Digital Readiness Assessment

Suriname

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FOREWORD

The results of this Digital Readiness Assessment comes at a time when Suriname and the rest of the world are facing a period of recovery from the global COVID-19 pandemic. Over the past two years the world moved from the every-day world of in-person schooling, shopping, meetings and entertainment to a virtual, online way of life. While this has been easy and productive for some persons and for some sectors, it has been very challenging for others.

Lack of capacity, insufficient hardware, expired software, inadequate digital literacy, inconsistent energy supply and no internet connectivity are some of the issues that have created these challenges. These issues have impacted many persons, businesses and sectors to some degree but the most vulnerable and marginalized have been hardest hit and without digital access and digital literacy many person, businesses and sectors face digital exclusion.

Across the globe Governments have had to retrofit how goods and services are offered to their citizens in order to continue to serve them while ensuring all are included. This cuts across all sectors including banking and financial services, registry services, health care, food and beverage industries, entertainment, hospitality, agriculture and education. The first task in addressing these issues is to know what exists, what the capacities are and what the needs are of various groups of the citizenry.

The Government of Suriname must be commended for being a step ahead with the establishment of the E-Government Office in the Cabinet of the President as part of the Development Plan 2017-2021, which seeks to mainstream a digital way of life for the people of Suriname. UNDP is proud to be a partner with the Government and the e-Government office in seeking to improve the digital awareness, capacity and access in Suriname.

With the expertise of the UNDP Digital Transformation Team, UNDP Global Centre for Technology, Innovation and Sustainable Development and UNDPs Accelerator Lab, the UNDP Suriname Country Office worked closely with the e-Government office in rolling out a survey to assess the current digital capacity and digital needs with analyses that will seek to inform the Government on the next steps to take to enhance Digital Literacy, to improve Digital Access and to increase Digital Inclusion. The e-Government office engaged the private sector through the telecommunications companies to get the message out via SMS text messages which enabled a broad participatory process from the public.

FOREWORD

As part of the process UNDP also offered opportunities for training and capacity building through online for Government staff, and many staff benefitted from these training opportunities.

For UNDP in Suriname, this is an important step as we continue to build on the support offered to the Government and people of Suriname following on from the four-part series of webinars on Digital Inclusion for Sustainable Development organized in partnership with the Suriname ICT Association that was held in May 2021. That webinar series benefitted from the strong contribution and commitment of various stakeholders including Government Ministries, private sector, youth, civil society and Indigenous and Tribal People and was important in providing avenues for ensuring we Leave No One Behind and continuing to support Suriname on its path to achieving Agenda 2030 – the Sustainable Development Goals.

Through the Digital Readiness Assessment Suriname can now take stock of the current digital context of the country, with which decision-makers can then determine where basic digital foundations may be lacking, or incomplete, and where digital modalities are a central tenet of national growth and development. The assessment is structured around five core pillars of digital transformation – these are infrastructure, government, regulation, business and people.

Margaret Jones Williams

Deputy Resident Representative

UNDP Suriname

March 31, 2022

MESSAGE FROM e-Government Suriname

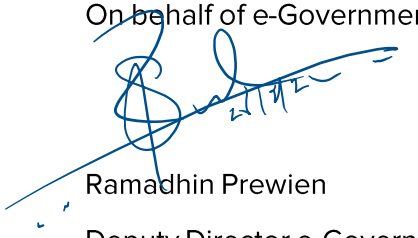
“No one is left offline..”

e-Government within the Government hierarchy has a formal mandate to develop and implement a strategy to promote the transformation to a digital government in order to provide more efficient government services to civil servants, businesses and citizens. e-Government also acts as an enabler to the private sector in supporting initiatives that contribute to the development a strong digital society. The e-Government foundation is based on the idea “no one is left offline” and the strategy includes five pillars: 1) strengthen infrastructure and (cyber) security, 2) integration of government ICT, resource pooling and knowledge sharing, 3) e-registries, 4) modern and interactive government portal, and 5) ICT legislation, regulation and policies. The implementation of this strategy starts with the basic building blocks of a digital government/ society and is based upon an integrated whole-of-government approach in which e-Government closely collaborates with all ICT-Departments of the Government and other organizations/ sectors.

Given that there is limited data available in Suriname regarding the status of digitalization at all levels within society, e-Government Suriname was grateful to accept the contribution of the UNDP Suriname Country Office to support in conducting the Digital Readiness Assessment for Suriname with the expertise of the UNDP Digital Transformation Team, UNDP Global Centre for Technology, Innovation and Sustainable Development and UNDPs Accelerator Lab. The Digital Readiness Assessment report provides valuable insights which e-Government Suriname can use for policy development and implementation. Our ultimate objective is to establish a sustainable infrastructure and organizational structure to execute required actions to achieve the digital government strategy, thus making sure everyone has access to digital services.

On behalf of the Government of Suriname, we would like to thank all participants for their effort to contribute to this assessment. A special thanks to UNDP for their support in providing the tools and facilitation to conduct the assessment. We look forward to collaborate with UNDP to take digitalization to the next level...where no one is left offline....

On behalf of e-Government Suriname,



Ramadhin Prewien

Deputy Director e-Government

Cabinet of the President of the Republic of Suriname

Contents

- **Executive Summary:** this section provides a high-level overview of key findings from the Digital Readiness Assessment, alongside recommendations and broader considerations. It is useful in providing a quick insight into priority digital challenges and opportunities.

- **About the Digital Readiness Assessment:** this section provides an introduction to the UNDP Digital Readiness Assessment, and the UNDP Digital Transformation Framework – founded on a whole-of-government and whole-of-society approach to digital. The first step of implementing the framework is the UNDP Digital Readiness Assessment.

- **Key insights:** this section features insights and a high-level overview of recommendations for each of the five digital readiness pillars. It provides more expansive than the Executive Summary, and aims to drive initial discussion – before diving into the detailed findings.

- **Detailed findings:** this section of the report unpacks the findings from the desk research and survey responses in greater detail – against the five pillars: infrastructure, government, regulation, business, and people. A set of recommended actions are also included for each of the five pillars. There is also a separate section on foundational digital catalysts: data exchange, digital legal identity, and digital payments.

- **Next steps:** setting out key and priority actions for the Government of Suriname and opportunities for UNDP collaboration, advice, and support.

- **Annex:** further information on the Digital Readiness Assessment methodology.

Executive Summary

- **Suriname has made good progress in systematically shaping and driving digital transformation.** In particular, the country has built good foundations of digital literacy within and beyond government. Digitalisation efforts across the public sector are also heading in a promising direction. The government has strong ambition to position digital at the core of national development. **There is proper support for digital transformation across all levels of government, including at the senior political level**, and cross-government ownership in defining a technical vision – the ICT Vision 2030 – for digital transformation that aligns with Suriname's broader development priorities.

- **However, the visibility and benefits of government efforts around digital may not be reaching the general population.** While survey respondents favourably perceived digital transformation to be a high national priority, they were largely uncertain of the government's approach towards digital – and believed the government could be more '*bold*' in leading digital transformation efforts in the country. There is an opportunity for the government to leverage the momentum of accelerated digitalisation driven by COVID-19 – as recognised in the COVID-19 Recovery Plan – and to consider the potential of digital as a long-term tool and priority for Suriname's socioeconomic transformation. This is particularly important as the government defines the Policy Development Plan 2022-2026.

- **Setting a strategic and long-term direction for digitalisation in Suriname is particularly important.** Survey respondents mentioned the lack of policy continuity – and longer-term funding – in implementing digital programmes as key constraints. Recognising this a number of priority recommendations set out in this report focus on shaping and implementing strategies – to provide coherence and direction across key digital transformation priorities (including digital infrastructure, a national data governance strategy, and a digital skills strategy). A number of related strategic initiatives within government are also highlighted - including improving monitoring, learning, and evaluation capacities to strengthen the country's existing digital foundations; and working to break down siloes between departments and delivery teams.

- **There is also scope to draw on the learning of other countries, particularly Small Island Developing States, and play an even more active role in this broader community of practice.** Digital transformation is a journey, and not an end-point in itself. As noted by one central government survey respondent: *"unlimited access to digital information flows [can make] multiple development opportunities understandable and manageable - through comparison or examples from other countries around the world."*

Section 1: About the Digital Readiness Assessment

What is the Digital Readiness Assessment?

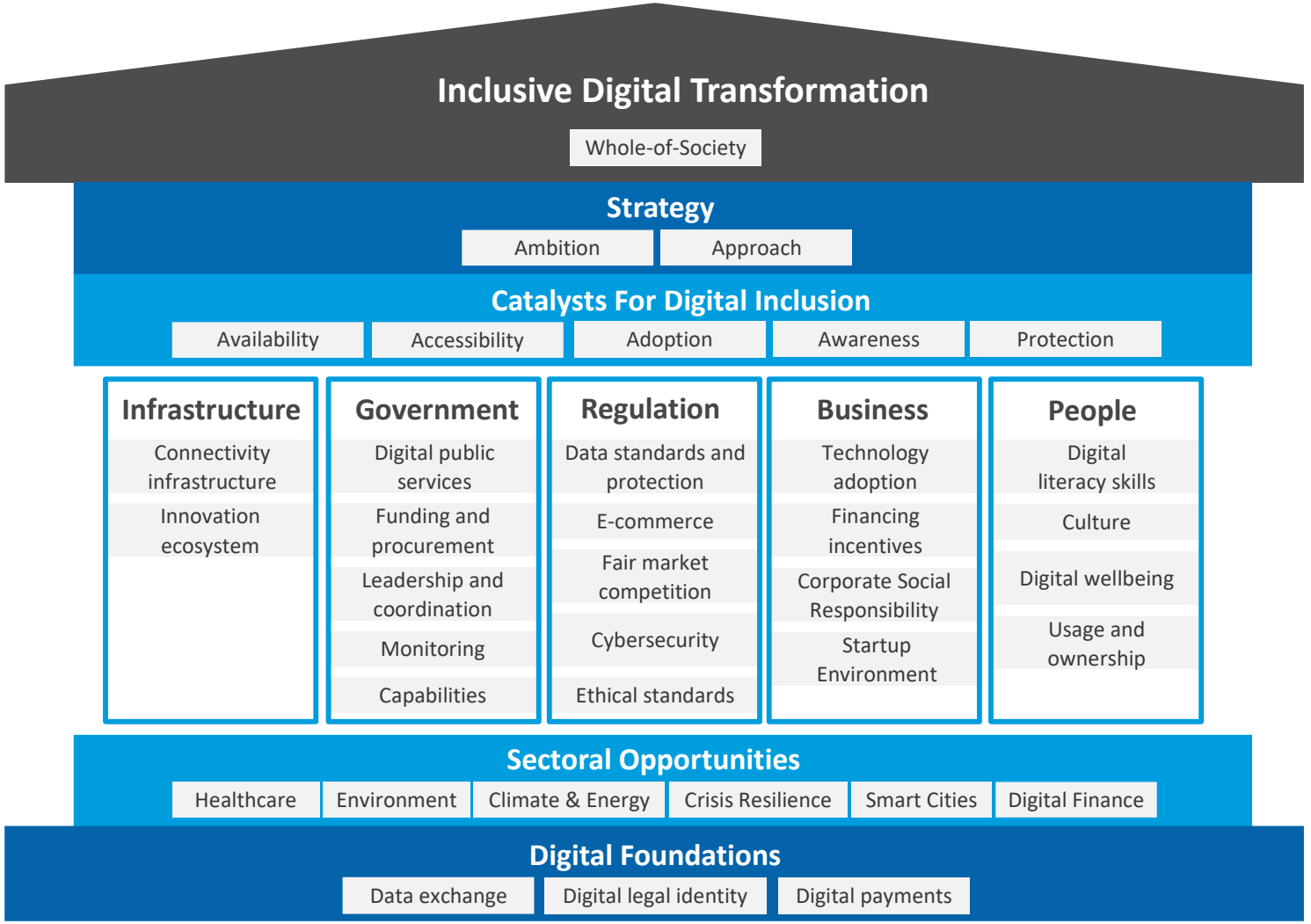
- The UNDP Digital Readiness Assessment is a **survey-based tool to provide rapid, high-level insights** into a country's digital strengths and opportunities. It is intended to serve as an "entry point" for increased engagement between governments, UNDP Country Offices, a broad range of UNDP experts, and other international development partners.

- The assessment has been **designed to be used in conjunction with other tools and existing research. It is founded on a number of key principles**: easy to complete, drawing on a mixed-method approach; providing real-time insights related to the 2030 Agenda, recognising that technology is a foundation and an enabler; providing iterative, tailored, and actionable results; and founded on inclusivity.

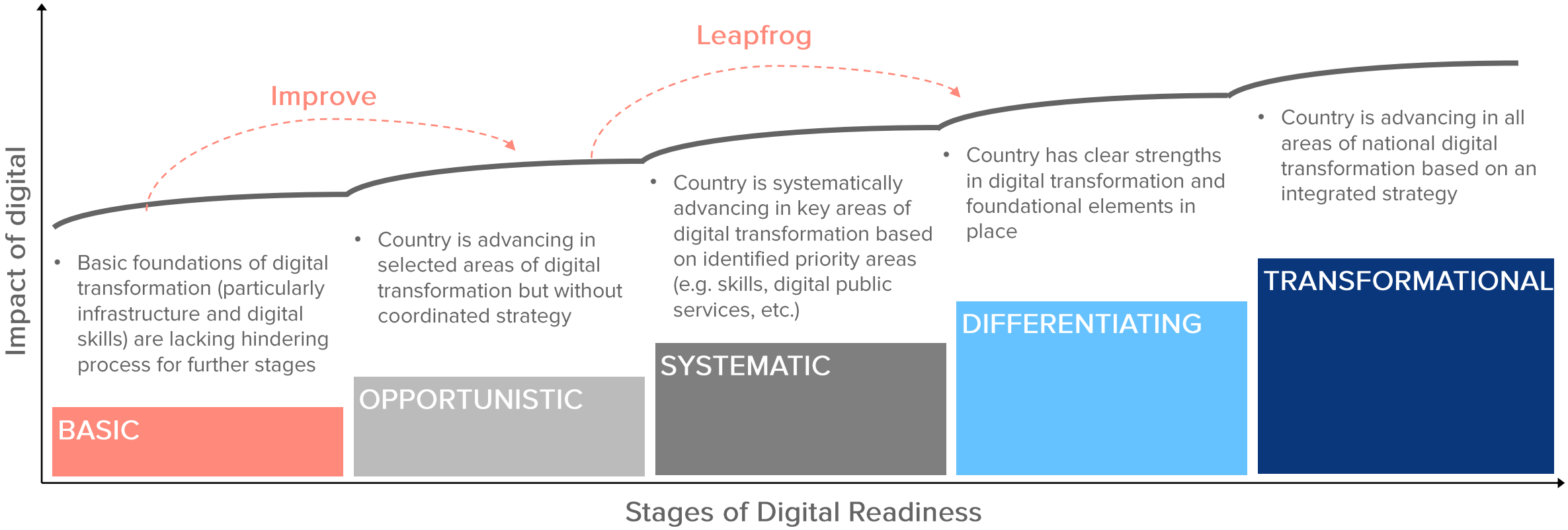
- The Digital Readiness Assessment also aims to improve coordination and clarity **to drive a whole-of-government and whole-of-society approach to digital transformation.** This is crucial in achieving digital inclusion, ensuring that no one is left behind from the potential of digital, and enabling countries to leverage **digital to achieve the Sustainable Development Goals.**

Founded on the UNDP framework for whole-of-society digital transformation

- The **UNDP Digital Transformation Framework helps stakeholders align on the key elements of inclusive digital transformation.** The framework allows these actors to identify, structure, and prioritise national digital transformation efforts and agendas.
- In each part of the framework **there are a broad range of components that can be addressed for a successful national digital transformation.**
- The framework is also **a basis to discuss possible UNDP support** – and a top-level framing that could encompass other frameworks. People and digital inclusion need to be put at the centre of this identification and prioritisation.
- **The first step of implementing the framework is the UNDP Digital Readiness Assessment.**

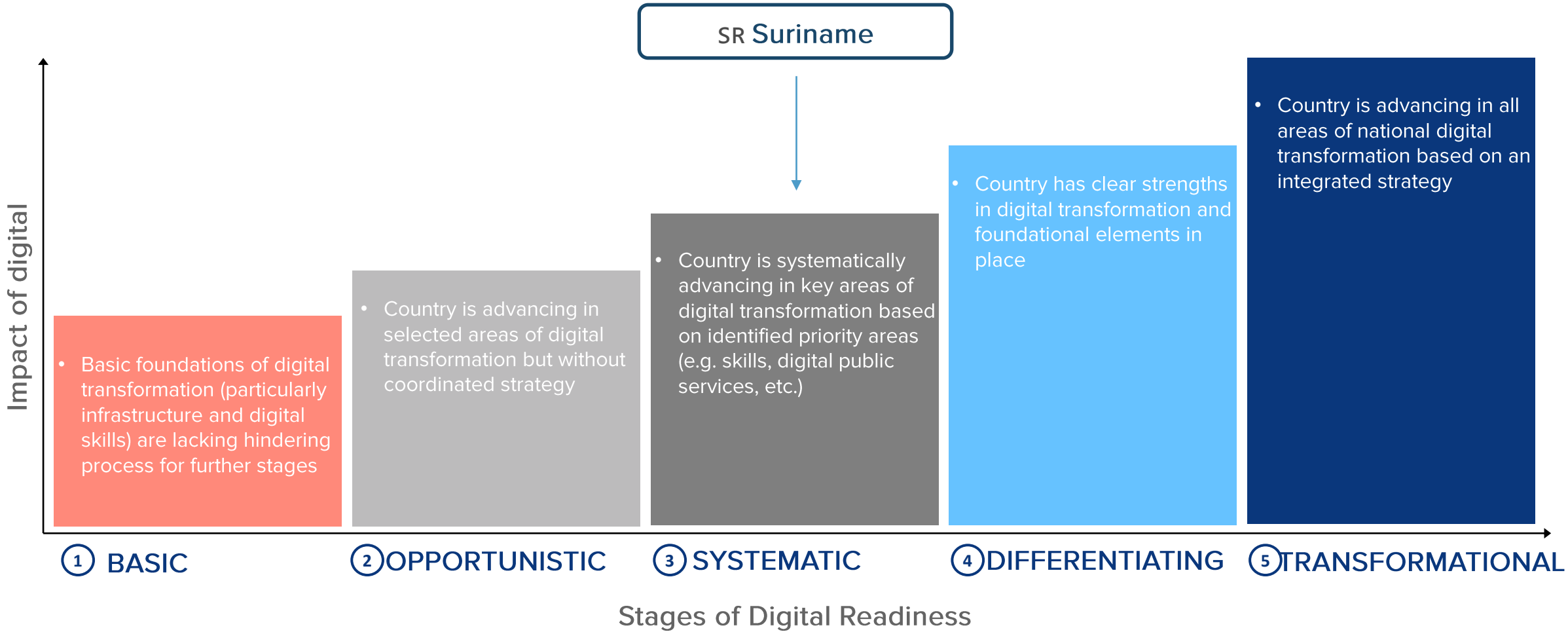


The relevant digital interventions for each country depend on the stage of “digital readiness“ – identified by the assessment

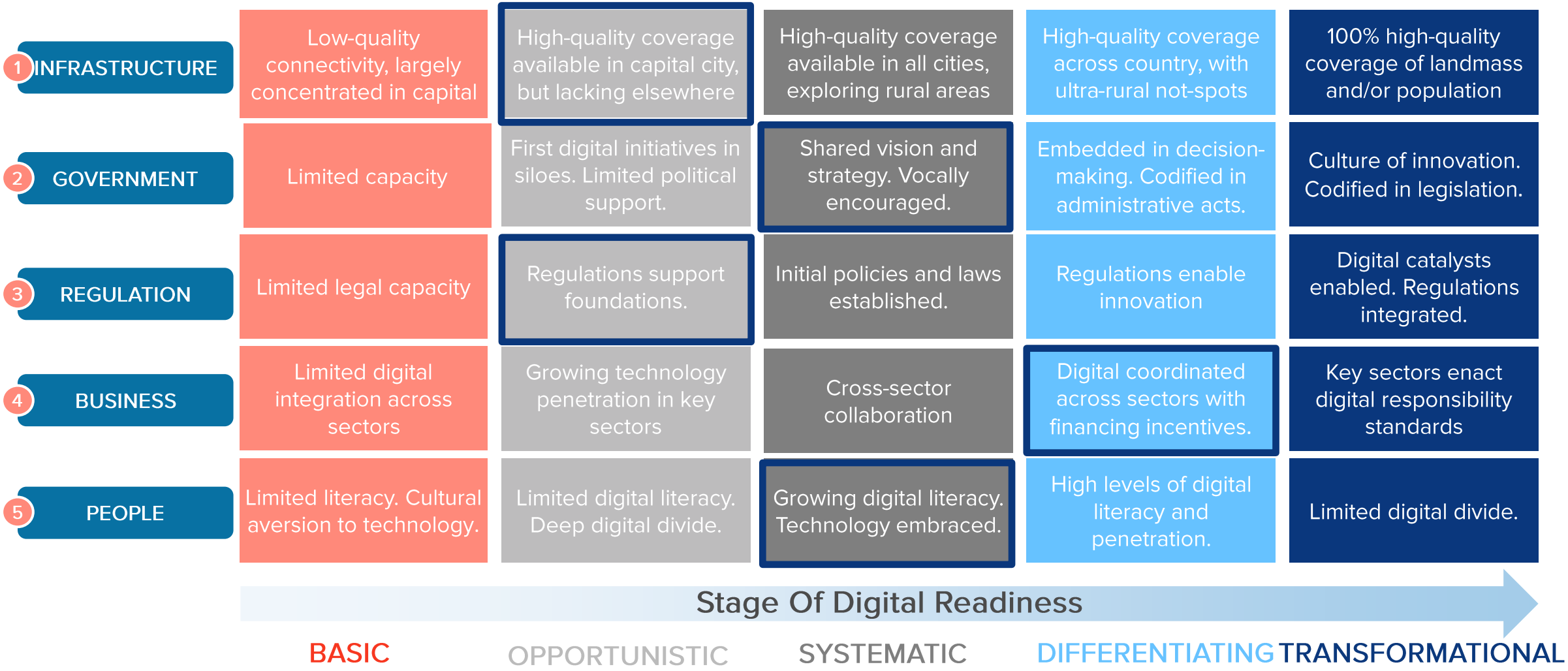


Section2: Key insights

The Digital Readiness Assessment positions Suriname as a country systematically applying digital tools and approaches



However, progress on digital transformation is uneven in Suriname, with some areas stronger than others



Suriname: rapid diagnostic

- The digital readiness of Suriname is **strong** and is considered '**systematic**' – meaning the country **is systematically advancing in key areas of digital transformation based on identified priority areas.**

- This score is also disaggregated across the five core pillars of digital transformation. These are:

  - Infrastructure
  - Government
  - Regulation
  - Business
  - People.

