

Bridging Singapore's Digital Divide in Government Services

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By Michael Tan, Colin Teo, and Michael Meyer



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Bridging Singapore's Digital Divide in Government Services

Singapore has been accelerating its rollout of digital government services over recent years, with a target of 90-95% of citizen-government interactions to be made available digitally by 2023.

This ambition builds on Singapore's impressive digital credentials, with the Singapore Government now reinforcing its commitment to deliver faster, more cost-effective services to citizens utilizing digital government services.

A range of initiatives have already been announced to nurture this transformation. The launch of the LifeSG app in 2020 offers a notable example, providing a convenient, single-platform approach for citizens to access more than 40 government services. The LifeSG app tailors content to each user, leveraging growing expectations around customized and personalized user experience.

COVID-19 has accelerated already growing expectations of digital services, creating a new impetus for this digital transformation imperative. Protecting citizens through social distancing and reduced physical contact has created a lasting shift in engagement channels, with digital solutions forming an increasingly important element of continued operations in everything from finance to government services. The importance of this transition has clearly been recognized by the Singapore Government, with the COVID-19 Idea Sprint held in May 2020 undertaken to explore ideas for new digital services which could assist citizens during the pandemic.

The rapid digital transition inspired by COVID-19 has not been without its challenges. Building fit-for-purpose and user-friendly solutions is difficult over such accelerated timelines. Data privacy issues raised by usage of national TraceTogether data have also shown how data sharing concerns risk nurturing hesitancy around the voluntary use of digital government services.

Boston Consulting Group (BCG) has been at the forefront of global understanding of technology transformation for decades. It has a long history of exploring how governments around the world are transforming digital service delivery for citizens. BCG's Digital Government Citizen Survey offers a biennial look at digital service provision and satisfaction in countries around the globe, providing in-depth analysis of user satisfaction, user experience, and trust in digital government services. The results of these studies provide crucial analysis into the key challenges faced by governments in effectively delivering digital government services, as well as highlighting valuable areas of opportunity and potential for improvement which can further progress provision of these services.

The latest BCG 2020 Digital Government Citizen Survey provides valuable insight into Singapore's own provision of digital government services, revealing impressive performance over recent years. Equally, it identifies a clear digital divide between certain sections of the population which must be addressed if Singapore is to continue this successful transformation.

Singapore’s Digital Government Foundations

Singapore has performed well with provision of its digital government services over recent years, and is ranked fourth out of 36 countries assessed in terms of citizen satisfaction in the latest BCG study. (Exhibit 1.) Overall perceptions have also been trending in a positive direction, with a 71% increase over the last two years in net perception of citizens who believe that digital government services are better than those offered by private sector organizations.

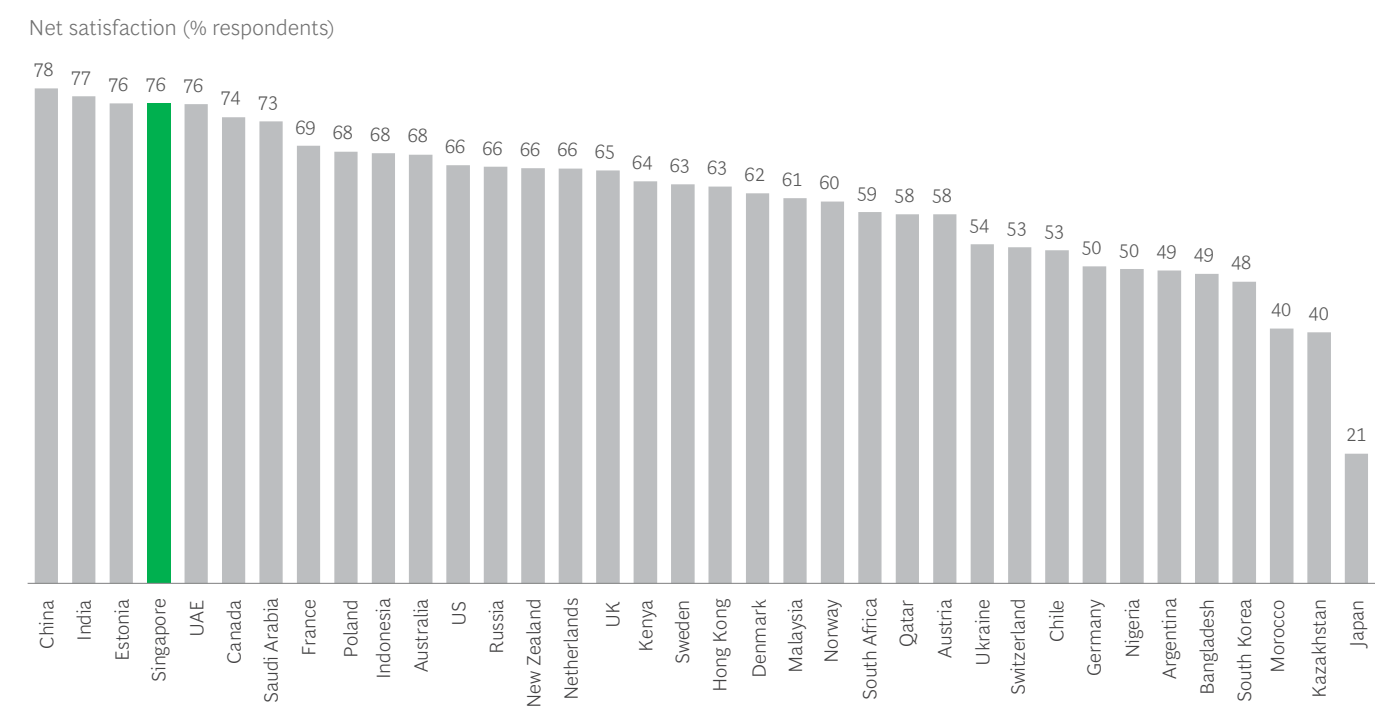
BCG’s study reveals that Singaporean citizens have access to a relatively high number of digital government services, with an average 12.1 services accessed by citizens over the last two years. That compares favorably with a global average of 11 services accessed, and reveals that both satisfaction and provision remain equally high in respondents in Singapore. Reviewing responses across a range of demographics reveals that accessed services were broadly similar across different ages and income groups.

