021. 'Malaysia Digital Economy Blueprint'. Policy Paper. Putrajaya: Economic Planning Unit, Prime Minister's Department. https://www.epu.gov.my/sites/default/files/2021-02/Malaysia-digital-economy-blueprint.pdf.

Khairani Afifi Noordin. 2020. 'Seniors Becoming Digitally Savvy during Pandemic'. The Edge Malaysia. 24 October 2020. https://theedgemalaysia.com/article/seniors-becoming-digitally-savvy-during-pandemic.

Loke, Pak-Yen, and Rachel Gong. 2022. 'Digital Public Administration Services: Is Technology Adoption Enough?' Khazanah Research Institute. https://www.krinstitute.org/Views-@-Digital_public_administration_services-;_is_technology_adoption_enough%5E.aspx.

MCMC. 2023. 'Internet Penetration'. 6 September 2023. https://data.gov.my.

National Digital Department. 2024. 'Anjakan Strategi Digital First 2024-2025'. Digital Ministry. https://www.jdn.gov.my/anjakan-strategi-digital-first/.

———. 2024. 'GAMMA-Galeri Aplikasi Mudah Alih Kerajaan Malaysia'. Gamma. 8 August 2024. https://gamma.malaysia.gov.my/.

Nur Anita Nur Azman and Norhahinah A. Gani. 2023. 'The Factors Influencing ICT Adoption among Senior Citizens in Local Communities, Petaling Jaya, Malaysia'. *Jurnal Evolusi* 4 (1). https://journal.uptm.edu.my/index.php/evolusi/article/view/103/112.

Nurul Alieyah Azam, Alya Geogiana Buja, Nor Masri Sahri, Rabiah Ahmad, Nur Fadly Habidin, Shekh Faisal Abdul Latip, Mohamad Yusof Darus, Mohd Shahril Hussin, and Saharudin Saat. 2024. 'A Light Review on Cyber Security Awareness Models for the Elderly'. *Journal of Advanced Research in Applied Sciences and Engineering Technology* 44 (1):31–45. https://doi.org/10.37934/araset.44.1.3145.

Ong Kian Ming (@imokman). 2022. 'Starting a Thread of My Evaluation of 200 Govt Mobile Apps'. Tweet. *X*. https://x.com/imokman/status/1569532651744395264.

Rinderud, Peter. 2021. ‘Seniors and Technology during Covid-19: The Latest Insights’. *Ericsson Blog* (blog). 26 January 2021. https://www.ericsson.com/en/blog/2021/1/seniors-and-technology-during-covid.