- In addition, the Digital Readiness Assessment also **explores the status of foundational digital catalysts**: data exchange, digital legal identity, and a digital payments ecosystem, and the **overall strategic direction** (see right).

- The assessment for each of the above areas is explored in more detail in the '**Detailed findings**' section of this report.

Key insights

	Infrastructure	Government	Regulation	Business	People
Summary of insights:	Connectivity improved in recent years, with growing infrastructure investment. Last-mile connectivity requires developing supporting ancillary systems, including supporting further liberalisation, and addressing the affordability of devices, data, and electricity. More efforts needed to drive innovation ecosystem in the country (including incubators, entrepreneurship and skills development, and other initiatives).	Good e-government progress, but challenges in technical and organisational capacity to deliver on digital priorities. Clarifying government's digital mandate and developing a whole-of-government strategy and implementation plan are crucial. Need for further digitalisation of priority services, improving funding and procurement modalities, and developing monitoring and analytics capabilities.	Systematic explorations in regulations that could futureproof digital economy developments – including forthcoming data standards and protection legislation. Scope to further explore regulations that could address competitive challenges in e-commerce – and data standardisation (including Open Data). Need to accelerate discussions, strategy, and activities around national cybersecurity.	Businesses slowly engaging with digital and online economies – but perhaps constrained by lack of access to credit, connectivity, and skills gaps. Progress in improving ease of starting a business. Business development support for SMEs should consider role of digital. Financial inclusion is also a challenge, but could be improved by fintech innovations. Opportunity to leverage digital diaspora and foreign talent.	Strong adult functional literacy, but lower digital skills levels across the population. Need to build coordinated approach to digital skills uplifting – especially more advanced technical skills across the population. Importance of ensuring digital inclusion and wellbeing at start of the country's digital economy journey. Urgent need to map – and address - the digital needs of vulnerable groups.

Key insights

	Infrastructure	Government	Regulation	Business	People
Summary of recommendations:	• **Digital Infrastructure Strategy** to drive further progress. • **Infrastructure needs mapping** to identify connectivity gaps. • **Public Wi-Fi network** to increase digital economy benefits. • **Coordinated approach and strategy** to support digital MSMEs. • **Develop institutional mechanisms** for knowledge, capital, and technology transfer.	• **National Digital Strategy** to provide broader non-technical direction. • **Digitalising priority projects as exemplars** to build digital culture. • Embed **open contracting principles and standards.** • Improve **monitoring, evaluation, and data analytics** for the digital age. • **Digital skills framework** for the public sector.	• **National data governance strategy** to guide data protection and standards operationalisation. • **Data audit** and **once-only legislation** to drive data sharing and optimisation. • Put **Cybersecurity Framework** into legislation. • **Streamline regulation** for the private sector. • **Identify digital economy roles and responsibilities** for all of government.	• **Digital Economy Strategy** to accelerate progress. • **Digital business service centres** for SMEs. • Establish **entrepreneurship support networks.** • Explore **alternative financing mechanisms** for credit access. • **Develop new areas of competitive advantage** – global outsourcing services could be one opportunity.	• **Digital Skills Strategy** to map current initiatives, gaps, and opportunities. • **Support 'Centres of Excellence' on knowledge exchange** with private sector and society • **Prioritise financial education** and inclusion. • **Digitalise schools** as community connectivity hubs. • Enhance **creation of locally relevant content.**

Section 3: Detailed findings

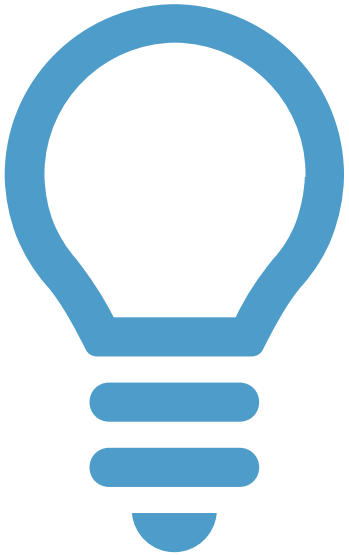
Introduction

- This section of the report unpacks the findings from the desk research and survey responses in greater detail – against the five pillars:
  - **Infrastructure** – is the literal foundation of a digital economy, society, and country. This includes wired and wireless connectivity, but also a broader 'innovation ecosystem' that enables, supports, and catalyses digital efforts.
  - **Government** – must be the driver of digital transformation in a country, including in close collaboration with the private sector and civil society. This central role requires government to deliver high-quality, inclusive, and sustainable digital public services – founded on a digitally-skilled civil service
  - **Regulation** – including legislation, oversight, guidelines, and policies – is needed to underpin digital transformation. This includes ensuring fundamental protections, such as data security and privacy, whilst also being dynamic in supporting and catalysing competition and innovation.
  - **Business** – the private sector, from start-ups to Big Tech, is an important partner in the Digital Economy. Their products and services – including digital infrastructure and digital payments – are key foundations. They also catalyse citizen uptake of digital and drive digital inclusion.
  - **People** – digital transformation should be driven by the needs, realities, and aspirations of individuals. It should be people-centred, including founded on participation, engagement, and co-design wherever possible. Digital is a tool to improve lives and livelihoods.
- There is also a separate section on **foundational digital catalysts:** data exchange, digital legal identity, and digital payments, and **strategy**.
- Each of the five sub-sections includes an introduction to the pillar – and its importance and relevance for digital transformation – its digital readiness score, and a set of top-level and detailed findings. The latter are broken down into each of the sub-pillars of the above five categories. This is then followed by a set of bespoke recommendations, to support Suriname in strengthening the digital progress made within each pillar – and building on this to progress the country's digital transformation journey.

Strategy

Digital transformation is a whole-of-government and whole-of-society endeavour. In order to achieve this holistic approach, and to ensure that no one is left behind, a clear strategy and vision is needed. This should be accompanied by a strong political and broader mandate.

Digital transformation is a journey, and not an end-point in itself. Reflecting this, governments must have the **skills, abilities, and foundations** needed to articulate and drive digital transformation. This includes grounding these components in the national context, but also recognising the role of digital in achieving national and broader development priorities.



Similarly, the benefits of digital transformation may not be immediately apparent. This is particularly the case with regard to internal digital transformation, but also when building crucial digital foundations – such as data registries – which may take a number of years to demonstrate impact. In this context, **strong political and official leadership** is essential. These are assets to maintain direction and momentum – and to tackle the challenges that may arise on the national digital transformation journey.

Strategy: overview and key insights

Rating: Differentiating

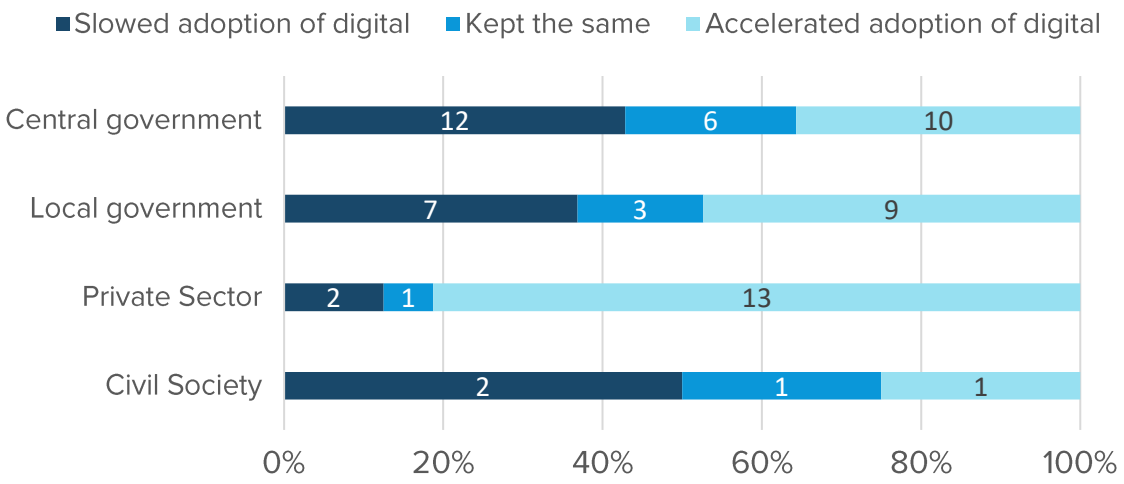
Ambition	Approach

- The government has strong **ambition** to position digital at the core of national development. There is also good support for digital transformation at the senior political level, and cross-government ownership in defining a technical vision – the ICT Vision 2030 – for digital transformation that aligns with Suriname's development priorities.The launch of the e-ID in 2019 provides Suriname with a strong foundation to catalyse digitalisation in the public and private sectors. Perhaps recognising this, the ICT Vision 2030 defines broad digitalisation goals in the delivery of public services, connectivity, and digital payments systems. The latter could catalyse Suriname's transition to a digital economy. More broadly, these priority areas are important modular components of Suriname's vision of becoming a "knowledge society" (ICT Vision 2030). However, the visibility and benefits of government efforts around digital may not be reaching the general population. While survey respondents favourably perceived digital transformation to be a high national priority, they were largely uncertain of the government's approach towards digital – and believed the government could be more 'bold' in leading digital transformation efforts in the country. The sentiments of survey respondents may reflect challenges of digital inclusion and the need to translate the potential of digital into transformative and tangible benefits for the people of Suriname.

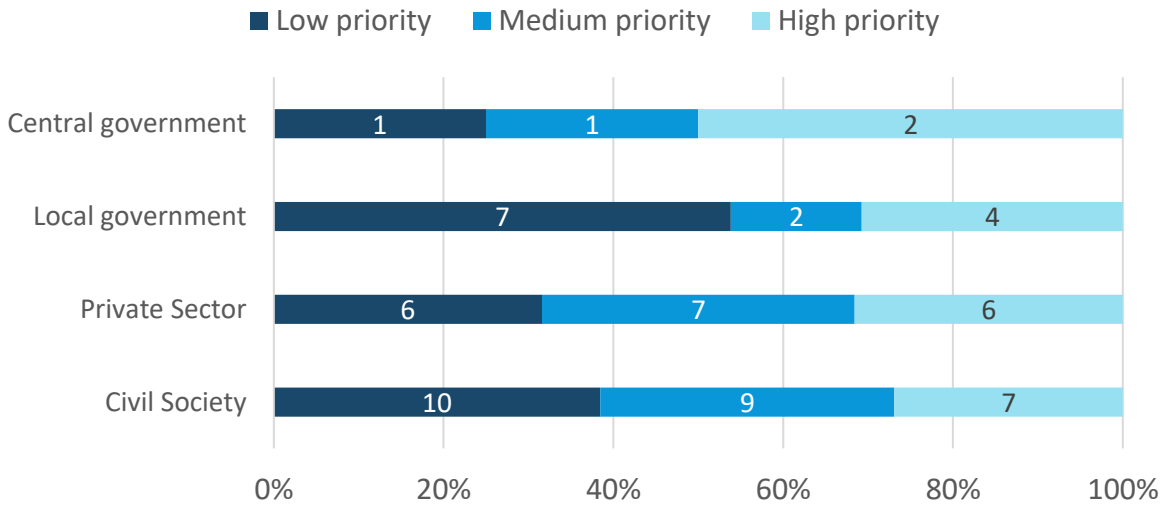
- However, there is an opportunity for the government to leverage the momentum of accelerated digitalisation driven by COVID-19 – as recognised in the COVID-19 Recovery Plan – and to consider the potential of digital as a long-term tool and priority for Suriname's socioeconomic transformation. This is particularly important as the government defines the Policy Development Plan 2022-2026. Setting a strategic and long-term direction for digitalisation is particularly important as survey respondents mentioned the lack of policy continuity – and longer-term funding – in implementing digital programmes as key constraints. Related to this, there is a need for a more systematic and harmonised **approach** to digitalisation, especially in coordinating across government sectors when implementing high-level policies in a decentralised manner. Currently, e-government management systems and public services are being developed by various government sectors in silos – and reflect broader challenges in technical architectures and organisational capacity in the public sector. In this regard, survey respondents identified the need for increased technical support, technology and knowledge transfer, and policy advisory to deliver on current digital efforts – including standard setting for the monitoring and evaluation of digital government initiatives. In this context, government could also deliver on these needs through facilitating more regional partnerships on public and private sector innovations.

The role and importance of digital for government may need to be further highlighted – particularly to drive further uptake

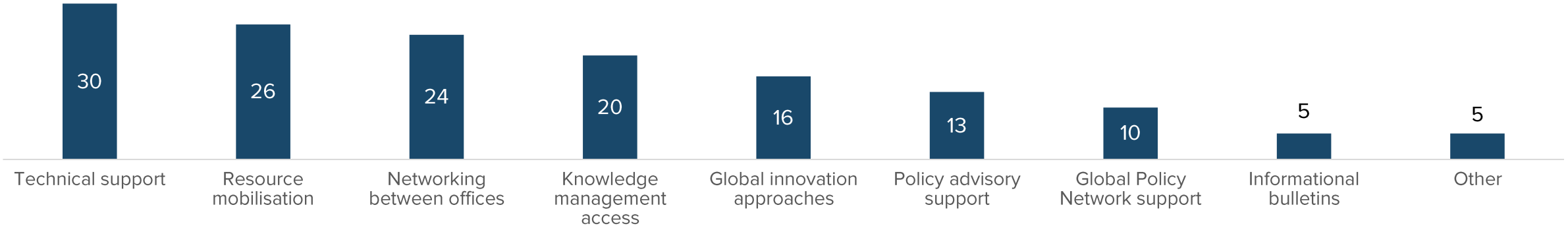
COVID-19 has accelerated adoption of digital across the country, but with slower uptake in the central government (n=67)



The visibility of digital as a national priority could be enhanced in government (n=62)

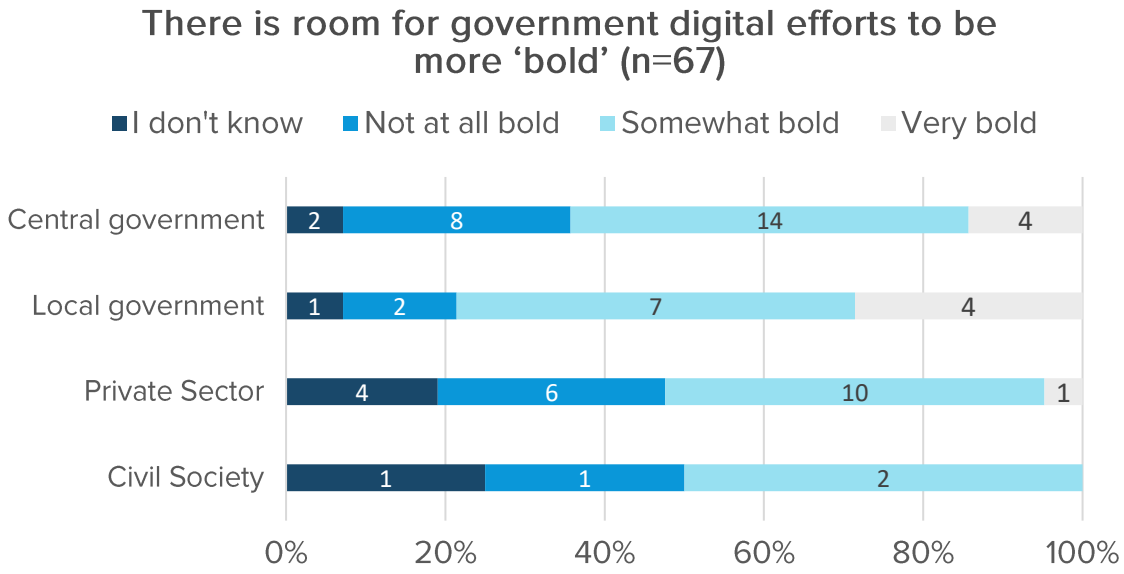


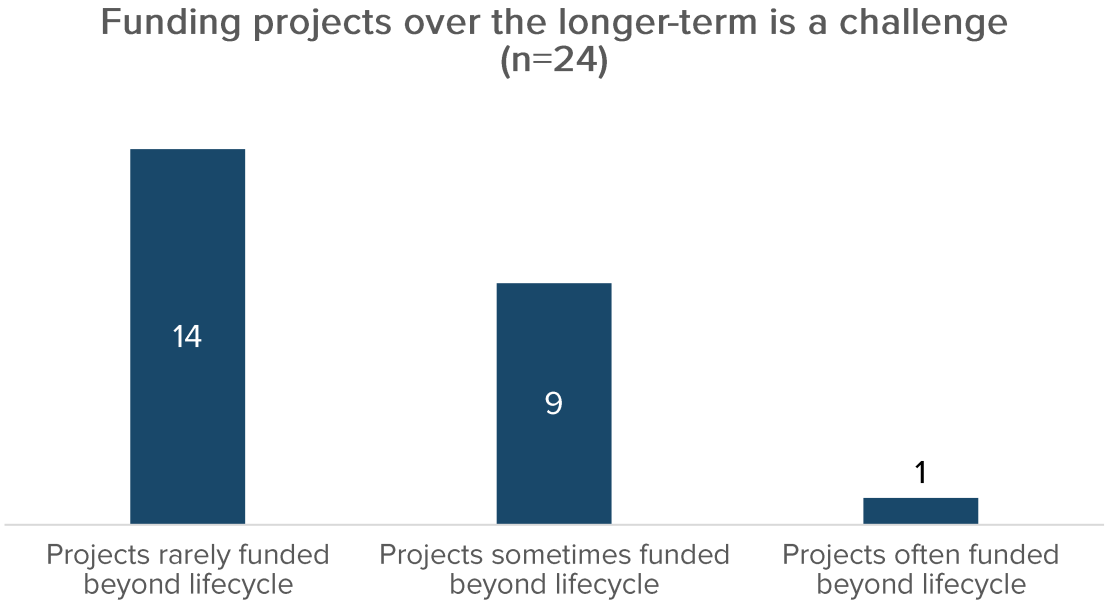
Key types of support required to deliver on current policy strategies *(n=total number of multiple-choice selections per category)*

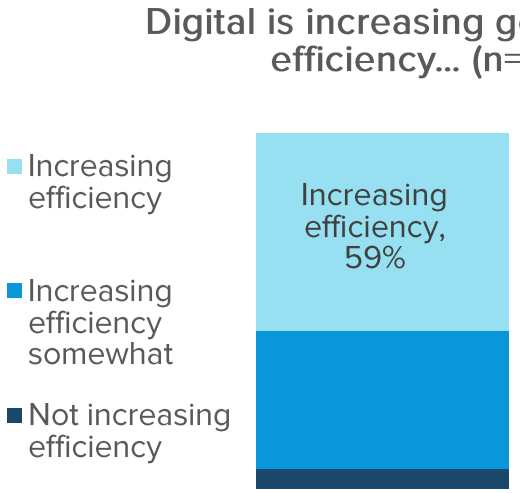


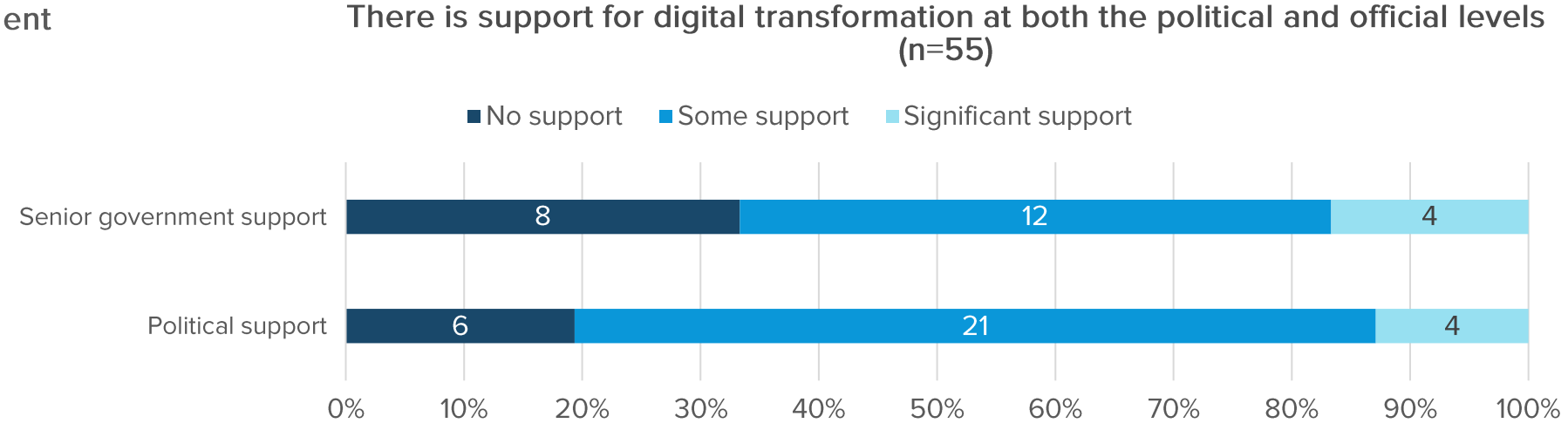
Respondents answering 'I don't know' not included

Continued and increased senior sponsorship will be crucial in leveraging digital – and for building on and accelerating digital transformation efforts









Infrastructure

Infrastructure is the literal foundation of a digital economy, society, and country. This includes wired and wireless connectivity, but also a broader 'innovation ecosystem' that enables, supports, and catalyses digital efforts.