Singapore is investing rapidly to build out its digital government capabilities, with government ICT contracts valued at USD3.5bn awarded in 2020. That reflects a 35% increase on 2019. Established initiatives such as SingPass—the national digital ID—continue to evolve with improvements and new features. SingPass Mobile and facial recognition solutions reflect two of the latest iterations of this development, with SingPass Mobile reaching 1.6mn users by July 2020, just two years after launch.

Despite Singapore’s impressive overall achievements identified in the 2020 Digital Government Citizen Survey, in-depth analysis of the results reveals some important areas of improvement if Singapore is to build on its success to date. There is a clear and evidenced digital divide between certain demographics, notably between elderly and younger respondents, and those on the lowest and highest incomes.

Exhibit 1 - Singapore Ranks Highly in Citizen Satisfaction for Digital Government Services

How satisfied are you with the use of the internet in delivering each kind¹ of government service?



Source: BCG analysis
¹ Based on satisfaction with 26 different digital government services

Dissecting the Digital Divide

The broad overall satisfaction in Singapore’s digital government services must be framed against the clear digital divide identified in BCG’s analysis. This reveals valuable insight into areas of improvement for future service provision.

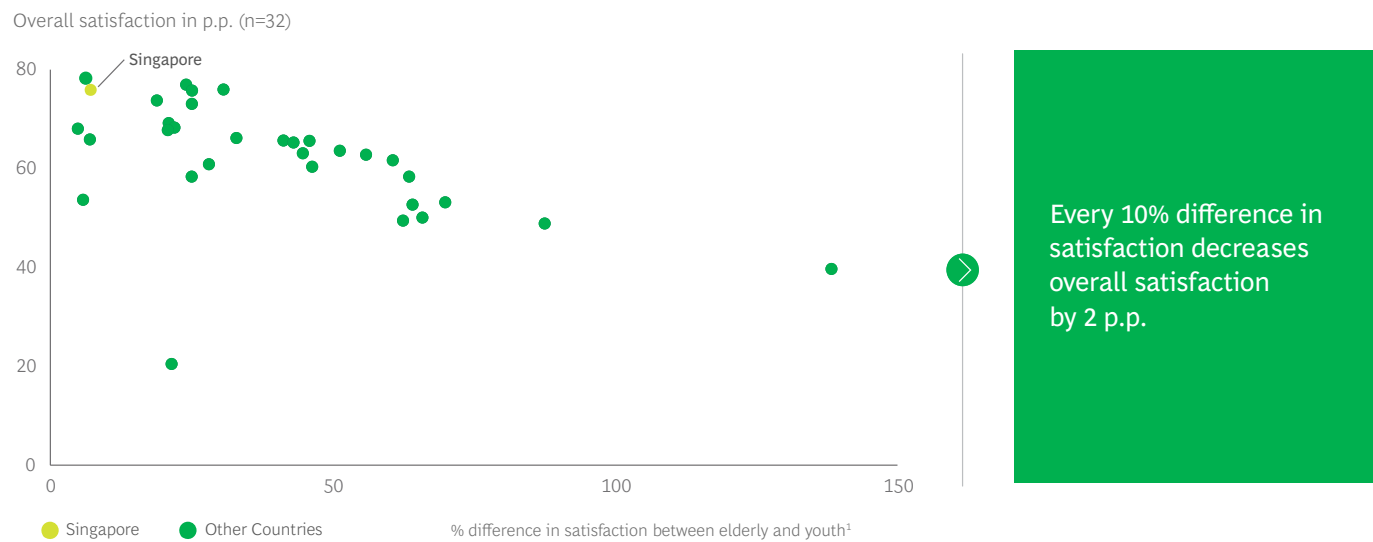
Singapore’s digital divide is evident across two key demographic segmentations—income level, and age of respondents. This divide can be defined by inequalities in access to, and satisfaction with, digital government services.