With regard to **connectivity**, a country should ensure inclusive availability and affordability of high-quality broadband internet. This should include wired and wireless (particularly mobile) technologies – but also relevant and sustainable products and services. Key components, such as access and ownership of devices and access to electricity, must also not be forgotten.

A country's **innovation ecosystem** is a central part of a sustainable digital economy. This combination human capital, core physical assets, and meaningful collaboration is the engine of digital progress. This ecosystem should be diverse – with the private sector, civil society, and academia playing a key role – and all-encompassing. This includes building a local digital workforce, and shaping innovation communities through accelerators, hubs, and other networks.

Infrastructure: rapid diagnostic

- The digital infrastructure situation in Suriname is good – and is considered **'Opportunistic'.** This means that there are growing connectivity efforts, although affordability and accessibility may be a challenge. In addition, there is an emerging developer and digital business ecosystem.

- The infrastructure pillar has the below components:

    - **Connectivity technology:** availability, affordability and quality of broadband internet access, mobile internet, mobile services and devices, availability and affordability of electricity and other foundations to digital economy.

    - **Innovation ecosystem:** availability of business interest groups, international business partnerships, local universities and other research institutions; local digital workforce, NGOs and CSOs focusing on digital inclusion; accelerators and tech hubs, incubation space networks and coding communities.

- Reflecting the foundational nature of digital infrastructure, this topic is also covered elsewhere in the findings.

Infrastructure: overview and key insights

Rating: Opportunistic

- Suriname has made strong efforts in developing digital infrastructure foundations. The government's liberalisation of the telecommunications sector in 2004 has been conducive to increasing mobile and broadband penetration. The landing of the Suriname–Guyana Submarine Cable System (SG-SCS) in 2010 has also improved the affordability and accessibility of connectivity technology. Notably, between 2010 and 2019, the number of internet users in Suriname increased from 32% to 49% (ITU).

- However, progress in developing core infrastructures could be accelerated, especially in comparison to neighbouring countries' investment in newer and more sophisticated connectivity technologies. Suriname scores 0.55 in the 'Telecommunication Infrastructure' component of UN DESA's e-Government Survey (2020), lower than the Caribbean average of 0.59. At present, Suriname is one of two countries (including the Bahamas) in the Caribbean without an Internet Exchange (IXP) – and the only country in the region with just one cable landing point (UNCTAD 2017). In this regard, the planned Deep Blue One Cable that will begin installation in mid-2023 – with an estimated completion date in 2024 – is an important investment. In several other SIDS, the landing of a new fibre-optic cable has catalysed domestic markets – including increasing the provision of products and services for a broader population. Continual progress in supporting the Suriname Internet Exchange's (SUR-IX) implementation, which is near its operational readiness, could also reduce costs associated with network traffic exchange and mitigate cybersecurity risks.

- In parallel, the government could also further explore liberalisation efforts to enhance the accessibility and affordability of connectivity in Suriname. Telesur is the only provider of fixed-line and fixed broadband services in Suriname. Its infrastructure is also concentrated in the more populated coastal region, leaving a connectivity gap in the country's interior. Apart from TeleG (a subsidiary of Telesur), Digicel is the only private sector telecom operator in the mobile market. In this area, the Ministry of Ministry of Trade, Industry, and Tourism (MINTCT), who is responsible for ICT public policies, and the independent Suriname Telecommunications Authority (TAS), who regulates the sector, should aim to systematically increase competition in the telecoms market. The delivery of higher-quality and lower-cost connectivity is key to addressing last-mile challenges. At present, accessibility, affordability, and broader digital literacy are very real constraints to broader rollout of connectivity – and also constrain the development of an innovation ecosystem.

Infrastructure: overview and key insights

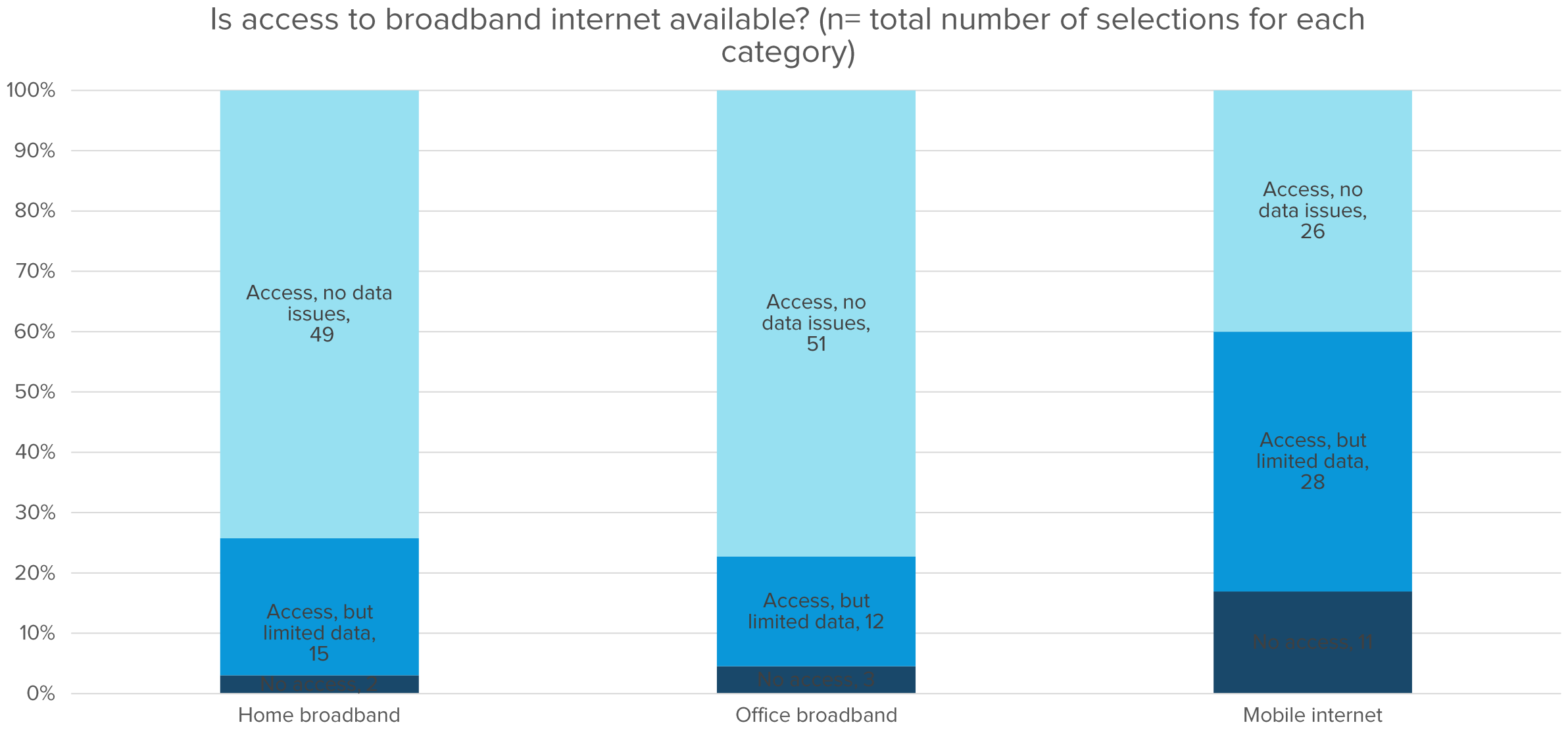
Rating: Opportunistic

- Digital entrepreneurship and innovation are emerging in Suriname. Much of this is spearheaded by the Central Bank of Suriname (CBvS) and local financial institutions – and largely focus on stimulating fintech innovation to advance Suriname's digital inclusion priorities (CBvS 2019). This includes CBvS' creation of an InnovationHub that provides a space for the private sector to demonstrate new financial services and products to the government, as well as Hakrinbank's e-commerce platform, hoppa!, and mobile payment app, Mopé. These two applications have been developed in joint partnership with international technology solutions providers – and demonstrate the impact of international collaboration.

- A key player that could facilitate further partnerships is the ICT Association Suriname (ICT-AS). Survey respondents identified ICR-AS as pivotal partner in Suriname's digital inclusion – and digitalisation – journey. Most recently, ICT-AS launched a LAC Women Founders Accelerator programme, which connected 20 regional women-led STEM start-ups with Google, IDB Lab, Centraal, and WeXchange through networking events. Suriname also has an Association of IT Professionals (SVI), which could identify skills gaps and priorities. Both SVI and ICT-AS could further collaborate with universities and learning institutions to match labour market needs with national ICT skills development – and develop dedicated digital offerings in higher education. Business interest groups should also be consulted in this digital upskilling process, especially in the context of Suriname's plans to develop a Centre for Innovation and Productivity. Establishing a network of organisations as implementation partners of the Centre's programmes could be valuable.

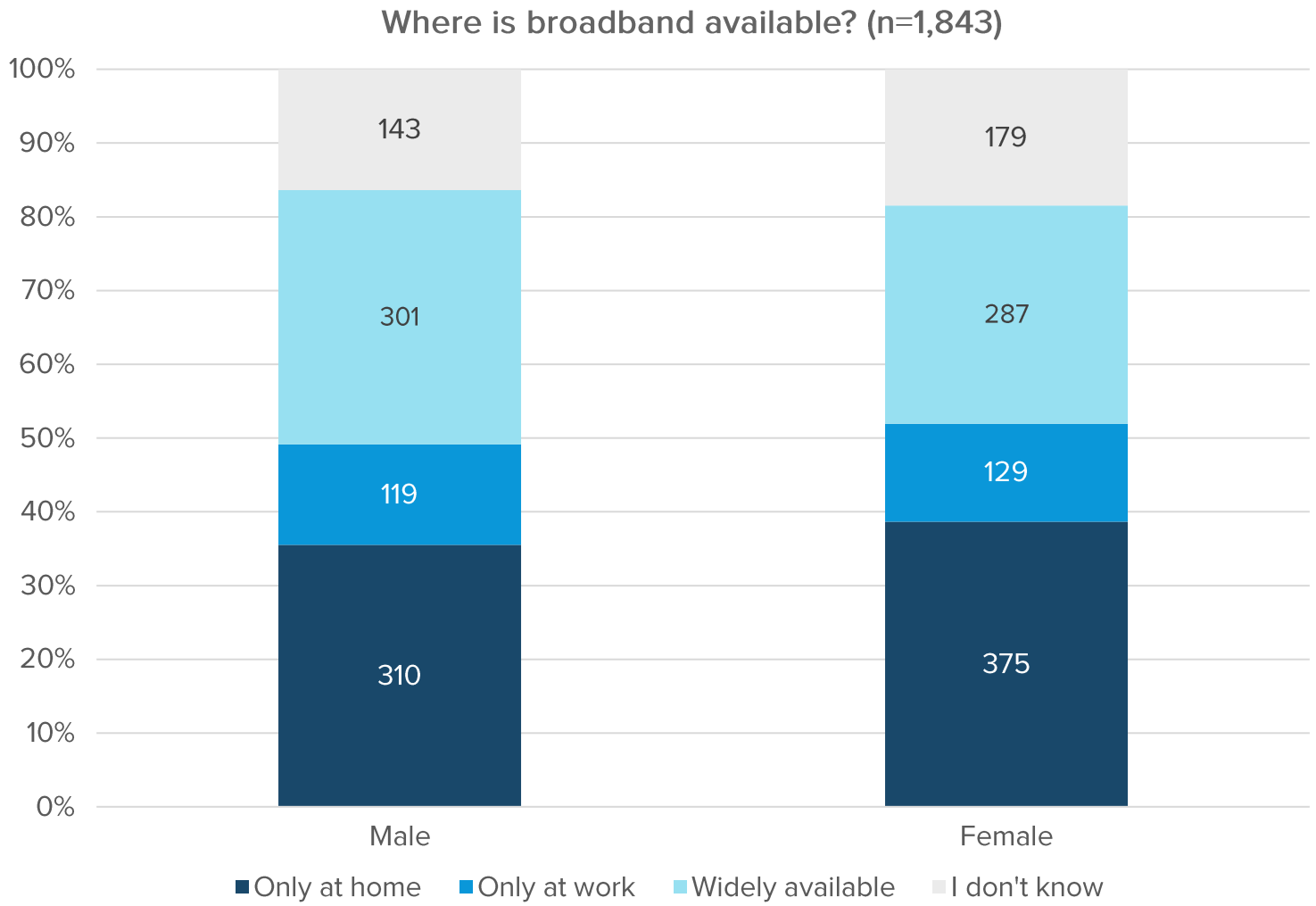
- The government has also been playing a more active role in facilitating the digital readiness of SMEs and microenterprises. Key government efforts in this area include Suriname's Ministry of Economic Affairs, Entrepreneurship, and Technological Innovation (MEA) multi-year Program for Suriname's Growth Enterprises (SURGE). This programme invests in the development of Surinamese enterprises in agribusiness, tourism, and manufacturing with business development and grant matching services. The government is also working with IDB to implement a Suriname Business Climate and Innovation Program to support SMEs' capacity for innovation. The Suriname Trade and Industry Association, and the Ministry of Trade, Industry and Tourism's SME Promotion Unit have also been driving business support initiatives (financial literacy and business development programmes) aimed at SMEs. These business capacity building programmes could further consider the role of digital for MSMEs. In parallel, more directed initiatives, such as facilitating incubation spaces and local knowledge networks, that target digital entrepreneurship is necessary.

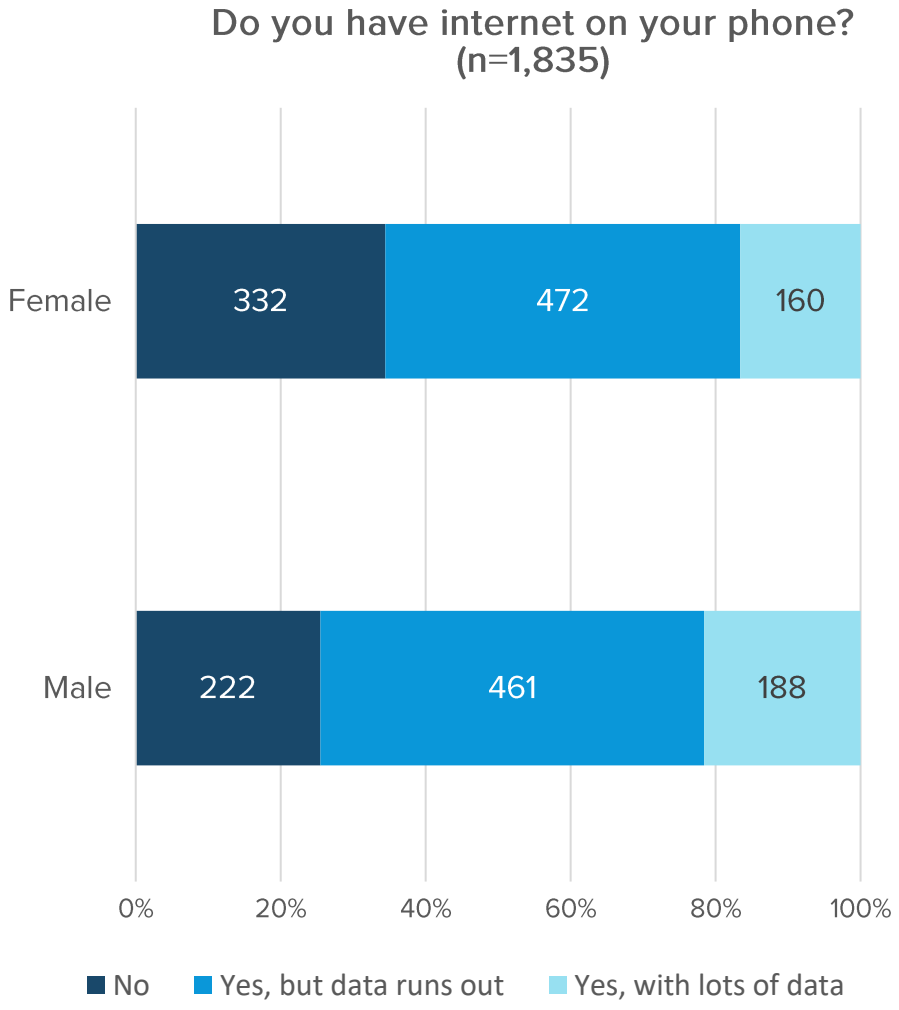
Stakeholder survey data suggests broad access to broadband internet in the home and office setting – but respondents have limited mobile internet data



Respondents answering 'I don't know' not included

Public survey shows access to broadband is high, but may not be equal. In particular, women may not have as much access outside of the home or office.





Infrastructure: sub-pillars

Connectivity Infrastructure	Innovation Ecosystem

- The **connectivity infrastructure** of Suriname has improved in recent years, with continuous effort from the government to invest in infrastructure development. Key developments includes Telesur's construction of a fibre network in Paramaribo – and the rollout of 5G networks in the downtown area in 2019 (National Broadband Project 2018), the near-operational readiness of the Suriname Internet Exchange (SUR-IX), and the expected landing of the Deep Blue One Cable in 2024. These core infrastructure investments are important, but need to be complemented by parallel developments in ancillary systems and effective regulations that could promote domestic uptake – and maximise connectivity benefits for national digital transformation. In this regard, in anticipation of the SUR-IX and Deep Blue One Cable's future deployment, MINTCT and TAS could develop a national strategy to ensure affordability and universal access – and consider the opportunities of these infrastructure investments for the digital economy.

- At present, Suriname's internet penetration is around 49% (ITU 2019). The country's mobile broadband subscription rate is significantly higher than fixed broadband subscription rate – at 91% and 14%, respectively. Broadly, this indicates the comparative affordability and accessibility of mobile broadband, but also suggests the prevalence of multiple mobile broadband subscriptions per person in Suriname. TM Forum's Digital Capacity Assessment for Telesur (2020) emphasises technical and organisational challenges in delivering connectivity as a service, especially in the provision of mobile packages with sufficient and affordable data. Half of public survey respondents reported having mobile broadband access – but data runs out.

- Investments in last mile connectivity infrastructure will drive inclusion (UN DESA e-Government Survey 2020), whilst improving affordability and accessibility will be key to increasing broadband uptake in Suriname – and meeting Suriname's ICT Vision 2030 of universal access to ICT technologies. Mobile (2GB) and fixed (5GB) broadband baskets cost around 2% and 6% of GNI per capita in Suriname, respectively – one of the most expensive in the region (ITU ICT Price Basket Index 2020). Further limiting factors to broader broadband uptake include the cost of devices, the tax rate for fixed broadband (8%, one of the highest in the region), as well as the affordability and availability of electricity. Reflecting this, the GSMA Mobile Connectivity Index (2020) highlights a high consumer readiness for ICT services in Suriname that is constrained by affordability challenges. Consumer's underutilisation of telecommunication services can constrain domestic innovation (a particular concern of private sector survey respondents).

Infrastructure: sub-pillars

Connectivity Infrastructure	Innovation Ecosystem

- The **innovation ecosystem** in Suriname is at the early stages of maturity. Desk research found little evidence of mature local startups that are offering sophisticated digital products. In this regard, the government should aim to develop institutional mechanisms to support capital, knowledge, and technology transfer within the economy. There are some early explorations by the government in this area, including a Knowledge Transfer Program for SMEs between the Central Bank of Suriname and Trinidad and Tobago in 2015. More recently, in 2019, the government jointly hosted an ICT week with the Caribbean Telecommunications Union. During this event, Facebook carried out 'Boost your Business' and 'Train the Trainer' workshops while GSMA facilitated 'Training on the Internet of Things' programmes. Collaboration with key private sector players in the region, and globally, to demonstrate the potential of technology to government and industry stakeholders can drive the growth of a local innovation and entrepreneurial culture.