The study reveals that the lowest income group surveyed reported ~30% lower satisfaction in digital government services than that of the highest income group surveyed.

The age of respondents also provided an important indicator of diverging satisfaction measures, with the youngest and oldest groups revealing contrasting and potentially hard-to-please priorities and pain points. The younger demographic—aged 18-34—expressed dissatisfaction around ease of use and convenience of platforms. The oldest group—aged 60+—were least satisfied with availability of real-time support and assistance provided for service use.

Global analysis indicates that when such a divide exists, and satisfaction between elderly and youth worsens in particular, a country’s total satisfaction with digital government services is likely to decrease. This reveals the importance of acting early to bridge such a gap and tackle the issue of divergent satisfaction levels before they undermine overall performance. (Exhibit 2.)

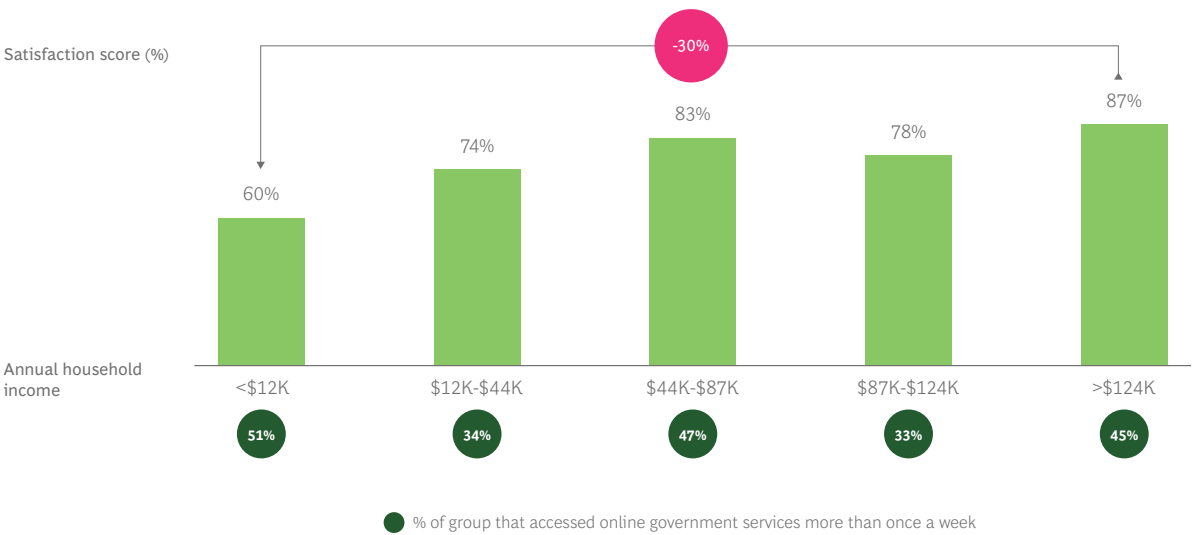
Exhibit 2 - Digital Divide Between Elderly and Youth Correlated with Satisfaction Across Countries



Source: BCG analysis
¹ Difference in % of satisfaction taken by deducting satisfaction score for 18-34 year-olds from 60+ year-olds.

Exhibit 3 - Lowest Income Group 30% Less Satisfied than Highest Income Group Despite Similar Frequency of Using Government Services

Overall net satisfaction score for online government services



Source: BCG analysis

The question of trust in digital government services is a particularly timely discussion, given recent revelations around how data collected under Singapore’s TraceTogether program to track COVID-19 contacts may be

used for other purposes beyond contact tracing, such as in select criminal cases. This comes despite previous reassurances around the siloed use of data. While the Singapore Government has moved to retrospectively

address this problem, ringfencing the data so it can only be accessed in investigations of the most serious crimes, such revelations have raised fresh concerns among citizens about trust in government use of data, and highlighted the fragile yet critical importance of transparent data management and its communication. These interventions are at greater risk of causing dissatisfaction amongst the lowest income groups.