- Regional partnerships are particularly important catalysts of domestic innovation – and survey respondents are keen for the government to facilitate international knowledge exchanges. Suriname is involved in regional innovation and entrepreneurship programmes such as the Caribbean Development Bank's Caribbean Greentech Bootcamp (2018), and has plans – in partnership with the IDB and Islamic Development Bank – to launch an accelerator programme focusing on sustainable domestic agriculture value chain development. These initiatives could be more systematically rolled out – and given greater visibility. The enactment of the Centre for Innovation and Productivity Act (2019) could be an inflection point in Suriname's innovation journey. The Act supports the establishment of a specialised innovation centre to facilitate collaborations between enterprises and industry partners, to promote local production and export. This is a promising development and there is an opportunity to consider the potential role of the Centre as a national innovation hub. Creating a dynamic environment that invites international and regional companies, R&D institutions, as well as development partners to collaborate with local industry players could advance priority areas of the (emerging) digital economy.

- In parallel, the government could be more proactive in helping SMEs identify and leverage digital opportunities. At present, entrepreneurship support in Suriname has yet to explore the role of digital. Survey respondents are also uncertain about the opportunities presented by the digital economy. Business support groups and academic institutions are crucial partners that the government should work with to support broader digitalisation – especially in developing digital and entrepreneurship skills, incubator and start-up spaces, and driving collaborations with the private sector.

Infrastructure: recommendations

There are a number of priority recommendations within this pillar:

- As Suriname focuses investments on core connectivity technologies, a **Digital Infrastructure Strategy** could be guide telecom service delivery and last-mile connectivity. Survey respondents highlighted the lack of a national broadband plan to deliver on universal – and reliable – connectivity. In this context, the strategy should be forward thinking in considering the infrastructural needs of the digital economy – and the specific infrastructural priorities of digital government and digital public service delivery (a point echoed in the Policy Development Plan 2017-2021). It could also include plans to further liberalise the telecom sector, and include broader priorities such as legislations on open infrastructure sharing (Bahamas has such a regulation that sets obligations and procedures on price setting for infrastructure sharing among operators), as well as future-proof the country's connectivity offer – by engaging with small cell provision, spectrum allocations, 5G, and other aspects.

- While the government explores more innovative connectivity technologies like 5G, it should also not neglect increasing 3G and 4G coverage in the interior regions. Guyana, which like Suriname, faces a serious connectivity gap between the coastal and interior regions, recently embarked on an ICT needs assessment to map the infrastructural needs of poor, remote, and underserved areas. This baseline study also seeks to define a suitable regulatory framework and sustainable operating model for telecom providers. Suriname could also consider conducting such an **infrastructural needs mapping exercise** to guide its digital infrastructure strategy. This would also identify barriers to delivery, whether land issues, capital expenditure, or other challenges. This mapping exercise could also consider the technical and organisational capacity of the telecom sector to deliver on Suriname's infrastructural priorities – and optimise customer experience of connectivity (TM Forum 2020).

- There is potential also for the government to **establish regional partnerships** with fellow Caribbean nations, and work towards regional harmonisation of ICT standards and regulations. Suriname already has existing partnerships with regional organisations such as OAS, CARICOM, OECS, CTU, ECTEL, and CROSQ that it could leverage for such collaborations. Given the financial investments involved in digital transformation – a concern raised by several survey respondents – such regional partnerships benefit from the economies of scale generated by regional physical infrastructures over national-level infrastructures (UCTAD, 2017).

Infrastructure: recommendations (continued)

There are a number of priority recommendations within this pillar:

- An immediate and parallel activity to shaping this strategy could include **developing a public Wi-Fi network.** Survey respondents mentioned that public Wi-Fi is limited to some universities, government offices, hospitals, as well as the airport and hospitality industry at present. E-Gov is particularly interested in providing 100 schools with Wi-Fi connections. The government could also aim to deliver Wi-Fi coverage in the city centre and on public transport (as in Samoa), as well as giving the public access to government Wi-Fi in public sector service centres (as in Fiji and Samoa). Public Wi-Fi access can be an important catalyst in increasing digital literacy and skills, and broadening the benefits of the digital economy to the wider public. There are a number of potential approaches that could be explored, including public-private partnerships (a strategy employed by the Government of Barbados). In parallel, the government should also work with mobile network operators to identify opportunities to drive further uptake of digital public services as the government embarks on its digital transformation journey. This could include **zero-rating data** for public websites.

- There is a significant opportunity to catalyse the innovation ecosystem in the Suriname, especially as the country establishes the Centre for Innovation and Productivity. **Developing a coordinated approach** on this area is needed. This could include a vision or strategy on the digital economy, with focus on 'tech hubs', incubators, challenge funds, and other initiatives – as well as supporting SMEs' explorations in digital. The efforts of other SIDS in this area could provide a model of reference. For example, Jamaica has a Science, Technology, and Innovation 10-year policy plan to guide the country's domestic and international cooperation on innovations for the digital economy, R&D infrastructure development and funding, and STEM education.

- Related to this, the government should identify opportunities to develop **institutional mechanisms to support capital, knowledge, and technology transfer** within the economy. The government's Centres of Excellence could facilitate public and private sector on digital economy and GovTech innovations. Regional partnerships are also important, especially in the context of CARICOM's Single ICT Space. Lastly, the government could consider the role of the forthcoming Centre for Innovation and Productivity as a national innovation hub. Malaysia's National Technology and Innovation Sandbox (NTIS) adopts a multi-industry approach, and provides testbeds and technology demonstration, funding and market access facilitation, and reviews of regulations to quickly commercialise R&D efforts. Samoa also has plans to develop a National Innovation and Technology Park (SNIT) that hosts local and regional companies (focusing on technology, telecommunications, and service value-add services), R&D institutions, as well as development partners in a single location to collaborate on innovation and broader digitalisation priorities.

Government

Government must be the driver of digital transformation in a country, including in close collaboration with the private sector and civil society. This central role requires government to deliver high-quality, inclusive, and sustainable digital public services – founded on a digitally-skilled civil service

COVID-19 has reaffirmed the importance of digital public service delivery, including ensuring that crucial public services are made available to the entire population – with no one left behind. These must be driven by standards for service design and delivery. This includes ensuring sustainable funding for digital priorities, fair and open procurement to deliver the products and services that citizens deserve, and ensuring that civil servants have the digital skills and tools needed for successful delivery.

Digital transformation also requires political will, including senior political and civil service sponsorship, a strong mandate for change, and clear responsibilities for national digital transformation. All digital efforts must also be founded on robust monitoring and evaluation principles and processes - including strategies and frameworks to track implementation and to measure what is and is not working.

Government: rapid diagnostic

- The digital transformation efforts by the government of Suriname are gaining traction – and is considered '**Systematic'.** This means that there is a shared vision and strategy.

- The government pillar has the below components:

  - **Digital public services:** strategy and programmes for digitalisation of most important public services including in e-participation, standards for service design and delivery, overarching data governance framework, open government data strategy, data centre strategies.

  - **Funding and procurement:** system-based approach to ICT procurement and provision of funding strategy/budget for digital transformation.

  - **Leadership and coordination:** high-level political mandate, clear responsibilities.

  - **Monitoring:** including clear KPIs to identify and measure digital transformation progress and success.

  - **Capabilities:** tech talent, technology adoption, ways of working.

Government: overview and key insights

Rating: Systematic

- The government is exploring a wide range of digital government and digital public service initiatives. Many of these are in the earlier stages of development. Notable ones include the 'Safe City' services (2018) for security and crime monitoring, the e-Visa and e-Tourism card to streamline travel authorisation processes (2019), and the national electronic ID system (2019). These are promising developments, and the latter is often an important foundation of digital government. However, there is room for the government to expand e-government functionalities such as self-service internet applications to improve citizen's access to information and public services (a point echoed in the Roadmap to e-Governance 2020).

- Suriname scores 0.29 in the e-Government Online Service Index (UN DESA 2020) –below the regional average of 0.59. This is largely attributed to a lack of systematic mechanisms in place to understand and optimise the user experience of government digital services – and reflects broader challenges in monitoring and evaluation processes, as well as data collection. Related to this, survey respondents mentioned the presence of data collection practices within government – but this data is often not utilised to improve project planning and implementation. Similarly, survey respondents noted that digital user experience feedback could be used to improve services – but it is unclear as to the extent of this resource, and its usage. In this regard, the government could consider developing service standards for digital public services. Government website optimisation could be an entry point for further explorations in this area. Survey respondents favourably mentioned the website of the DNA (it openly publishes DNA meetings and legislation), Gov.sr (as a one-stop portal for all government ministries), and CBvS (a source of national economic statistics). However, there is broad consensus amongst survey respondents that government websites need to be updated more regularly to remain relevant and responsive to citizen needs.

- The Suriname ICT Vision 2030 – drafted by ICT Association in 2021, and sponsored by a coalition of stakeholders including Suriname e-Government (a dedicated e-government committee within the President's Cabinet, Suriname e-Gov), Ministry of Transport, Communication and Tourism (TCT), Telesur, and Telecommunications Authority Suriname (TAS) – serves as Suriname's national digital transformation strategy. It sets out how digital is a key driver of the Suriname's development priorities – and maps digital outcomes onto SDG indicators. The cross-government collaboration on this vision paper demonstrates good support for digital transformation by the government at the senior political level. However, it is very tech-focused.

Government: overview and key insights

Rating: Systematic

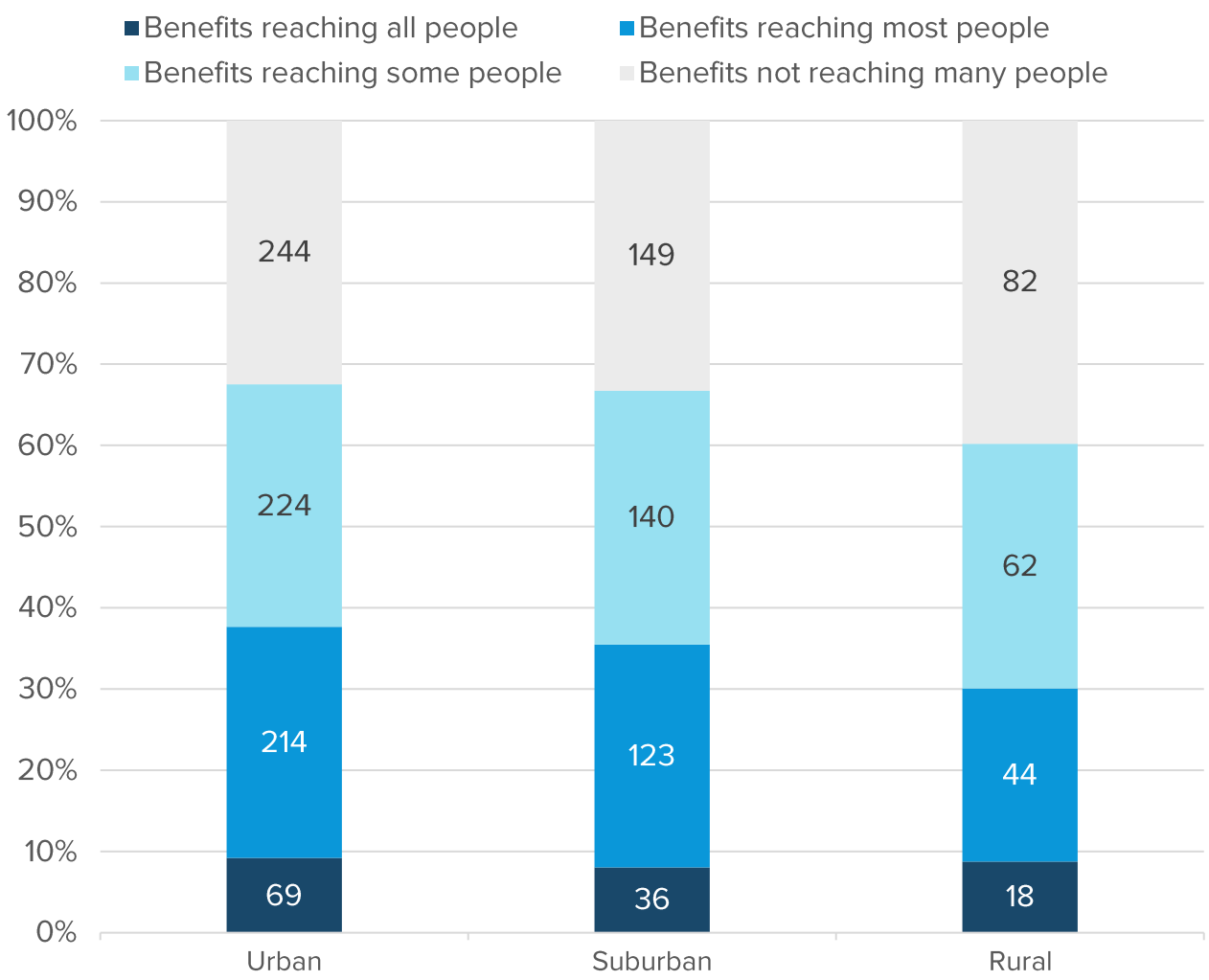
- The commitment and leadership set out in the ICT Vision 2030 may not always filter down to operational levels. For example, the document sets out ambitious digital government goals to implement cloud services in at least 80% of governing ministries (by 2021), e-Health services in at least 60% of hospitals (by 2022), and to implement e-education services in 80% of all universities (by 2023). These are important priorities – and survey respondents are particularly optimistic about the potential of digital to transform service delivery in healthcare and education. However, at present, the ICT Vision 2030 may focus more on the technology than the underlying organisational, individual, and operational behaviours and requirements needed for sustainable digital transformation.

- The lack of operational specificity in the digital transformation strategy may present difficulties. An e-Government committee (Suriname e-Gov) was set up in 2012 to create a digitalisation strategy for the government, but progress has been slow. The recent draft of the 'Richtlijnen en stappenplan voor de invoerinig van e-governancesystemen in Suriname' (2020, Roadmap to e-Governance) is a promising step forward. It identifies the development of government service portals, technical infrastructure for data exchange, and digital skills and interest within the civil service as top priorities. These priority areas broadly align with key obstacles for digitalisation that survey respondents highlighted. These include the lack of dedicated digital staff (and varying digital literacy levels amongst staff), challenges of ownership of projects or priorities, and silos between teams and department. These were also seen as challenges to the broader adoption of new technology in the public sector. Similarly, many cited a lack of funding or financing available to drive digital products and services, and broader digital transformation. A systematic implementation plan to enhance digital responsiveness and capabilities in the public sector – and coordination between agencies and ministries will be key to implementing these priorities.

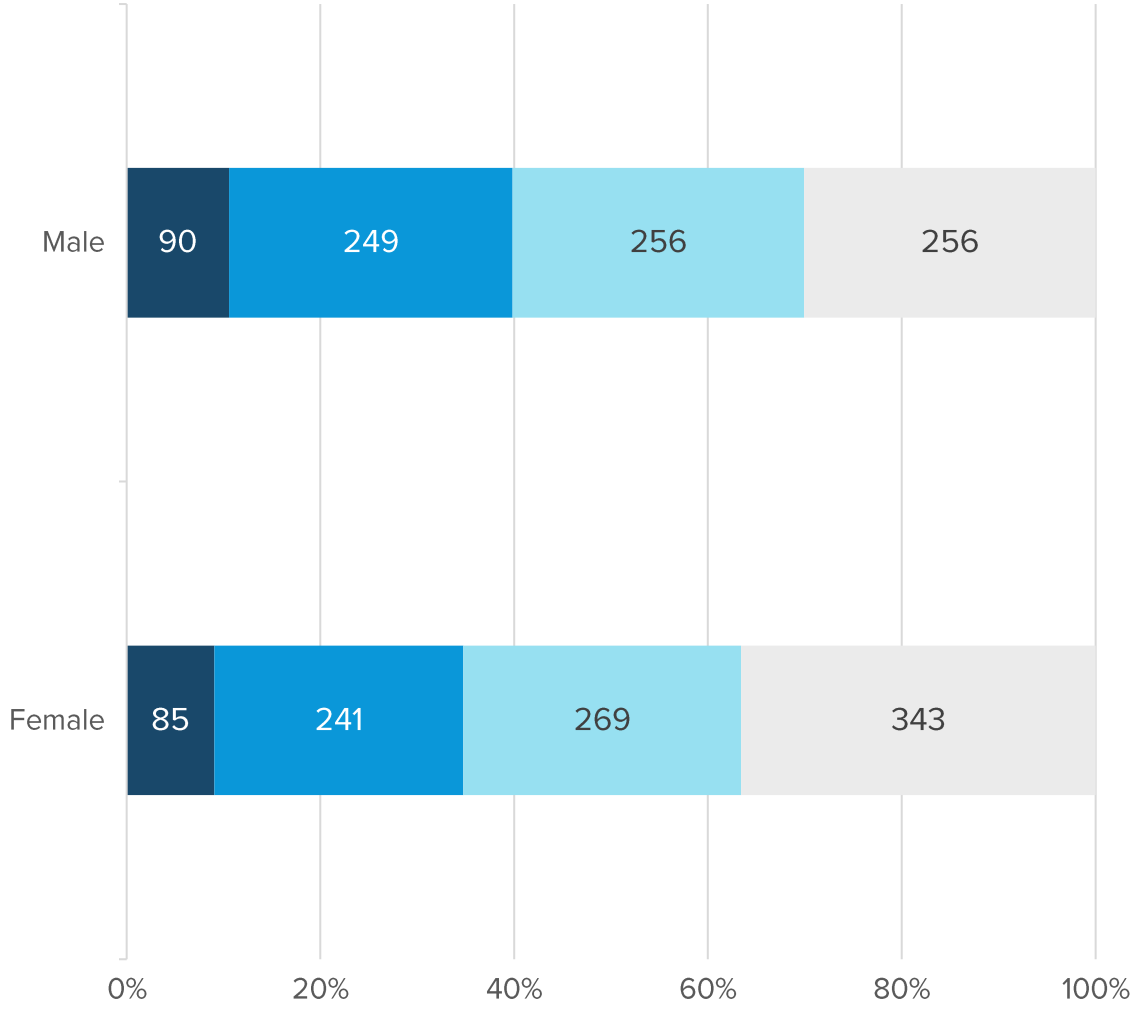
- More broadly, survey respondents noted that government support and interest in digital could be better highlighted. Although more than 70% of public survey respondents indicated that digital technologies are 'very important' for making Suriname better as compared to other national priorities, a significant number of stakeholder respondents did not recognise that the government is committed to digital transformation. In addition, only 40% of public survey respondents believe digital technologies are making government services better. Further efforts on monitoring and evaluation could provide important evidence here.

The benefits of digital may not be reaching everyone – including women and those outside of urban centres

Do you think the benefits of digital are reaching everyone in the country? (n=1,405)



Disaggregated by gender (n=1789)



Respondents answering 'I don't know' not included

Government: sub-pillars

Digital public services	Funding and procurement	Leadership and coordination	Monitoring	Capabilities

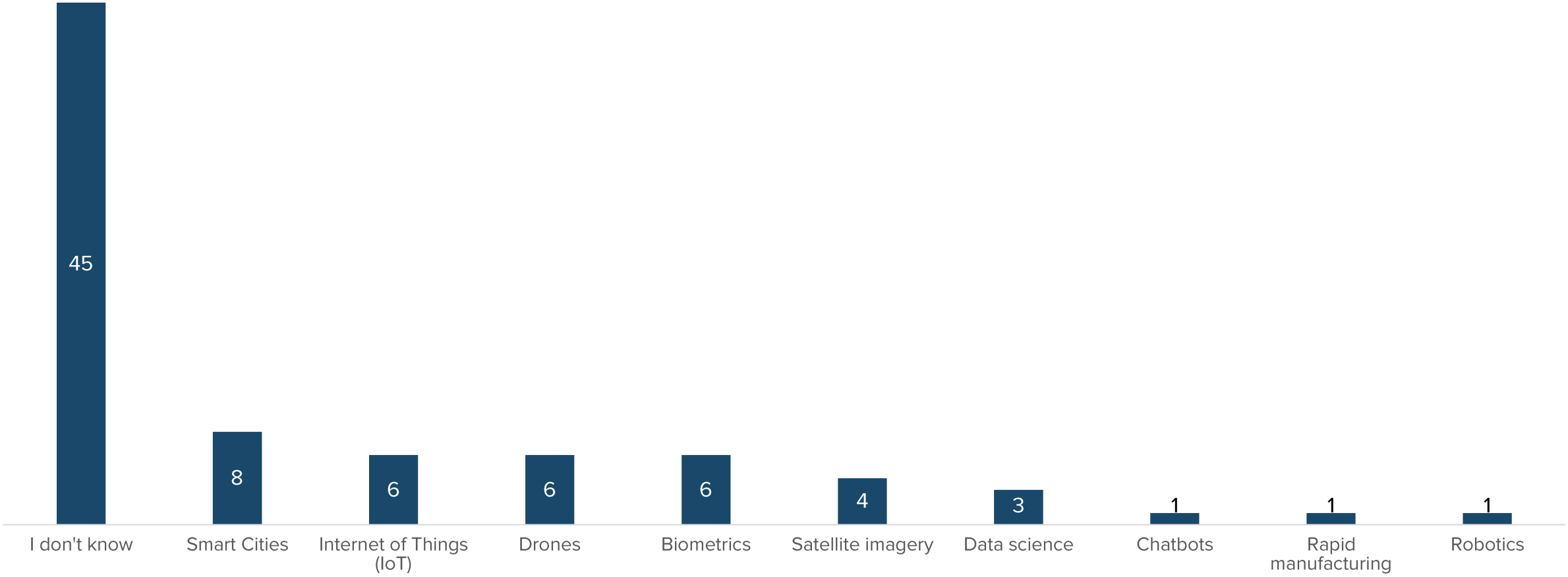
- The government has been making progress in **delivering digital public services** – but developments have been slow and siloed across sectors. At present, the government of Suriname has a central e-portal (www.Gov.sr) that consists of 19 websites for various government departments, including the Cabinet of the President and the Vice-President. These websites inform the public of current government projects or activities, but they largely do not offer interactive functions for citizen participation or digital government services delivery (Roadmap for e-Governance 2020). Perhaps recognising this, e-Gov has identified providing citizens with always-available access to public services as a key digital government priority. These self-service internet applications will also include mobile messaging and payment gateways.

- Survey respondents are particularly keen to see the digitalisation of birth and death certificates, tax and business registrations, driving license renewal, and government payments – and see value in the digitisation of the civil, land, and company registries. Delivering on these digital applications and databases will require core digital and data infrastructures within government. These could facilitate harmonised and more advanced digitalisation operations in different government sectors – especially in the context of the ICT Vision 2030's goal of implementing 'IoE' services and AI in safety, government, financial, health, education, and transport services by 2027. The e-Governance Roadmap (2020) emphasises the need to establish a secure data exchange solution via an Enterprise Service Bus. This could facilitate the development of 'one-stop-shop' government portals across government sectors and functionalities.

- Harmonising government digital efforts is important as currently, e-government systems in Suriname are often developed in silos. For example, the Suriname Police Force (KPS) is systematically creating a data management system (PRMIS) that collects and processes criminal records, police reports, and GIS data (spatial analysis for crime mapping) for more predictive and proactive public safety management. Separately, the Ministry of Spatial Planning, Land and Forestry (MAAP) has launched an electronic information system (SFISS) for logging companies to register their timber operations, production, and trade for more transparent traceability and enhanced natural resource management. These advanced digital applications are exceptions rather than the norm, and rely heavily on development organisations for their planning, implementation, and monitoring. However, they demonstrate the presence of digital capabilities within government, as well as the potential of digital to transform governance.

Civil servants should be supported to learn and explore the role of emerging technologies in public service delivery

Emerging technologies incorporated by any government programme(s) – multiple choice *(n=total number of multiple-choice selections per category)*



Government: sub-pillars

Digital public services	Funding and procurement	Leadership and coordination	Monitoring	Capabilities

- With regard to **funding and procurement**, every ministry and government agency has a dedicated ICT budget for the procurement of software and hardware. However, there are no government-wide standards on public procurement or the public tendering process of digital initiatives. Desk research could not identify funding streams for government digital initiatives. Without a comprehensive national framework for the management of public procurement (that is guided by an overarching digital strategy and sector-specific ICT needs assessment), software are currently being purchased by various departments and ministries in silos from a range of third-party providers, resulting in duplication and underutilisation (Roadmap to e-Governance 2020). Furthermore, large amounts have also been paid for custom software, resulting in vendor lock-in. In this regard, there is opportunity for the government explore open-source or shared solutions, and to shape open procurement standards to optimise public investments in ICT infrastructure and enhance the transparency of public expenditure management as Suriname accelerates its digital transformation. A number of SIDS – including Barbados, Belize, Dominican Republic, Mauritius, and Trinidad and Tobago – have e-procurement platforms with functionalities ranging from publishing procurement opportunities, to submission of bids and invoices, and notifying contract awards. Dominican Republic's platform publishes public procurement data according to the Open Contracting Data Standard.

- **Leadership and coordination** are crucial aspects of digital transformation – and Suriname benefits from good political commitment in this regard. A dedicated e-government committee (Suriname e-Gov) was established in 2012, with the objective of developing and implementing a single strategy for the digitalisation of the public sector. Suriname e-Gov is headed by the Advisor to the President, who acts as the committee's coordinator. The committee also consists of personnel with dedicated portfolios on identified national digital priorities – including technical (software and hardware infrastructure), cybersecurity, digital skills and inclusion, and innovation. However, it is uncertain if Suriname e-Gov has a mandate to steer various ministries towards the implementation of these priorities. The Roadmap to e-Governance (2020) mentions the government's consideration of establishing an independent central coordination unit for digital government programmes. Establishing a clear governance structure – including a clear definition of the Suriname e-Gov's digital mandate, and any new independent unit, will be important. More broadly, the government should accelerate the development of a digital government implementation plan – led by Suriname e-Gov in consultation with various ministries – that sets out the governance structure, priority areas, and expected outcomes of digital transformation.

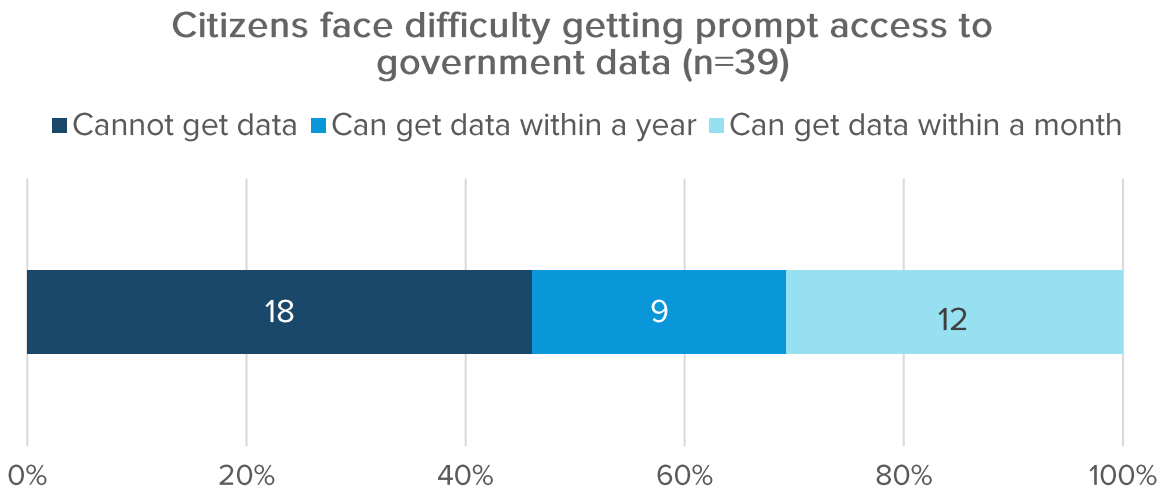
Government: sub-pillars

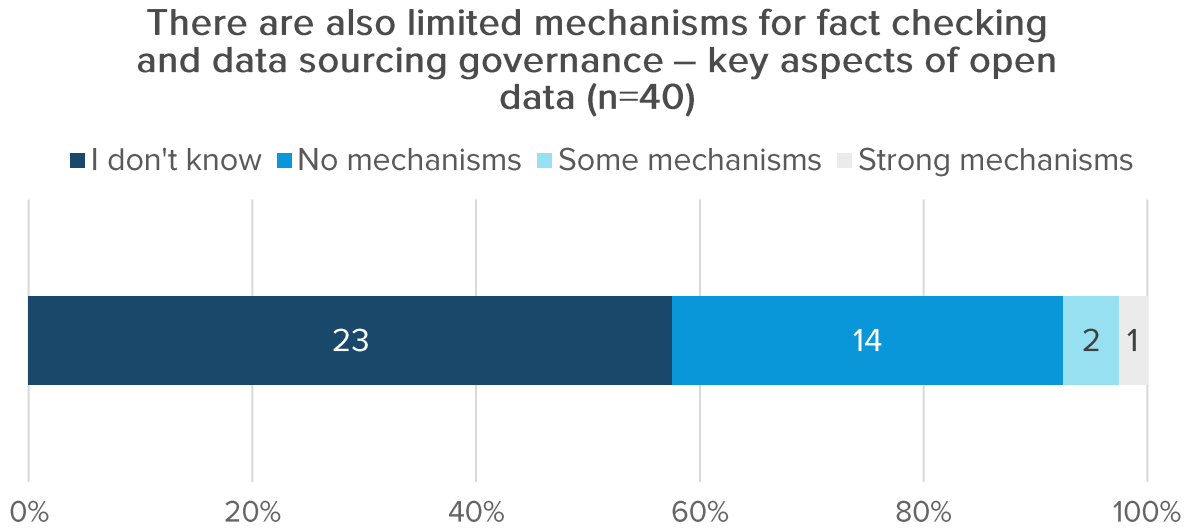
Digital public services	Funding and procurement	Leadership and coordination	Monitoring	Capabilities

- The government has a formal mechanism for **monitoring**. The independent Monitoring and Evaluation Institute (MEI) leads Suriname's periodic reporting to the Government and the General Assembly (DNA). It has the technical capacity and institutional network within various public sectors to assess the implementation and impact of programmes according to the 5-year Policy Development Plans and annual ministerial budgets (UN ECLAC). However, despite strong institutional commitment to monitoring, in practice project monitoring and impact assessments, especially with regard to processes for internal and external audit functions, have been considered generally weak and unsynchronised within government (IDB 2020). A small number of survey respondents also mentioned an interest in documenting government workflow processes to enhance accountability in project management. More broadly, there is opportunity for the MEI to build digital capacity – and consider monitoring and evaluation (M&E) priorities of a digital government. For example, Tanzania has an e-government M&E framework that requires all government agencies to collect statistics on the use of digital public services through their websites so that e-government developments can be assessed. Such service standards and M&E processes could be developed by the MEI as the government rolls out digital services for citizens.

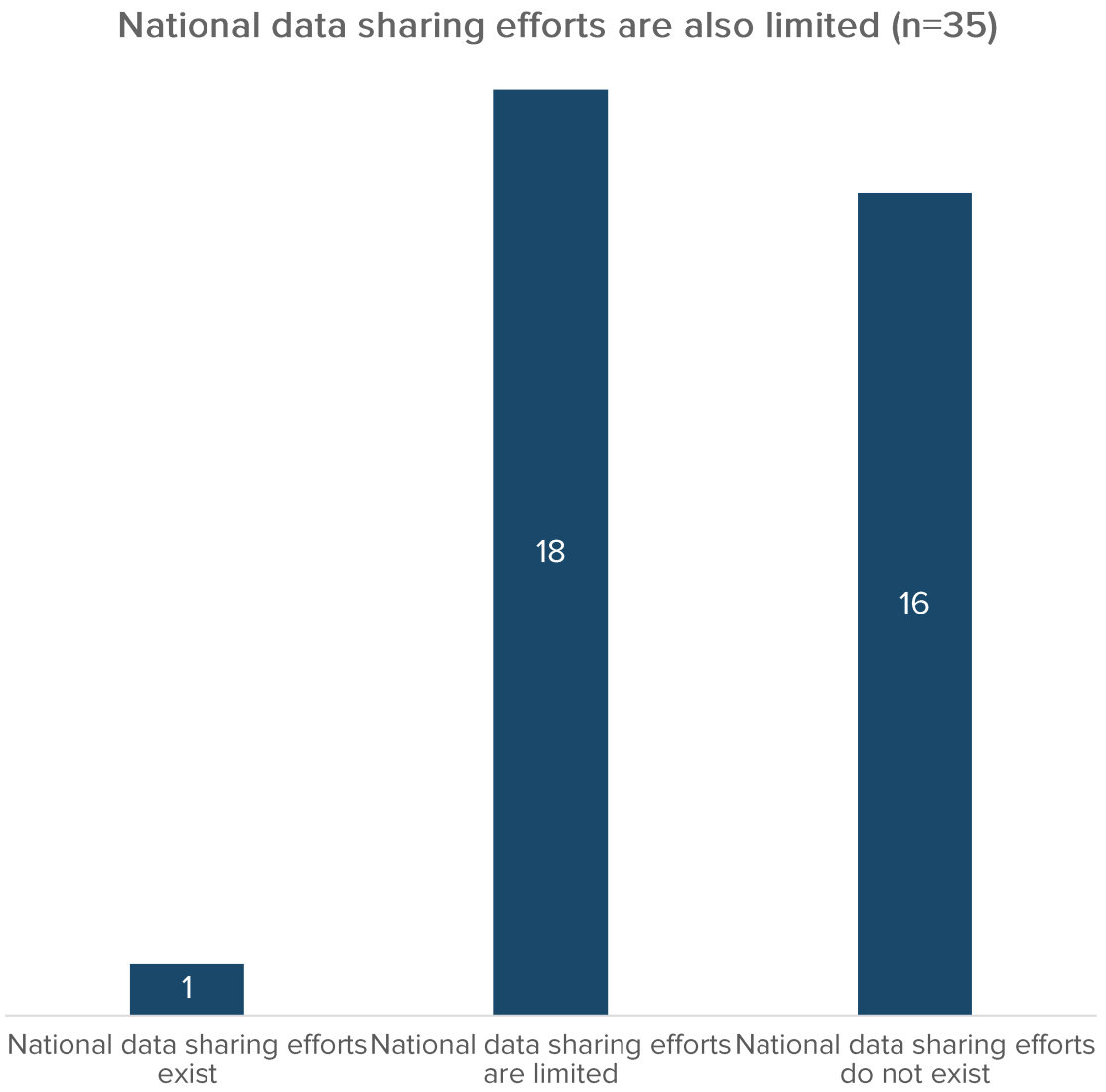
- Despite these challenges, the government has made concerted effort to improve data processes in the public sector – and make data-based policy making a public sector priority. This includes the development of sophisticated monitoring and analytics tools, such as the Suriname General Statistic Bureau's (ABS) econometric forecasting tool to guide economic policy planning, and the Central Bank of Suriname's (CBvS) Monthly Economic Activity Indicator (MEAI), based on a monthly survey of about 250 companies. Regarding the latter, survey data could consider digital components such as connectivity and digital skills. In addition, while these advanced applications are promising developments, they require significant capital, technology, and knowledge resources, and perhaps should not take priority over systematic development of whole-of-government data governance practices, including strengthening statistical literacy and the provision of representative and disaggregated socio-demographic data within the wider public sector. Regarding the latter, Suriname adopted IMF's Enhanced General Data Dissemination System in 2017, which facilitates the exchange of financial and socioeconomic data through IMF's open data portal. There is opportunity here for the government to build upon its good work, and further explore open data and open government policies to improve monitoring.

Open data efforts should be prioritised in Suriname





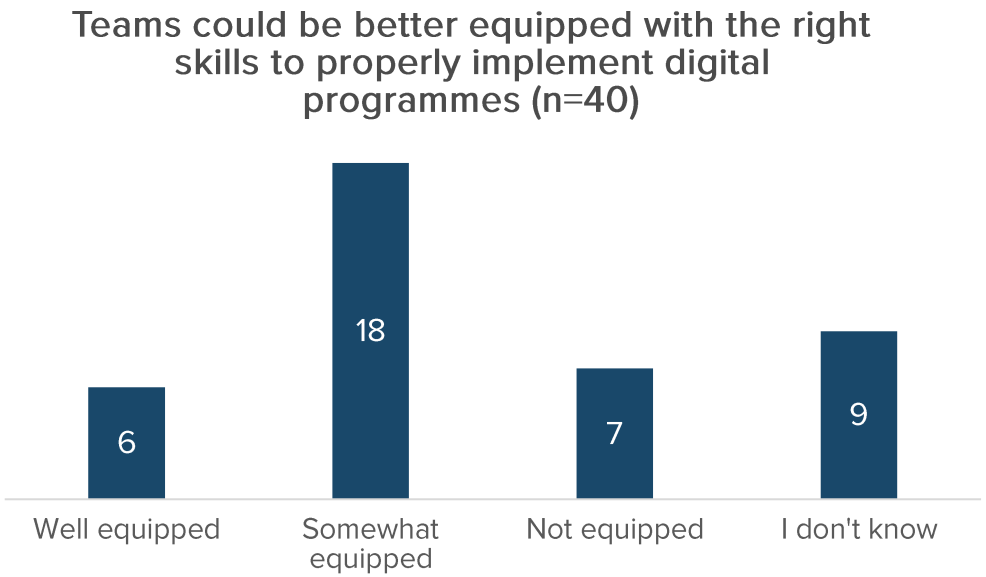
Respondents answering 'I don't know' not included



Government: sub-pillars

Digital public services	Funding and procurement	Leadership and coordination	Monitoring	Capabilities

- Challenges to monitoring also extends to **capabilities** – data collection, sharing, and analytics capacity is weak due to limitations in financial resources, skilled personnel, and technical architecture. Regarding the latter, e-Gov has led the creation of a backup system for the government's data centre, and has further plans to develop a secure government network. Qualitative analysis of survey responses reveals an interest in this development – especially its potential to promote greater collaboration and data sharing practices within government. The government has also been accelerating its digitisation efforts, especially in converting administrative records to digital format, however, progress in developing electronic databases that could facilitate the development of more sophisticated e-government services have been slow (Roadmap for e-Governance 2020). Furthermore, the decentralised implementation of high-level policy priorities could be more harmonised.



- These insights highlight challenges in human resources management in the public sector. The Policy Development Plan 2017-2021 notes a severe shortage of qualified and experienced technical civil servants (a finding reaffirmed by this survey). This constrains the implementation capacity of the government – and is a barrier to innovation in the public sector. Elsewhere, Samoa is aiming to bridge the skills gap in the public sector through implementing a National Performance Management Framework and a National Human Resource Development Plan to systematically transform the public sector's performance management capacity. Suriname could consider such a systematic, framework-based approach to inform current efforts in reforming the civil service – and further strengthen institutional capacity. This would align with the government's focus on developing 'specialised Centres of Excellence' in the public sector (Policy Development Plan 2017-2021). Survey respondents, especially government stakeholders, were particularly keen for increased support in knowledge transfer and networking.

Government: recommendations

There are a number of priority recommendations within this pillar:

- There is an urgent need for a broader and less technology-focused **National Digital Strategy** and implementation plan. This should both set out the digital priorities and programmes of the government – and their relation to the country's broader development priorities – but also recognise the role of technology in achieving these objectives. Building on 'Goal 3' in the ICT Vision 2030 will be important. It should also consider the role of digital in priority economic sectors identified by survey respondents – such as agriculture, finance, and oil and gas.

- This strategy must also provide a clear governance structure – including clarifying the steering role and mandate of e-Gov, Ministerial sponsorship, as well as considering if there is a need for an independent coordination unit (a point echoed in the e-Gov Roadmap 2020). Any such strategy will also need to balance the roles and responsibilities of central government, with increased devolution and localisation efforts occurring in Suriname.

- Survey respondents mentioned a lack of public awareness and government communication around e-government efforts, which could have contributed to low interest in digital in the public sector and broader society. Building on the momentum of the e-ID's visibility, continuous and accelerated effort in digitalising priority public services – especially those identified in the ICT Vision 2030 – in the near-term would be a valuable strategy to drive digital ways of working in the public sector – and demonstrate to the public the potential of digital to transform government.

- These '**exemplar'** services would provide an opportunity to embed digital processes, standards, and build delivery skills within the civil service, as well as increase citizen engagement with digital government. Property or land registration, or a government payment gateway, could be useful entry-points – and are ones that survey respondents are particularly keen to see. The latter is particularly relevant, given the government's intention to use the National Digital Payments System (SNEPS) for welfare and pension payments (CBvS 2019).

Government: recommendations (continued)

There are a number of priority recommendations within this pillar:

- The government should look to embed **open contracting** to improve the procurement process, and broader transparency and accountability. This should include structuring databases, processes, and other procurement initiatives around the open contracting data standards. Related to this, survey respondents from the private sector identified the lack of public contracting opportunities. Establishing a 'digital marketplace' could be beneficial. The UK has a central, online procurement platform for digital projects in the public sector. This has enhanced the public sector's access to specialised digital services, reduced barriers to entry for SMEs to offer their products and services, and driven improved transparency and accountability in government procurement. The UK government has also partnered with Colombia, Indonesia, Malaysia, Mexico, and South Africa to launch a global digital marketplace. As Suriname looks towards engaging its regional partners in digital collaborations, especially in the context of the CARICOM Single ICT Space, it could also consider leading regional harmonisation efforts on open procurement (a CARICOM priority) – starting from the domestic level.

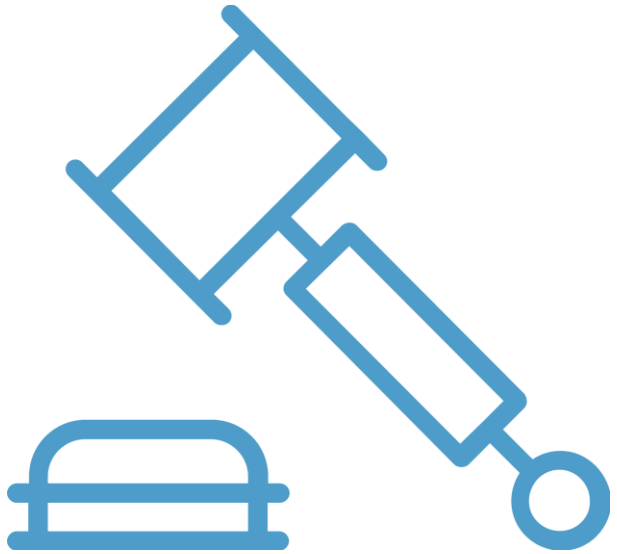
- **M&E of digital transformation remains a challenge.** This should be a priority for the government, including developing digital service dashboards, embedding analytics into workflows, and building the analytical skills of civil servants. There is also opportunity for the MEI to build digital capacity – and consider the M&E priorities of a digital government. This could include developing standards framework for digital public services. The UK government's Service Standards framework could serve as a guide. It includes 14 best practices on user experience, universal access policies, M&E processes, open source and standards (and open data), and technical infrastructure and procurement considerations.