Confidence in the benefits of digital government services is another key area for improvement. Only 72% of lowest income respondents understood the benefits of online service delivery, and just 73% understood the social and public benefits, compared to 89% of those in higher income groups who responded to these two questions.

Alongside comparatively lower satisfaction levels, just ~40% of the lowest income group reported that most or all of their needs were met by online government services, compared to an average of ~65% across all other income groups. (Exhibit 4.) This comes despite evidence that the lowest income group had the lowest expectations of what digital government services would deliver for them.

Expectations in the lowest income group are also the most modest, with just 72% of this group expecting that digital government services would deliver as good or better digital services than those from private organizations.

The lowest income groups also noted more problems in provision of relevant services. BCG’s analysis reveals that this group experienced 50% more problems than the

highest income group in required services not being available online, correlating with earlier findings around lower share of needs being met.

The Age Divide

The Singapore Government finds itself presented with two very different sets of concerns noted by the youngest and oldest age bands studied in this report, revealing age demographics as another important area of intervention in order to tackle diverging satisfaction levels.

The youngest age group—aged 18-34—demonstrated heightened expectations in provision of government services, with 84% of this group expecting similar or better digital services than those provided by the best private sector organizations and global digital leaders. (Exhibit 5.)

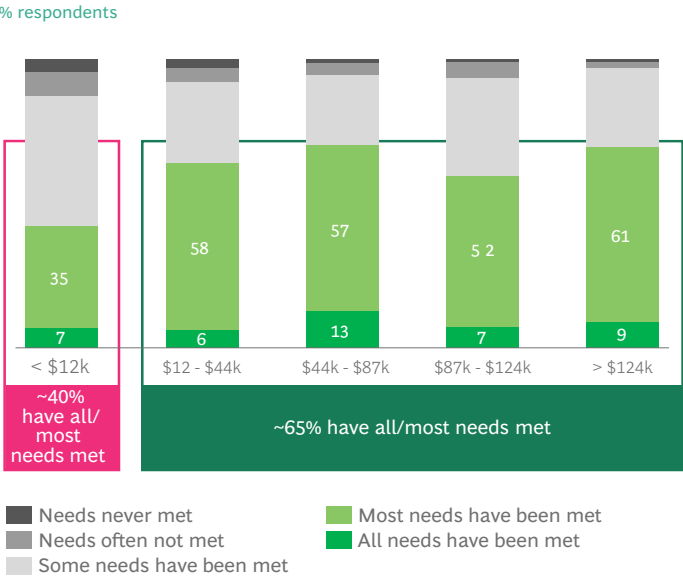
Availability of desired services and ease of process were areas that evidenced the most dissatisfaction in younger groups. This reflects a trend in dissatisfaction for younger groups focused on more subjective measures around ease of use and responsiveness of platforms.

At the same time, 18% of the youngest group noted that a desired service was not available online, compared to 8% in the oldest group, reflecting a significant generational gap in satisfaction with digital government service provision.

Further analysis of these findings reveals a clear digital divide in both expectation and identified areas of

Exhibit 4 - Only 40% of Lowest Income Group has Their Needs Met Despite Having Lowest Expectations

Level of needs met by online government services



Source: BCG analysis

Expectations of online government services

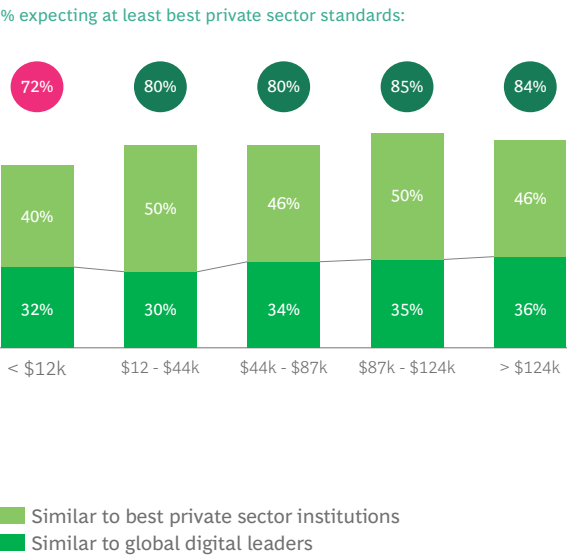
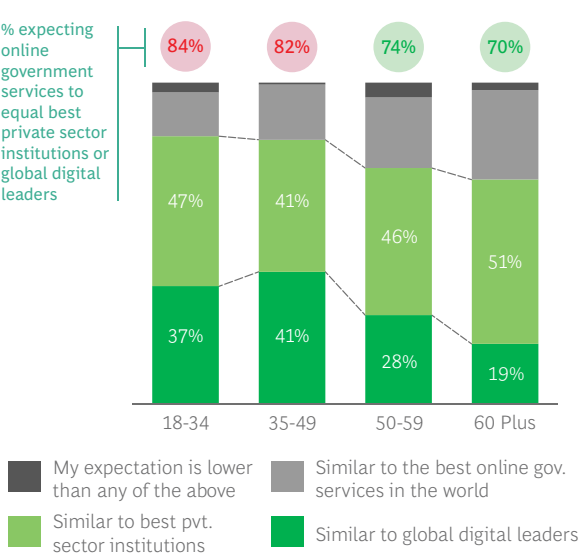


Exhibit 5 - Youths Expect Digital Government Services to be Equal to the Best Global Digital Private Sector Leaders in terms of Speed, Ease, and Availability

Expectations of online government services



Source: BCG analysis

¹ % measured against highest income group

% of problems encountered when using digital government service

Facet of UX	Problem	Age Bracket	Gap b/w lowest & highest age groups (p.p. / %)
Navigation and design	Questions (group)	18-34 60 Plus	
	The overall process took too long or was too difficult	22% 14%	8p.p./57%
	I could not find what I needed	15% 15%	
Channel flexibility	I didn't understand the instructions or didn't know what to do	13% 8%	
	The service I needed is not available online	18% 8%	10p.p./125%
Help and support	I experienced technical difficulties or issues completing my request	19% 19%	
	I needed help but none was available at the time	18% 19%	
	I didn't have all the information or paperwork	18% 10%	
User issues	I couldn't remember my username or password	17% 19%	
	Other problems	0% 0%	

importance in the delivery of digital government services. The youngest age group noted clear dissatisfaction in areas around user experience of online services, while the oldest group expressed more concern around provision of real-time support and control of data.

Whilst older citizens had lower expectations than their younger peers, they evidenced by far the highest dissatisfaction levels in particular areas of digital government services related to support and assistance. Just 42% of the oldest age demographic were satisfied by an ability to get advice from other users and share their experience, and only 63% were satisfied by the real-time support and assistance available in use of digital government services. That compares to 71% and 73% for the youngest group respectively.

Another important divergence between these age groups comes around trusted use of personal data, with just 49% of the oldest demographic satisfied about control over how long data was stored, compared to 67% of the youngest group.

Comparing Singapore’s Digital Divide

Singapore’s digital divide by income is higher than global peers, reflecting an important need to focus on bridging this gap. The differing perceptions of Singapore’s lowest

and highest income groups on whether their needs are met is the highest among top-scoring developed countries studied in this report at 36%, compared to a digital divide ranging between 10-20% for other high-performing global peers identified for comparison by BCG. (Exhibit 6.)

Focus for the Future

The evident digital divide identified in this study highlights important areas of intervention for the Singapore Government. Analysis reveals a clear divide across income groups, with the lowest income group having both the lowest satisfaction and least needs met across all income groups. This dissatisfaction is particularly focused around areas of confidence in data management and security, and transparency of data use.

The Singapore Government also faces important challenges in catering to the differing expectations among the oldest and youngest demographic groups, revealing important parallel concerns which must be met in tandem. Changes to improve user experience will be essential in bridging this satisfaction gap for the youngest demographic. Enabling appropriate real-time support while reassuring and reinforcing data controls and privacy will be equally vital in ensuring the needs of the oldest group are met.

International Learning From the Digital Divide

While Singapore compares favorably in overall satisfaction, international benchmarking provides some valuable insight to inform the evolving delivery of the nation’s digital government services. Through detailed analysis of 36 countries, we have identified three key elements of delivery which can help Singapore bridge the existing digital divide.

- Satisfaction of services. Taking a customer-centric approach to identify the needs of citizens.

- Trust in data management. Improving transparency, security, and control of data. This is particularly valued by the lowest income group and the elderly.
- Digital inclusion, including for elderly and lower-income groups. Catering services to meet specific expectations of the elderly and those in the lowest income groups.

We have analyzed and established learnings from three best-practice global peers which offer valuable insight on how Singapore’s services can adapt and evolve in the future to tackle the digital divide.

Case Study
Australia: Citizen Satisfaction

Service New South Wales (NSW) designs and provides state government services under one department for the Australian state of New South Wales. It combines over 800+ government transactions in one unified service that includes a phone number, website, mobile app, and series of service centers for user support.

In order to improve satisfaction amongst citizens, Service NSW acts as a unified ‘front door’ for key state government services, delivering consistently high standards in service provision and acting on feedback in real-time. Service NSW operates by consulting with sponsoring government agencies, then facilitating ongoing provision of a digital service.

This citizen-centric approach combines customer journey research, common design standards, and a single feedback process under one department, helping to deliver consistent high standards across services, which improves user satisfaction. The latest analysis reveals citizen satisfaction for Service NSW stands at over 95%, compared to 69% at the time of launch.