- Related to the above, there are skills gaps in the civil service. Further efforts to recruit digital talent into the public sector are important, but these should be combined with upskilling current civil servants. Skills mapping, to identify gaps and opportunities, is an important first step. The government may also want to consider a **digital 'cadre' of civil servants** who can embed digital best practice – including shaping delivery skills – across government. Survey respondents were particularly keen for the government to recruit more technical experts – 'digital masters' – to catalyse broader digital upskilling in the public sector. As the government plans to roll out 'Centres of Excellence' for public sector R&D and knowledge sharing, it could consider positioning these Centres as sector-specific digital training centres for public servants – with curriculums focused on key digital topics.

Regulation

Regulation – including legislation, oversight, guidelines, and policies – is needed to underpin digital transformation. This includes ensuring fundamental protections, such as data security and privacy, whilst also being dynamic in supporting and catalysing competition and innovation.

Striking the above balance can be difficult, and the fast pace of technological development can risk regulation becoming quickly outdated or left behind. Particular regulatory priorities often focus on data standards and protection (from open data through to data privacy legislation), and those that drive the development of a broader digital economy. This latter category includes regulation to enable fair market competition – such as Intellectual Property, competition, and 'common carrier' legislation.



However, regulation should not focus just on the market. Governments and legislative bodies must protect and support citizens. This includes in the context of e-commerce (such as digital payment protection), cybersecurity (from upstream work on security standards, through to tackling cybercrime), and ensuring that current and emerging technologies adhere to the highest ethical standards.

Regulation: rapid diagnostic

The digital regulation situation in Suriname is still very much emerging – and is considered **'Opportunistic'**. This means that there is progress in selected areas of regulation but without coordinated strategy.

- The regulation pillar has the below components:

  - **Data standards and protection:** government open data, data access, international data storage, data privacy and data protection.

  - **E-commerce:** digital consumer protection, digital transactions and payments, e-signatures.

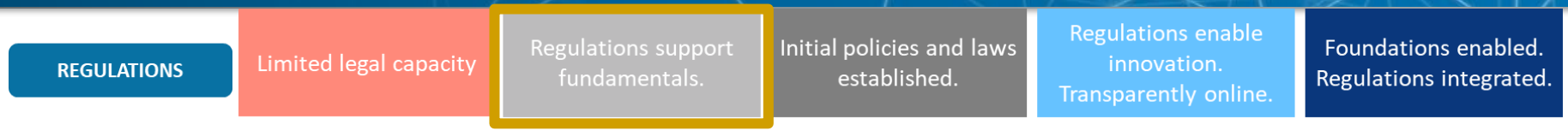
  - **Fair market competition:** IP law, competition and taxation, common carrier or network neutrality, fair access to communication and data channels for digital infrastructure providers.

  - **Cybersecurity:** security standards and risk management, cybercrime, content filtering, breach notifications.

  - **Ethical standards:** standards and guidelines for emerging technology and specifically the use of artificial intelligence.

Regulation: overview and key insights

Rating: Opportunistic



- The digital transformation regulatory environment is still emerging in Suriname. At present, foundational regulations for digital transformation – such as data protection and digital payments – are still being drafted. However, the government has built good regulatory foundations with some forward-thinking legislation. This includes the Electronic Transactions Act (2017), which appears to recognise the importance of the equivalence of digital and analogue signatures, as well as forthcoming legislation on data protection and electronic payments. There is an opportunity for the government to identify how regulation can drive priority areas of the digital economy, especially in enabling e-commerce and safeguarding cyber risks. Specifically, the government could explore specific regulations regarding intellectual property (a key priority of the Ministry of Trade, Industry, and Tourism), digital trade, and fair market competition. Regarding the latter, Suriname has not yet established a national competition authority, although a Competitiveness Unit was setup in 2012 to promote Suriname's in global value chains. A Competition Act is currently being drafted (CARICOM). This legislation should anticipate the needs of the digital economy.

- Several low- and middle-income countries are exploring data driven regulations to understand the risks and opportunities of legislating for the digital economy. In Columbia, while piloting a data marketplace project in collaboration with the private sector, the government explored regulatory imperatives in parallel – and formed a working group comprising of stakeholders from various government entities and the private sector to co-design guidelines on data sharing, Big Data, and AI. Similarly, in Vietnam, the Ministry of Finance established a research group to examine legislative reforms for cryptocurrency and test regulatory models for blockchain – in support of the central bank's pilot digital currency project. More widely, regulatory sandboxes are being explored by a number of countries to drive and support fintech innovation – and is an area that is of particular interest to CBvS, which sees innovations in financial instruments as crucial to financial inclusion and the mainstreaming of digital payments in Suriname (CBvS 2019). Exploring regulation to enable innovation could be prioritised. A number of neighbouring SIDS are exploring emerging technologies – such as Fiji's use of radio-frequency identification tags and QR codes to monitor its tuna supply chain, Vanuatu's use of drones and GIS technology for rapid assessment of post-disaster damage, and Tuvalu's plan to move its national register to the blockchain ledger and create a central bank digital currency. This highlights that digital transformation is not a linear pathway – and broader digital opportunities can be explored in parallel.

Regulation: sub-pillars

Data standards and protection	E-commerce	Fair market competition	Cybersecurity	Ethical standards

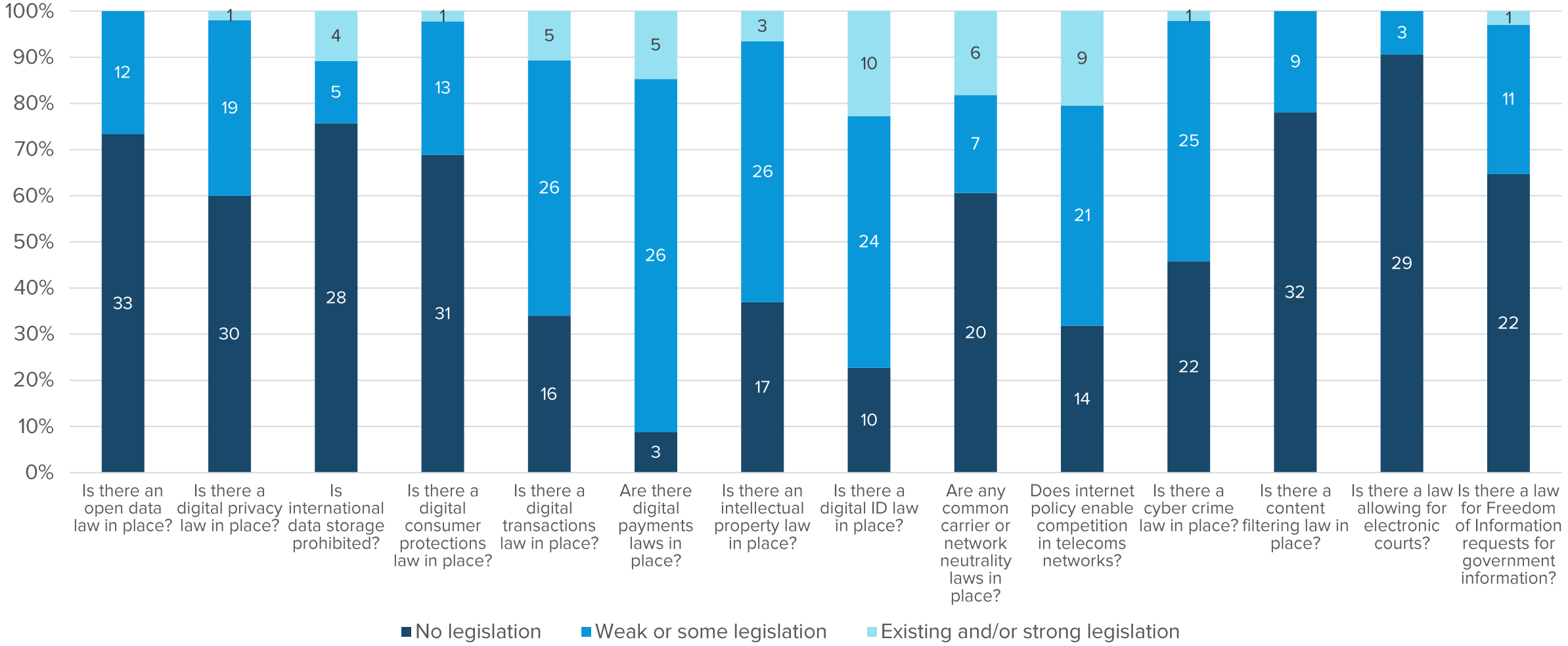
- At present, Suriname has limited **data standards and protections**. However, a comprehensive Privacy and Personal Data Protection Act has been drafted and is awaiting approval by the DNA to become legislation. The Act is impressive in anticipating several aspects of the digital economy; it recognises electronic (and biometric) data and sets standards around automated data processing and the ethical use of data. In addition, the Act will also establish a dedicated data authority for monitoring and compliance oversight. This is a step toward developing regulatory foundations that could build consumer trust and improve collaboration with the private sector, with the potential to catalyse broader uptake of e-commerce and digital payments in the economy.

- The country has made strong regulatory inroads into the **e-commerce** sector – and broader digital economy. The e-commerce space is still very nascent in Suriname, but has potential for growth with the establishment of a National Electronic Payment System (SNEPS) in 2015, and recent efforts to draft a regulatory framework for digital payments. At present, a key regulation catalysing this sector is the Electronic Transactions Act (2017), which defines requirements for the legal equivalence and supervision of electronic signature, identification, and transaction (electronic contracts, including e-commerce) in Suriname. However, in practice, it is unclear as to the extent that these legal aspects are recognised and enforceable. A forthcoming Electronic Payment Transactions Act that is being drafted by the CBvS could address some of these challenges. This new Act supplements the Electronic Transactions Act (2017), and sets out licensing and operational guidelines for the CBvS's supervision of electronic services providers.

- The government has made efforts to shape **fairer market competition**, but progress could be accelerated. The Policy Development Plan 2017-2021 mentions the intention of drafting and implementing a national strategy to privatise state-owned enterprises before the end of 2018, but desk research has been unable to confirm whether this strategy has been formally adopted. More recently, legislation on competition policy to further encourage investments (FDIs and joint ventures with state-owned enterprises), more transparent tendering of government contracts, and anti-competitive collusion behaviour in the market have been drafted by the Ministry of Trade, Industry, and Tourism ahead of the 2020 General Elections. However, this is still pending before the National Assembly (US DOS 2020). This legislation could be broadened to explore competitive challenges in the digital economy. In particular, working closely with the private sector to understand the potential impact that policies and legislation can have on the digital economy.

Survey respondents highlighted broad progress in building core digital economy legislation, but further progress is needed to strengthen laws

Status of digital economy legislation *(n=total number of multiple-choice selections per category, disaggregated by responses)*



Respondents answering 'I don't know' not included

Regulation: sub-pillars

Data standards and protection	E-commerce	Fair market competition	Cybersecurity	Ethical standards

- Current efforts in developing **cybersecurity** frameworks could also be strengthened. At present, Suriname does not have any national or sector-specific cybersecurity framework for implementing cybersecurity standards. The Central Intelligence and Security Agency (CIVD) has a dedicated National Cybersecurity Committee (set up in 2014) tasked with developing a national cybersecurity strategy. This strategy should guide national cybersecurity management and increase awareness of cyberthreats in wider society – both of which are high priorities mentioned in the ICT Vision 2030.

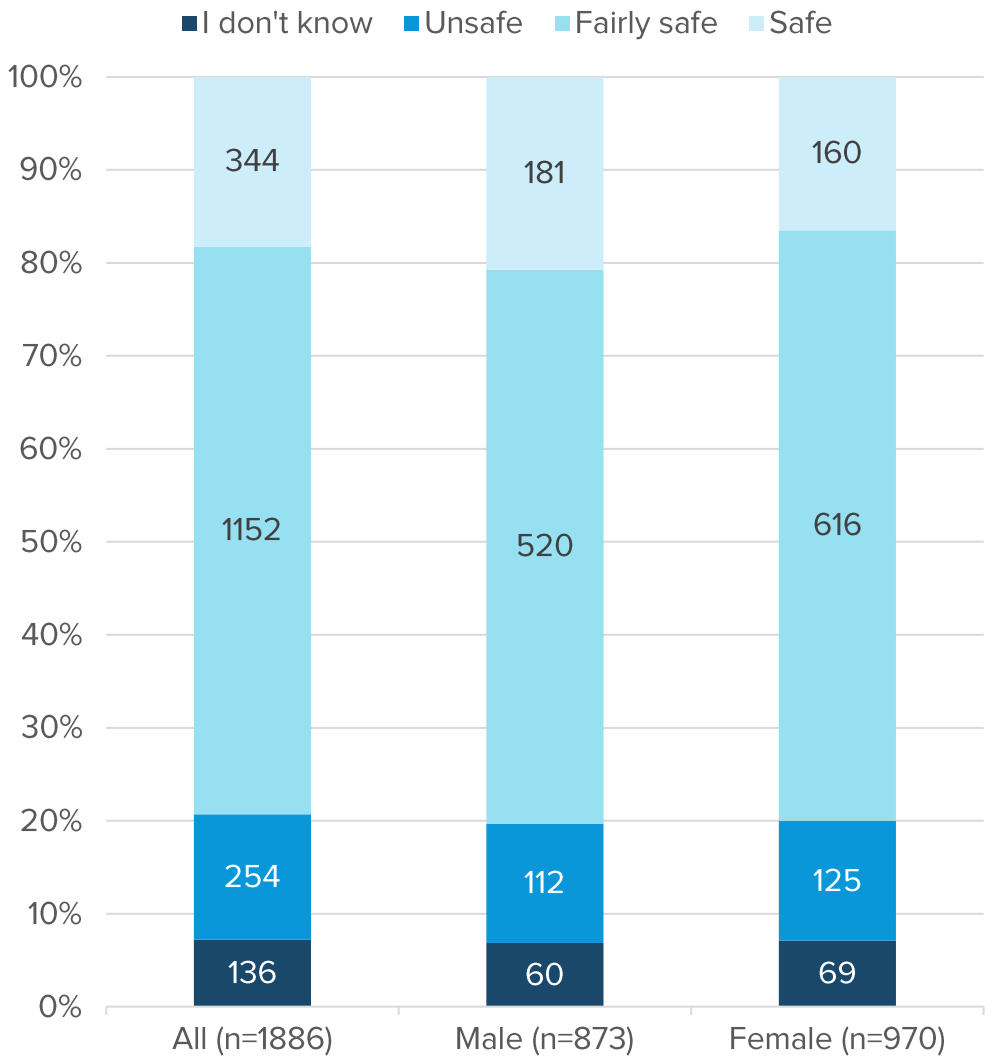
- Specifically, the ICT Vision 2030 envisions a comprehensive review of cyber security privacy policies for Suriname by 2023 – focusing on digital development and growth, while taking into consideration opportunities to transpose international policy and governance frameworks, as well as the institution of national computer incident and emergency response teams. Regarding the latter, Suriname has a Cyber Incident Response Team (SurCIRT) that is in the process of being reactivated (UNDIR 2018). In a number of SIDS (Solomon Islands, Curaçao, and Samoa), a cybersecurity audit – with focus on the public sector's technical and skills capacity – has been helpful in guiding the development of a national cybersecurity strategy.

- The regulatory imperative for the establishment of guidelines on the **ethical use of technology** has largely not emerged in Suriname due to the nascency of the digital economy. However, recognising the leading efforts of the country in previous digital regulation efforts (in particular, e-commerce), this area could be worth exploring. This could prove particularly important as the global e-commerce sector is increasingly looking to emerging technologies to drive efficiency and productivity.

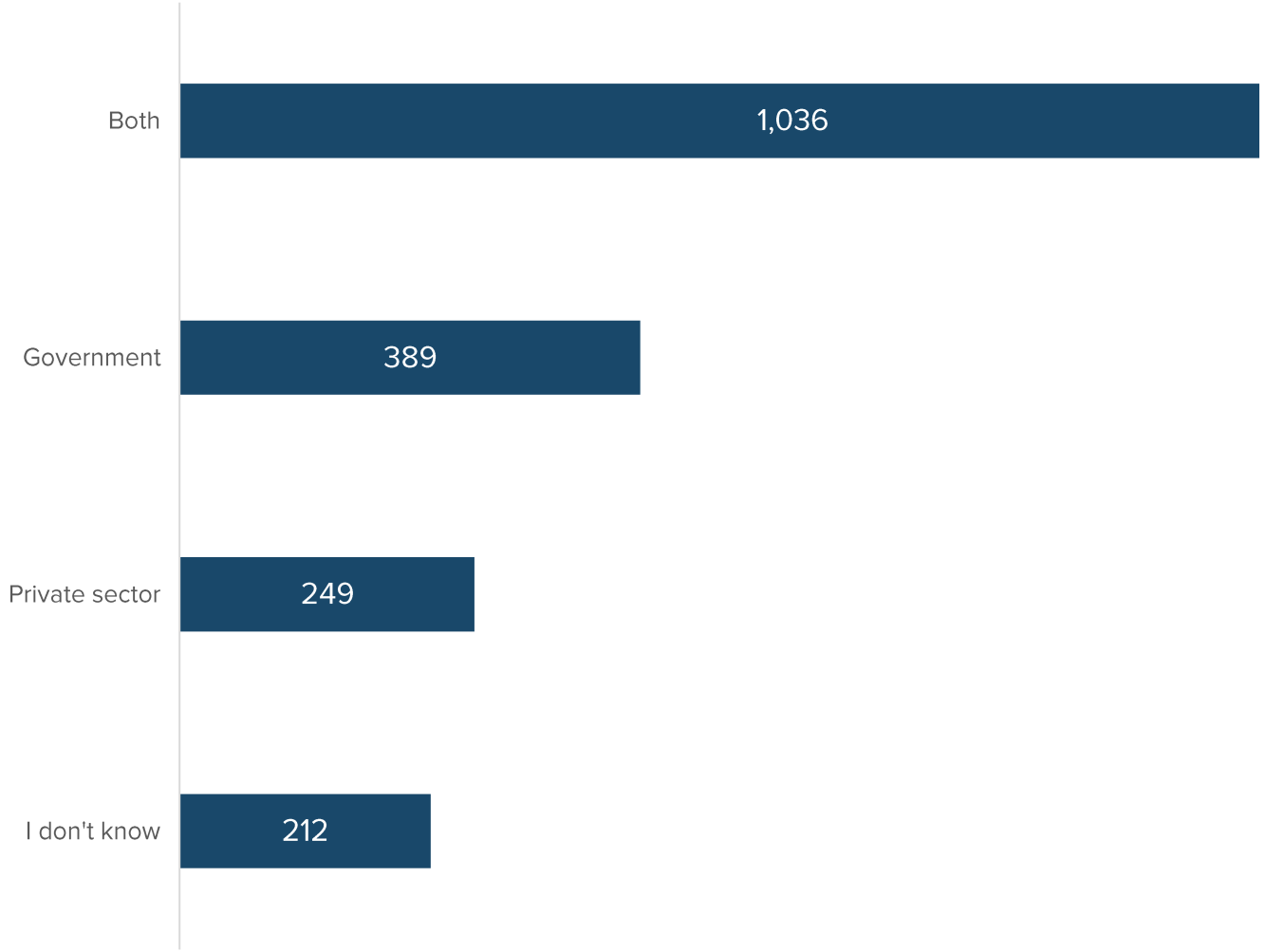
- Related to this, the government could consider the regulatory requirements and enablers of key digital economy and emerging technology initiatives such as Big Data, AI, and blockchain – and explore ethical standards to consider what these innovations could mean for the country. Suriname already has a Bureau for Standards (SBS) to strengthen the industrial and export capacity of Surinamese producers in the global value chain. However, standard setting practices have yet to consider the role of digital in the platform economy – or considerations relating to the labour force in these areas.

Most feel safe when accessing the internet, but there is a slight gender divide. Data security is seen as a responsibility of both government and the private sector

How safe do you feel accessing the internet?