The Service NSW survey framework provides a detailed view of specific dimensions of satisfaction. This not only allows citizens to better understand the rules and regulations but provides a single source of truth, and clearer navigation of issues by the state government itself.

Service NSW analyzes feedback in real-time through interactive dashboards which can be viewed by senior leaders and ministers, providing a detailed overview of pain points or challenges, and ensuring quick improvements and responses where needed. This provides a pathway to quickly adapt provision of digital government services as the needs of citizens evolve.

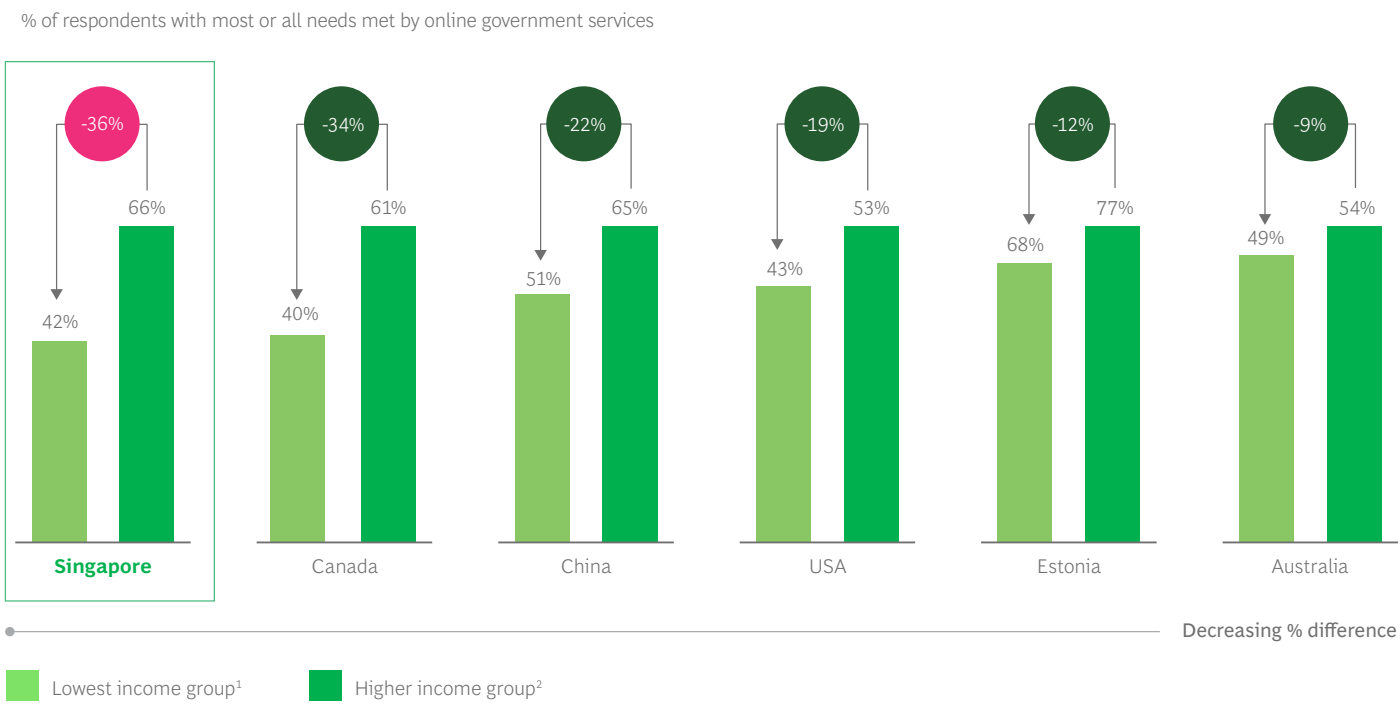
A recent example of this agile approach can be seen in how Service NSW fed into response for the devastating bushfires experienced by the region in 2019-2020. It took just one day to launch a dashboard analyzing citizen feedback on the impact of the fires, ensuring citizen sentiment on this devastating event was captured in real-time. This provided an invaluable platform for senior leaders to adapt their response to target concerns raised by citizens.

The Service NSW app has also provided a valuable platform to address key COVID-19 challenges. The app was leveraged to create a Covid Safe Check In program for businesses in order to comply with local contact tracing requirements, inclusive of simple QR code functionality. It has also provided an avenue for economic stimulus programs, with the Dine & Discover NSW program providing financial incentives to support struggling hospitality and tourism businesses during the pandemic. The agile framework allows responsive and scalable solutions that can be rapidly deployed to address local needs.

Singapore can learn valuable lessons about going beyond the unification of services in one single platform, and adopt an approach which also unifies the design process, provision of services, and subsequent analysis of feedback and responsive iterative improvements under one team. Singapore could also work to actively track performance of services to build understanding and quickly react and respond to feedback, leveraging the benefits in citizen satisfaction evidenced by Service NSW.

- Employ a unified approach focused on frontline experience to achieve consistent high standards for citizens, improving their overall satisfaction in government services.
- Utilize real-time analysis of feedback and an iterative approach to better meet citizens’ evolving expectations.

Exhibit 6 - Digital Divide for Income in Singapore Wider than Global Peers



Source: World Bank, government statistics, Center for the Study of Living Standards

¹ Represents all households below 10% percentile of household income

² Represents all households above 10% percentile of household income

Estonia: Citizen Data Ownership

European country Estonia operates a robust data management approach which provides high transparency on use of citizen data, ensuring comprehensive citizen overview, control, and security of data. By providing a data tracking mechanism for citizens to see how their data is used, Estonia has helped engender higher levels of trust in digital government services.

Estonia's state portal allows citizens to easily access a list of queries made by ministries and agencies for their personal data, offering the ability to track the uses it has been put to. (Exhibit 7.) Citizens can explore detailed views of the timing of a query, its purpose, and the organization which triggered the query across major databases such as the population register, social services and benefits registry, and register of buildings. This bolsters trust in citizens who have a clear understanding of how and where their data is being accessed and used.

Citizens are further empowered with the ability to lock or approve access to selected datasets such as healthcare reports. This enables them to not only assess and track how data is used, but provides valuable agency through

decision rights which dictate which third-parties may use it in some cases.

The national Data Protection Inspectorate provides an oversight body which allows citizens to file complaints around misuse of data, backed up by laws that are empowered to penalize government officials for any misuse. This robust approach to privacy and transparency has enabled 99% of government services in Estonia to be offered through digital platforms, and delivered an 82% trust rate in digital government services.

Estonia's approach presents some key learnings for Singapore around promoting trust in the management of data which is fundamental to encouraging citizens to embrace digital government services.

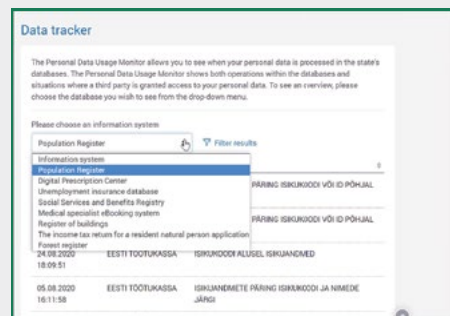
- Provide visibility over how citizens' data is used in order to establish trust in government usage of data, and encourage citizens to adopt these services.
- Provide a degree of data ownership to citizens to increase assurances that their data is only put to use based on citizens' own preferences.

Exhibit 7 – Holistic Platform for Data Transparency, and High Degree of Control Available to Citizens

A Data tracker to access data queries

Provides **detailed view of timing, purpose of query and querying organization** for major databases e.g.

- Population Register
- Social Services and Benefits Registry
- Register of buildings



B Health portal to control data access

Allows citizens to **lock individual health reports**, so only select providers can have access



A Improves **visibility**
of how citizen
data is used

B Grants **control and ownership of data to citizens**

Case Study

United Kingdom: Digital Inclusion

The United Kingdom operates a policy whereby all government services are designed and assessed within a framework for digital inclusion, ensuring lower-income groups and the elderly are considered in provision of all services. This approach promotes digital services that recognize and cater for groups with greater barriers to accessing digital services, backed up by standardized assessments to ensure government agencies adhere to these standards.

Design of digital government services take a bottom-up approach to ensure accessibility across devices, including those with older or lower-end devices, and who may suffer from poor connectivity. It also incorporates measures to assess language and support channels, ensuring all specific expectations of inclusivity are met.

All transactional services, as well as those requiring spend approval, must apply a three-stage assessment to understand and assess inclusivity measures. That includes services such as visa applications, civil court filings, tax credit renewal, and appeals against motoring offences. The failure at any stage of the assessment process prevents progression to the next stage of development and triggers a need for reassessment. (Exhibit 8.) This ensures that all

government agencies align with and adhere to inclusivity in the delivery of services.

This inclusivity-first approach by the United Kingdom has delivered some important benefits for its digital government services. The digital take-up rate for the UK's Carer's Allowance Digital Service—a grant for eligible carers—reached 74% after it was redesigned and relaunched, up from 53% from the previous service delivery. This is a notable improvement for a digital government service with a high percentage of applicants from older demographics. The transformation of delivery has seen a completion rate for applications rising from 71% to 80%.