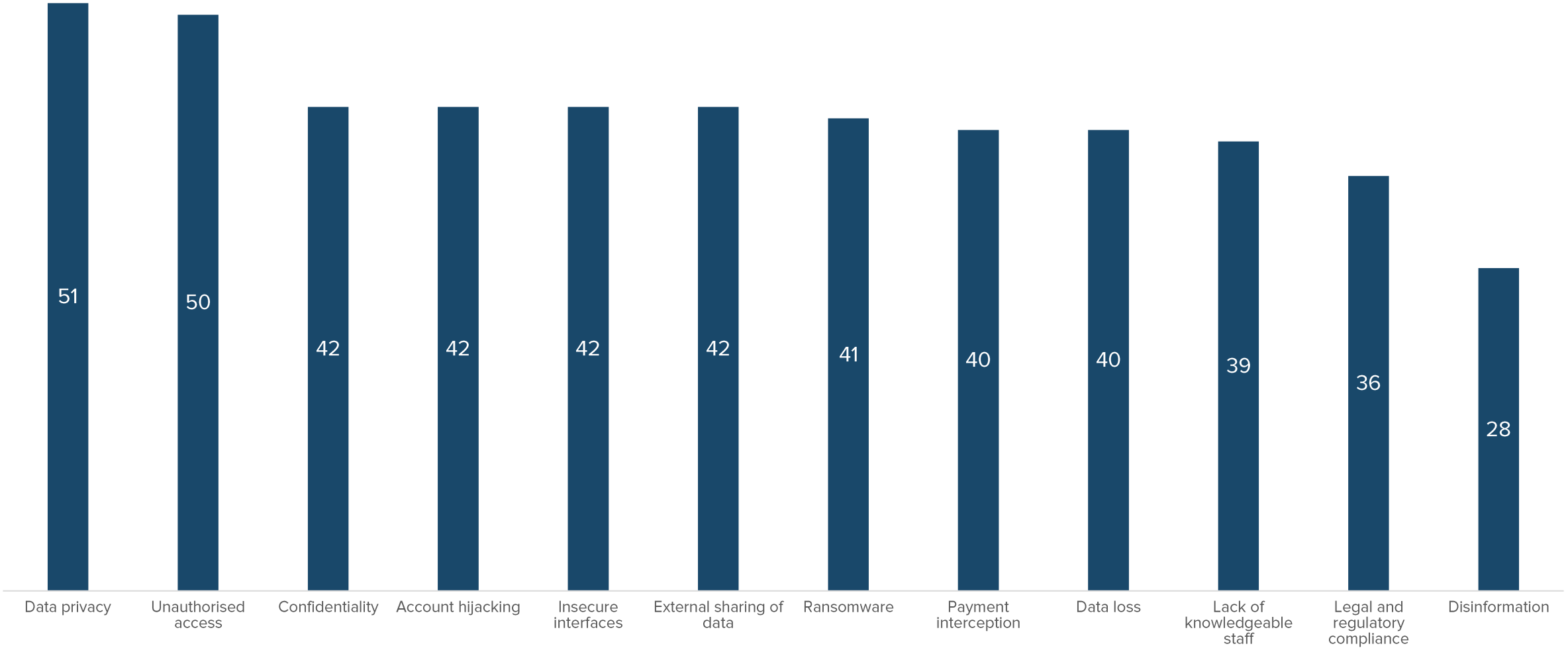


Who should be responsible for your data security? (n=1,886)



Survey respondents had a broad number of cybersecurity concerns, reaffirming the need for regulation and support in this area

What are your top cybersecurity concerns? *(n=total number of multiple-choice selections per category)*



Respondents answering 'I don't know' not included

Regulation: recommendations

There are a number of priority recommendations within this pillar:

- **Data privacy** must be a fundamental foundation of the digital economy in Suriname. It is also an important catalyst for e-commerce, digital public service delivery, and other aspects. The government has led efforts in shaping a Privacy and Personal Data Protection Act – which could also align with broader priorities (such as cross-border data sharing). A **national data governance strategy** could also be shaped - informed by a **data audit** that maps the usefulness of datasets in different parts of the government, economy, and society (more details in the 'Data Exchange' section).

- Similarly, as Suriname advances its digital efforts, safety and security will need to be central considerations. The government should consider codifying a **cybersecurity framework into legislation.** This would provide legal protections to individuals and businesses, and increase their confidence in navigating the digital economy. A **cybersecurity audit** could guide this effort, and could map existing regulations – and their harmonisation with international policy and governance frameworks – to identify gaps and opportunities (a priority mentioned in the ICT Vision 2030). This could also help inform more directed efforts to reactivate the SurCIRT and establish a cybersecurity incident response team.

- The government should explore the role of **once-only legislation** in encouraging – or mandating – government departments to better share data, for the benefit of citizens (a consideration of e-Gov). 'Once-only' requires government departments to only ask citizens to provide particular data once. This encourages departments to look internally, to see if that data is held by another department already, and reduce the burden on the citizen. The Dominican Republic and Trinidad and Tobago have explored 'once-only' approaches. This can be a particularly important digital foundation, and the e-Governance roadmap (2020) underscores the importance of ensuring government databases are interoperable across government sectors and functionalities to facilitate data exchange and 'one-stop-shop' government portals.

- The government can also ensure that each ministry, department, and agency **plays a role in driving the digital economy** in Suriname – and beyond. This could require capacity building, and also identifying the role of other parts of government in shaping protections and enablers to ensure digital and innovation do not entrench or exacerbate inequalities in Suriname.

Regulation: recommendations (continued)

There are a number of priority recommendations within this pillar:

- Building on the country's progress with legislative reforms, the government should work with the private sector to identify other opportunities to **streamline regulation.** For example, the New Zealand 'Better for Business' pan-government initiative - founded on extensive user mapping of the business journey to identify pain-points and other challenges in interacting with government - likely played a key role in increasing the country's 'ease of doing business' ranking to #1 in the world. This could have significant benefits for Suriname's private sector development, given the high frequency of Suriname firms' interaction with the government. In 2018, 86% of firms reported transactions with the government (IDB 2020).

- Part of this approach should include considering the scope for innovations in regulation. For example, exploring the implementation of regulatory sandboxes (an area of interest of the CBvS). This could strengthen oversight capacity for the digital economy and help the government be more responsive to the private sector's regulatory concerns.

- In addition, regulatory frameworks should **ensure that Surinamese MSMEs are not unfairly disadvantaged** when adopting new technologies provided or encouraged by the government, such as digital payment and e-commerce technologies (UNCTAD 2017). This is especially relevant in the context of pending draft regulations on e-transactions, privacy and data protection, as well as the competition policy currently being considered by Parliament.

Business

The private sector, from start-ups to Big Tech, is an important partner in the Digital Economy. Their products and services – including digital infrastructure and digital payments – are key foundations. They also catalyse citizen uptake of digital and drive digital inclusion.

Private sector adoption of technology – whether payment infrastructure, cloud, or digital marketplaces – can also accelerate government digital transformation. These efforts also lead to better products and services available to consumers, improving lives and livelihoods. The private sector also plays a leading role in impact measurement and monitoring – from shaping digital technology norms, to adhering to transparency requirements and ESG reporting.

However, this digital progress cannot be led solely by businesses. Government, and other actors, can support these efforts through crowding-in finance – including access to venture capital, and crowdfunding – and creating an enabling environment for start-ups and companies. This includes providing strong legal rights, and making it simple to start and run a business in the country.

Business: rapid diagnostic

- The situation for the private sector in Suriname is good –and is considered **'Differentiating'.** This means that there is digital coordination across sectors, and the availability of financing incentives.

- The business pillar has the below components:

  - **Technology adoption:** payments, enterprise resource planning (ERP) and customer relationship management software adoption, broader technology adoption, and the use of digital marketplaces.

  - **Financing incentives:** banking, non-banking, access to venture capital, crowdfunding etc.

  - **Impact commitments:** digital technology norms, transparency requirements, methods of reporting.

  - **Start-up environment:** Strength of legal rights, time to start a business, ease of doing business.

- The wide-ranging role of business in the digital economy is also covered in other 'pillars' of the framework.

Business: overview and key insights

Rating: Differentiating

BUSINESS

Limited digital integration across sectors	Growing technology penetration in key sectors	Cross-sector collaboration. Seed financing.	Digital coordinated across sectors. Venture financing.	Digital industry. Enacting digital responsibility standards

- Suriname's ICT Vision 2030 positions ICT as a transformational opportunity for the country's transition to a 'knowledge society'. In particular, digital transformation is expected to raise the competitiveness of local businesses and increase economic productivity. To achieve this goal, more effort is needed to identify how the government could support innovation in the country. Currently, business adoption of technology is limited, and largely focused on supporting offline activities. Broader e-commerce adoption by SMEs remains constrained by technical knowledge and financial resources.

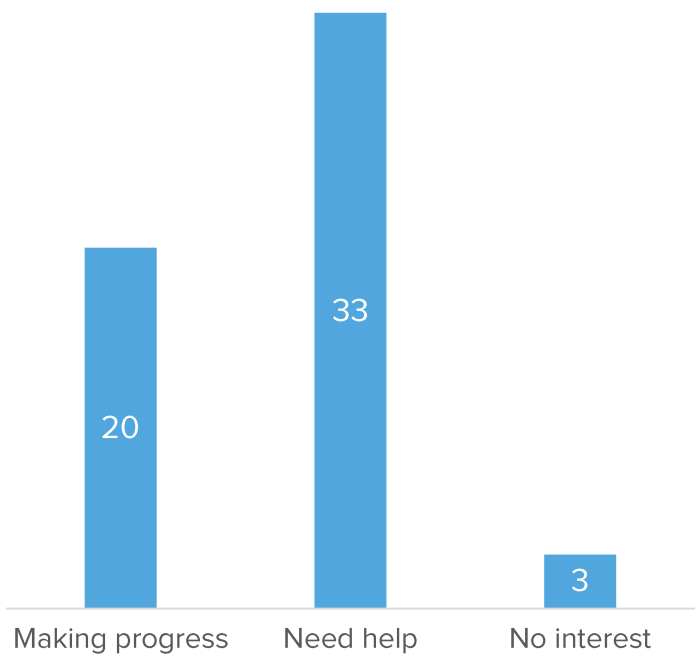
- The digital private sector in the Suriname features promising opportunities. Fintech is one area of potential, and CBvS is particularly supportive of the development of innovative financial instruments and digital payment services to meet the country's digital economy and financial inclusion objectives. With the forthcoming introduction of a digital payment regulation and strong developments in the establishment of a digital payment system, mobile money could be an important catalyst for the digitalisation of the economy – especially in the context of Suriname's high mobile broadband penetration rate. In this area, Hakrinbank has rolled out a mobile payment app, Mopé, with 16 launch partners to encourage broad merchant uptake. Supporting the private sector with increasing the availability and accessibility of such digital finance solutions in the wider economy could spur MSMEs' greater engagement with the digital economy, and meet financial inclusion priorities.

- The IDB online survey (2020) on the impact of COVID-19 on businesses in the Caribbean found that Suriname has the lowest percentage of respondents with access to bank accounts (52%, compared to 73% in the Caribbean) and debit cards (29%, compared to 70%). The need to improve (last mile) access to financial services for MSMEs, those in the informal sector, and vulnerable groups has been recognised. In particular, CBvS will be developing educational programmes aimed at advancing financial literacy – and is planning to formulate a National Financial Inclusion Strategy.

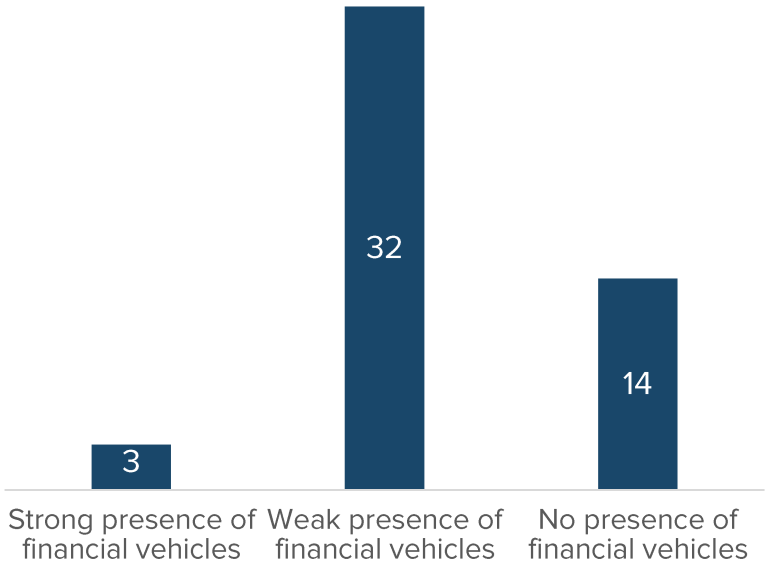
- More broadly, the growth of digital entrepreneurship in Suriname may be limited by difficulties in starting a business – especially in accessing financing. Suriname's worst performing component in the Ease of Doing Business Index's (2020) is 'getting credit'. This includes lack of clarity on credit regulations and procedures. Significantly, Suriname scores 0/8 on the 'depth of credit information', reflecting significant challenges service providers face in accessing credit information. Other limiting factors includes the high cost of electricity and connectivity.

Businesses are engaging in the digital economy – but skills and financing may be key challenges to sustainable growth

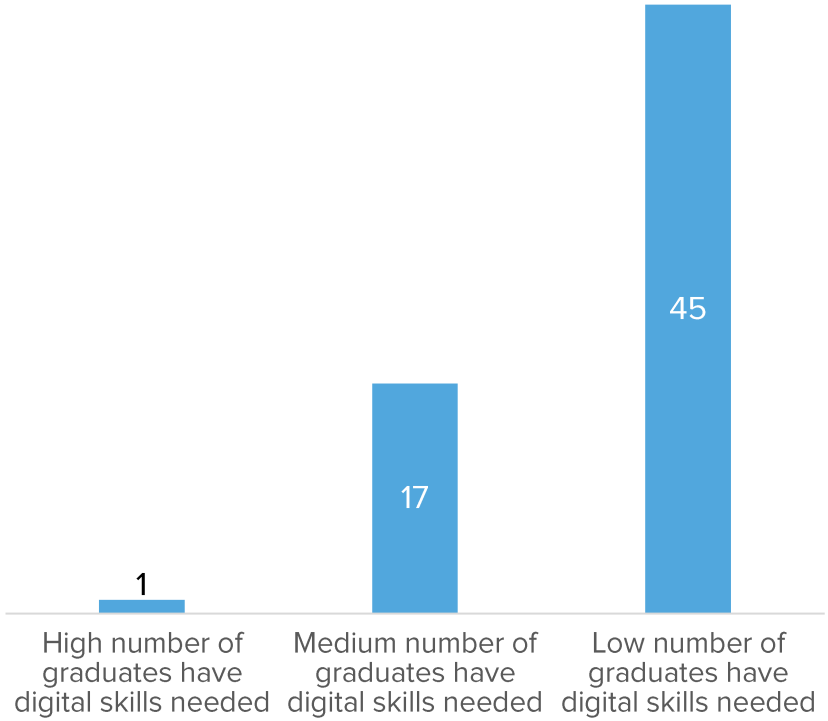
Adoption of technology in the economy (n=56)



Presence of financial vehicles to encourage corporate digital transformation (n=49)



Extent to which graduates have digital skills needed in Suriname (n=63)



Respondents answering 'I don't know' not included

Business: sub-pillars

Technology adoption	Financing incentives	Impact commitments	Start-up environment

- In terms of **technology adoption**, the online presence of Suriname's private sector is growing. The number of firms in Suriname with a website or social media page increased by 62% from 2010 to 2018 (IDB 2020). Around 59% of firms are also using email to interact with clients and suppliers (eTrade for All 2021). Desk research also suggests that online activity is used to drive offline sales (through social media marketing), as well as (to a lesser extent) provide e-commerce services to customers (US International Trade Administration 2018). Regarding the latter, the e-commerce space is still small, but has potential for growth with Hakrinbank's development of an e-commerce platform, hoppa!, in 2019. The implementation of the Suriname Electronic Single Window in 2019 further integrated Suriname into the CARICOM Single Market and Economy – and provides an opportunity for Suriname to leverage e-commerce to increase the competitiveness of its export sector in the region.

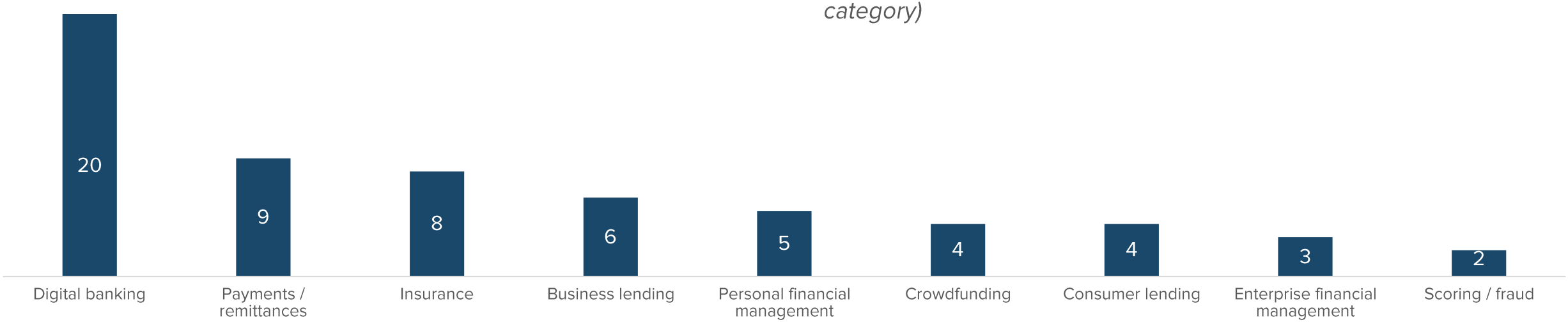
- However, currently, connectivity challenges (cost and availability of broadband and postal services) constrain broader e-commerce uptake by merchants and consumers (US International Trade Administration 2018). In this regard, the government needs to develop last-mile infrastructure, as well as lead efforts to enhance the visibility and accessibility of e-transactions, e-business models, and digital marketplaces. More government support is also needed to help MSMEs, which dominate the economy and make up 98% of all firms in Suriname (World Bank 2019), to leverage digital to optimise their operations and enable online transacting.

- More broadly, there is often a positive feedback loop - between increased consumer uptake of digital, and driving private sector technology adoption (and vice versa). However, to leverage this synergistic effect, governments need to be proactive in supporting digital upskilling. In addition, international private sector platforms are crucial catalysts of digitalisation – and could be incentivised to set up operations in Suriname, especially as it considers developing an outsourcing industry to diversify its economy (Policy Development Plan 2017-2021). In this area, Curaçao has taken concerted effort to incentivise Multiple National Corporations working in priority areas of the digital economy to set up regional bases in its special economic zone. This includes generous incentive packages such as R&D grants for IT centres, tax incentives on inward capital investment, investment allowances, and expatriate exemptions on income tax in the e-zones.

Business: sub-pillars

Technology adoption	Financing incentives	Impact commitments	Start-up environment

Presence of incentives or other support for startups in Suriname *(n=total number of multiple-choice selections per category)*



- **Access to finance** is a challenge for many SMEs. Their lack of documentation, combined with the risk aversion of financial institutions, leaves them with few reasonable credit opportunities. On an institutional level, inadequate financial infrastructure and credit information sharing systems are significant constraining factors to formalising the economy and catalysing digitalisation in the private sector (IMF 2019). Around 36% of firms in Suriname identify lack of access to finance as a major challenge to e-commerce adoption – higher than the Latin America and Caribbean average of around 29% (eTrade for All 2021). An important development to address some of these challenges is the forthcoming Credit Bureaus Act drafted by the CBvS, which sets out processes for credit providers to enhance transparency and reduce information asymmetry, considerations of more systematic (and electronic) registration of credit agreements with the Central Bank, and the establishment of a National Credit Registration Bureau.

Business: sub-pillars

Technology adoption	Financing incentives	Impact commitments	Start-up environment

- **Impact commitments** are limited at present. There is no corporate governance or Environmental, Social, and (Corporate) Governance guidance regulations for private enterprises. The government could lead developments in this area, especially in public procurement, which presents an entry point to align the monitoring and evaluation of public projects undertaken by the private sector with the SDGs. The recently instituted national investment agency, InVestSur, could also play an important role here. This would include prioritising sustainability in Suriname's public investment – especially in the governance of domestic capital formation and FDIs for the extractive industries. This is particularly topical given the recent discovery of hydrocarbon in Suriname in 2020. Related to this, the government has been making good progress in enhancing the private sector's transparency and accountability. Suriname has a National Anti-Money Laundering Commission that in 2019 launched a National Risk Assessment (NRA) on money laundering and terrorist financing (AML/CTF). This prepared Suriname for its 2020 Mutual Evaluation by the Caribbean Financial Action Task Force.

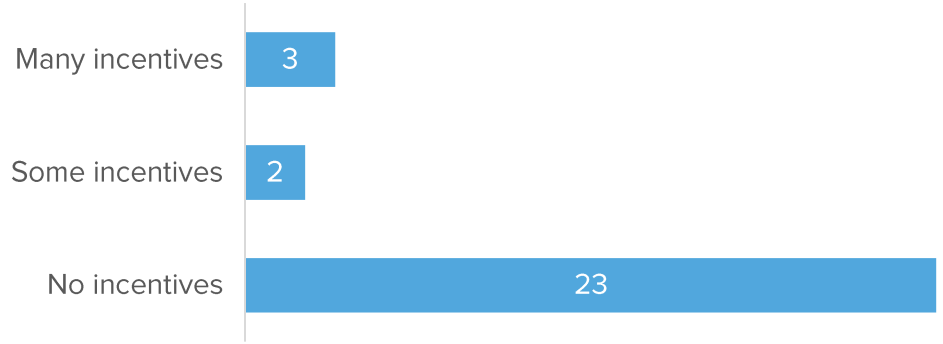
- Suriname has made good progress in easing the costs and procedures required to **start a business**, improving its position in recent years in the World Bank's Ease of Doing Business Index, but still falls behind regional countries in certain area. In particular, Suriname implemented a unique identification number for properties, which enhanced the country's land administration system, advancing on the 'registering property' pillar, but regressed in the 'getting electricity' pillar (World Bank 2020). A third of firms surveyed by IDB (2020) reported that inadequate electricity infrastructure is a critical obstacle to their operations. The accessibility and affordability of electricity – and internet connectivity – are very real barriers to enterprise. 63% of public survey respondents noted it is 'difficult' to setup a business in the country.