The success of the UK's inclusivity-focused approach can provide some valuable lessons for Singapore in attempting to bridge the digital divide, particularly in relation to provision of services for the oldest population group and those on the lowest incomes. The bottom-up approach ensures inclusivity is an integral part of any service design, while clear benchmarking assessments ensure all agencies are aligned on what that should look like when developing or transforming any given digital government service.

Exhibit 8 - Mandatory 3-stage Assessment Prior to Launching Online Government Services

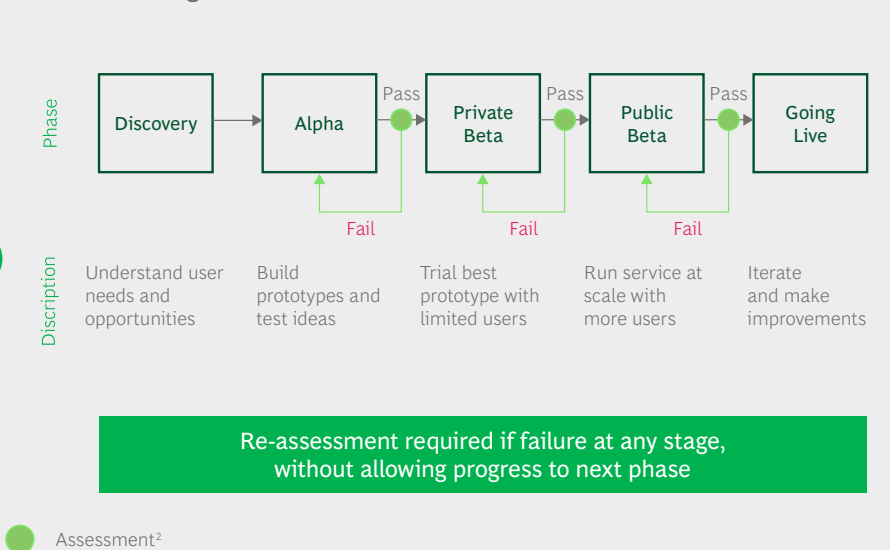
**All central government
departmenet services require
assessments if either:**

- Cabinet Office spend approval is required
- Service is transactional¹

Examples:

- Visa application
- Filing of civil claims
- Tax credit renewal
- Pleas against motoring offences

Service Design Process



Assessment²

- Design online services from the bottom up to ensure all specific expectations on language and other key features are captured and met to promote digital inclusion.
- Provide assessments which agencies must follow in design and delivery of digital government services, and with checks that agencies must pass in order to progress with development of these services. Building Benefits through Bridging the Divide

B CG's 2020 Digital Government Citizen Survey shows that Singapore remains a world leader in digital provision of government services, with a top-five position demonstrating its success in delivering these services to date. Yet the evidence of a clear digital divide between those in the lowest and highest income bands, as well as diverging priorities of the oldest and youngest groups, shows that targeted intervention will be needed in order to maintain this success.

Other countries are not standing still, and the comparative improvement in Singapore respondents' perceptions of digital government services leaves no room for complacency. While Singapore demonstrated a 22 percentage point increase in net perception of digital government services performing better than private sector digital services between 2018 and 2020, that places it just middle of the pack compared to many of its peers. China, India, and Morocco all evidenced more than a 40 percentage point improvement over that period, while even those nations with a longer history of advanced industrialization such as Norway, Germany, Switzerland, and the US enjoyed a ~30 percentage point increase.

Closing Singapore's ~30% satisfaction gap in digital divide between the lowest income and highest income groups offers a platform to significantly boost its overall citizen satisfaction in digital government services. This could

unlock notable improvements in access, inclusivity, and satisfaction in digital government services, and boost the country to the top of the Digital Government Citizen Survey rankings. potentially challenging for first place in overall satisfaction rankings in a best-case scenario.

If Singapore is to achieve this goal, it will need to recognize, and address, the two key areas of digital divide identified in this report:

- Income divide. Ensure appropriate provision of desired digital government services while promoting the benefits and reinforcing trust and transparency in management of data submitted to digital government services.
- Age divide. Address questions of user-friendly service provision raised by the youngest age groups, while at the same time working to tackle the parallel concerns of real-time support, assistance, and transparency raised by the oldest demographic.

The 2020 Digital Government Citizen Survey shows how impressive commitments over past years have reaped valuable rewards for Singapore in citizen engagement and satisfaction. Acknowledging and addressing the findings of this report, and embracing the opportunity to tackle the nation's digital divide, offers the chance to further deepen penetration and boost satisfaction in digital government services in the future.



Methodology

The 2020 Digital Government Survey interviewed 24,500 respondents in 36 countries, including 500 respondents in Singapore. Analysis reveals that respondents in Singapore displayed a higher level of digital awareness than the average Singaporean citizen, with 87% of respondents accessing the internet more than once per day, and all respondents having more than two devices capable of accessing the internet

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