- Challenges SMEs face in navigating business regulations adds to this complexity. In this regard, the development of an integrated e-government platform for the submission of business registration, tax, and custom documents could help to reduce the costs of doing business in Suriname. This is a digital government priority that has been identified in Suriname ICT Vision 2030, which delineates a goal of implementing e-tax services for at least 80% of all large- and mid-size companies by 2025.

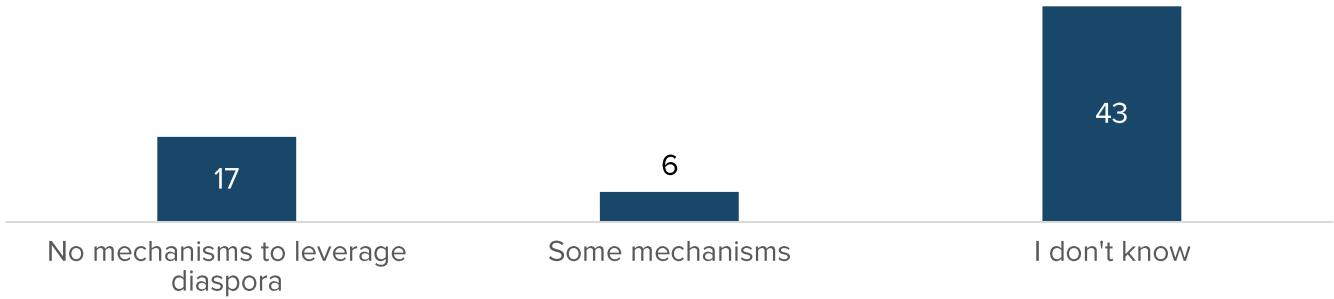
Business: sub-pillars

Technology adoption	Financing incentives	Impact commitments	Start-up environment

There are limited incentives in place to attract foreign digitally-skilled workers... (n=28)



...whilst more could be done to leverage the digital diaspora (n=66)



- The government should also consider opportunities to attract foreign digital workers (including entrepreneurs, start-ups, investors, and others) and to leverage the digital diaspora of Suriname. Good progress is already underway in this area. In 2020, a dedicated civil society organisation, the Diaspora Institute Suriname (DIS), was launched with strong support from the government. DIS has started the process of registering Suriname's diaspora to create a database that could match skilled diaspora citizens with local partners. A sister department was launched in the Netherlands in 2021. This institutional infrastructure is a strong foundation for diaspora engagement, however, there is room for DIS to consider more directed programmes – and incentives – that could leverage on the capital, digital, and knowledge resource of the diaspora to support the broader development of the digital economy. Sierra Leone could provide a model for Suriname's diaspora engagement. A dedicated Presidential Office for the Diaspora in Sierra Leone coordinates a national strategy for the diaspora to support the country's development priorities. The Office advertises jobs for the diaspora on its website, launched a public sector reform programme focusing on bringing diaspora experts, especially in ICT, as resource persons to support the the government capacity building, and facilitates diaspora investment in local entrepreneurship by bringing in diaspora experts as advisors to and funders of the country's innovation hubs.

Business: recommendations

There are a number of priority recommendations within this pillar:

- There is a need for a **Digital Economy Strategy**, or guiding document, to set out how government can best support, catalyse, and leverage the digital economy in Suriname This would include mapping current and key actors in the economy; and the priorities, challenges, barriers, and opportunities to advancing digital economy efforts. The ICT Vision 2030 is a strong starting point. Any such strategy should prioritise financial inclusion, and explore the potential of fintech. CBvS is particularly keen to see the development of a financial inclusion strategic plan focused on promoting increased access to formal financial products, as well as more directed infrastructure investment in financial access points such as ATMs and point-of-sale machines. It could also consider the opportunities of the SNEPS to mainstream the use of digital payments and build consumer and merchant readiness for e-commerce. This could include developing sector-specific SNEPS implementation plan to increase the uptake of SNEPS by MSMEs and marginalised groups, as well as mapping of key ancillary infrastructures and private sector partners that could help develop a digital payments ecosystem.

- More immediately, the government should identify opportunities to **support the start-up and business ecosystem** in the country. This includes initiatives in the context of regulation (discussed earlier), opportunities to provide in-kind support through the provision of additional co-working space, but also providing broader assistance such as reducing filing costs. Developing digital business service centres could be an approach for the government to consider. As one example, Curaçao is in the process of creating a business digital portal that will be a virtual 'one-stop shop' that consolidates information on establishing and operating a business, government support schemes, as well as the payment of taxes and premiums from different government agencies. Samoa has also made plans to develop an integrated e-government platform for the submission of business registration, tax, and custom documents, as well as broader acceptance of electronic documents, could help to reduce the costs of doing business. In parallel, establishing a digital marketplace for ICT products and services could be valuable in catalysing a local ICT sector.

- Related to this, the government could also establish **devolved entrepreneurship support networks.** For instance, Samoa is recruiting SME advisory representatives in every constituency office. This ensures that government support programmes, mentorship and upskilling programmes, as well as access to finance is available throughout the country. Hong Kong's Trade and Industry department has a free telephone business advisory consultation service called Meet-the-Advisors. The programme matches SMEs looking to consult on business development issues with pro-bono industry experts.

Business: recommendations (continued)

There are a number of priority recommendations within this pillar:

- As the government institutes a National Credit Registration Bureau, it could also explore **alternative financing mechanisms** to enhance credit access for SMEs and microenterprises. This could include microloans, venture capital, and crowdfunding (UNCTAD). Key financial instruments CBvS is keen to develop include payment and settlement systems, and SME financing schemes, credit infrastructure (CBvS 2019). Regarding the latter, the government could facilitate the use of movable property as collateral for loans – perhaps enhanced by an electronic credit and collateral registry (the latter is a point echoed by the CBvS 2019, and is currently being explored by Samoa). Regardless of modality, the Bureau should be focused on enabling financial inclusion – and not entrenching or exacerbating the difficulties that SMEs already encounter in accessing useful and fair sources of credit.

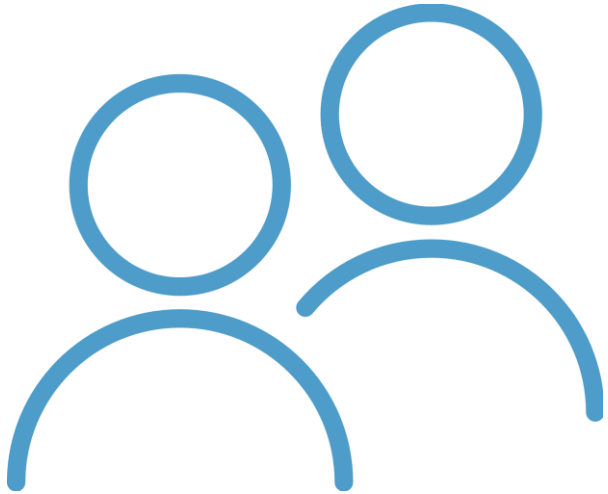
- The government could also **explore and develop new digital industries of competitive advantage.** One such industry is global outsourcing services, which has been identified in the Policy Development Plan 2017-2020 as an area of interest. There is an opportunity for Suriname to leverage existing growth in this industry to support broader digitalisation of the private sector – especially as the country increases the service delivery capacity of its connectivity technologies. A number of SIDS are already positioning themselves as regional powerhouses for digital services outsourcing. Curaçao has developed an e-trade zone for that offers tax savings for e-commerce and ICT outsourcing services. Similarly, Mauritius and Jamaica have both introduced specialised outsourcing service centres in their special economic zones.

People

Digital transformation should be driven by the needs, realities, and aspirations of individuals. It should be people-centred, including founded on participation, engagement, and co-design wherever possible. Digital is a tool to improve lives and livelihoods.

In order for everyone to benefit from the potential that digital offers, digital transformation should be inclusive – with no one left behind. This includes building strong digital literacy across all of society, particularly in more marginalised groups. However, digital literacy can be wide-ranging - and it's important to look beyond access to technology. Usage and ownership is crucial in building sustainable and relevant digital skills.

However, digital is not a panacea. Government, the private sector, and civil society should build a safe and useful digital culture. This includes building trust in digital technologies, supporting entrepreneurs, and identifying and tackling harms caused or amplified by digital. This includes digital addictions, online harassment, and disinformation.



People: rapid diagnostic

- The digital inclusion situation in Suriname is also evolving – and is considered '**Systematic'.** This means that there is growing digital literacy, and broad interest in technology.

- The people pillar has the below components:

  - **Digital literacy skills:** ability to use digital technology of all parts of society (all regions, age groups, genders); particularly of traditionally marginalized groups of society (refugees and migrants, women and youth, persons with disabilities and special needs, older people, indigenous people and people living in remote areas).

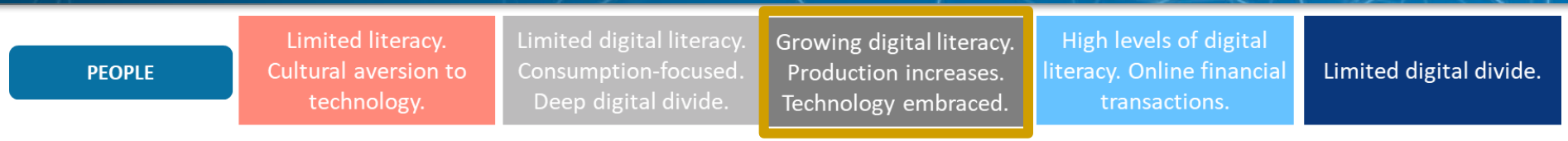
  - **Culture:** trust in digital technologies, attitudes towards entrepreneurial risks, social norms for use and ownership of internet and technology.

  - **Digital wellbeing:** understanding and mitigating harm inflicted by digital such as addiction, cyber bullying, disinformation, physical impacts.

  - **Usage and ownership:** use of digital technology by different level so society, financial inclusiveness, e-commerce activity, information access trends.

People: overview and key insights

Rating: Systematic



- Digital transformation is founded on a country's greatest asset: its population. Suriname has good foundations here – with high functional literacy and a skilled workforce. There is also growing digital awareness across society, driven by interest in social media and online content.

- However, gaps remain. Last-mile delivery of accessible and affordable connectivity for vulnerable demographic groups, especially MSMEs, those working in the informal sector, and those living in rural areas, is a significant challenge (IDB 2020). In particular, the UN DESA E-Government Survey (2020) highlights that the population has yet to maximise the benefits of digital due to inadequate online services provision and infrastructure challenges. These limitations risk exacerbating digital divides in society, and reflects broader need to invest in digital literacy - including raising awareness of digital wellbeing.

- To ensure digital inclusion, the government has made concerted effort to increase digital literacy in mandatory education and to upskill local workers through longer-term focused talent development schemes in vocational education. With regard to the latter, the Suriname National Training Authority and Ministry of Education have plans to assess the skills gap between the technical vocational education system and labour market demands to reform the national TVET curriculum. This should anticipate the needs of an emerging digital economy, and develop a labour force with technical capacity – focusing on more advanced digital skills – to support private sector innovation and entrepreneurship.

- In addition, more could be done to to increase awareness of the potential afforded by digital – as well as enhance cyber awareness in the populace. This requires a range of government interventions – from demonstrating the value of digital through useful and accessible digital public services and interactions, to targeted and broader digital literacy efforts, and driving the development of a local digital entrepreneurship culture. This latter priority is important in shaping digital products and services that reflect the needs, priorities, and aspirations of citizens.

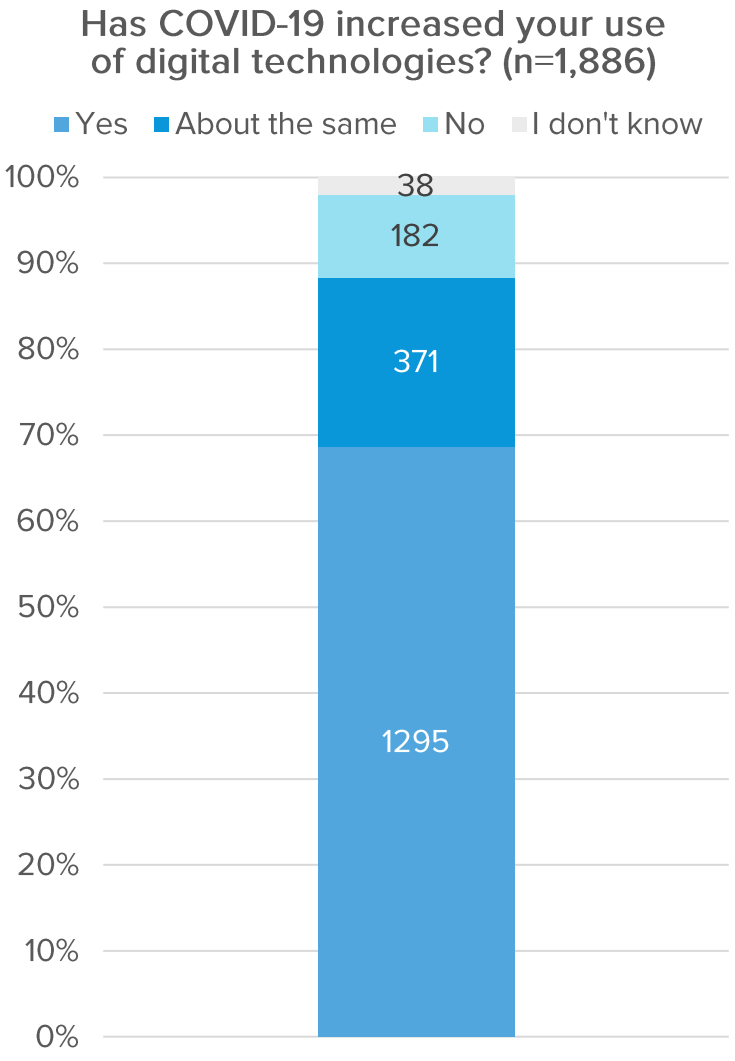
People: sub-pillars

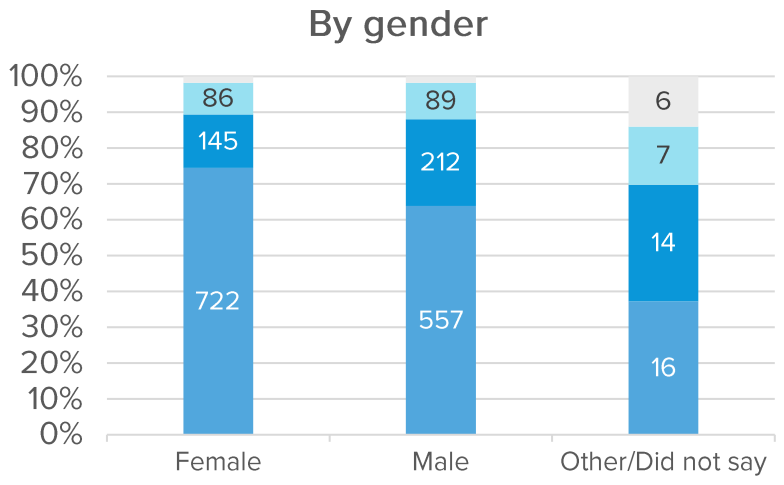
Digital literacy skills	Culture	Digital wellbeing	Usage and ownership

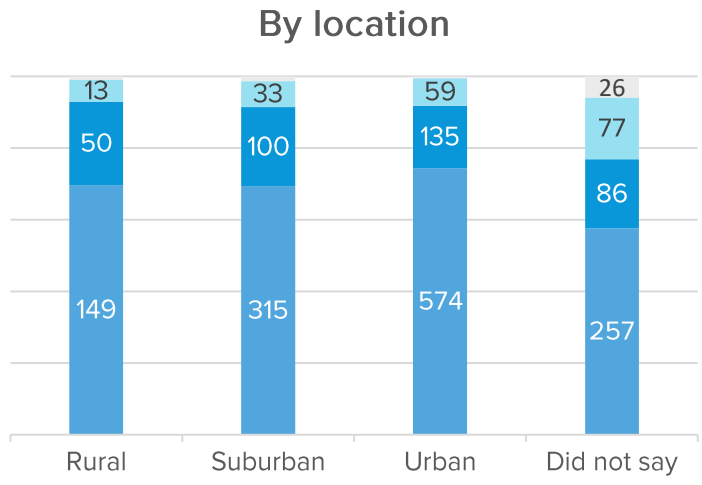
- Suriname has a strong foundation to develop **digital literacy**. Its adult functional literacy rate and skilled workforce population is high at 94% and 45%, respectively (UNDP HDI 2020). IADB's nationally representative telephone survey (2020) on household characteristics in Suriname noted that financial literacy in Suriname is relatively high at the national level, but with notable difference amongst demographic groups (based on gender, education, age, and economic sector). This financial literacy divide also extends to digital. Generally, the population's digital literacy lags behind, largely due to a lack of prioritisation of ICT skills development in the education system and workforce. In addition, the public survey highlighted that digital skills may be lacking in key populations – particularly amongst women and the elderly. Similarly, a potential divide exists between rural and urban populations. There is a risk that this could be entrenched as digital transformation efforts accelerate, with the public survey also highlighting that more privileged strata in society – notably men and urban residents – are more engaged with the future potential of digital and technology. Developing and implementing a digital inclusion strategy, which currently does not exist in Suriname, should be a priority.

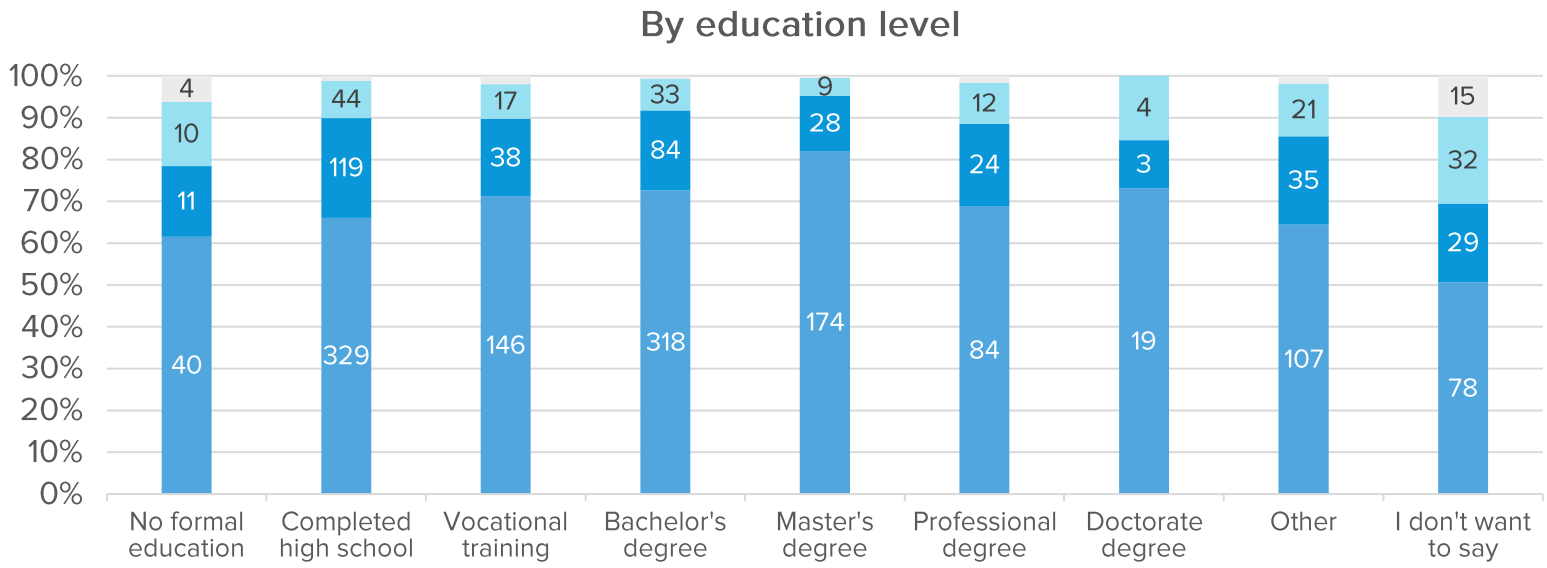
- The government is taking some important steps to address these challenges, with a particular focus on education. A national qualifications framework for Technical and Vocational Education Training (TVET) has been set up to align skills capacity building efforts with the country's STEM and economic priorities – and to develop a core group of digital specialists that could spearhead innovation in various industries (Suriname Policy Development Plan 2017-2021). Reforms to the education system are also planned, including considering the role of digital in measuring national education outcomes. Specifically, a National Education Information System to measure students' performance in schools could deliver important indicators on the impact of education policies. The government has also been working with the private sector to align technical vocational training programmes with the labour market needs of the economy. The Suriname National Training Authority is in the process of developing a national qualifications framework together with the country's largest employers and workers' organisations. These efforts are crucial in enhancing the digital literacy of Suriname, and the government could consider more advanced technical training to meet the skills priorities of the digital economy.

COVID-19 may have increased digital inclusion in Suriname – with positive impacts on women, those with lower education, and across locations

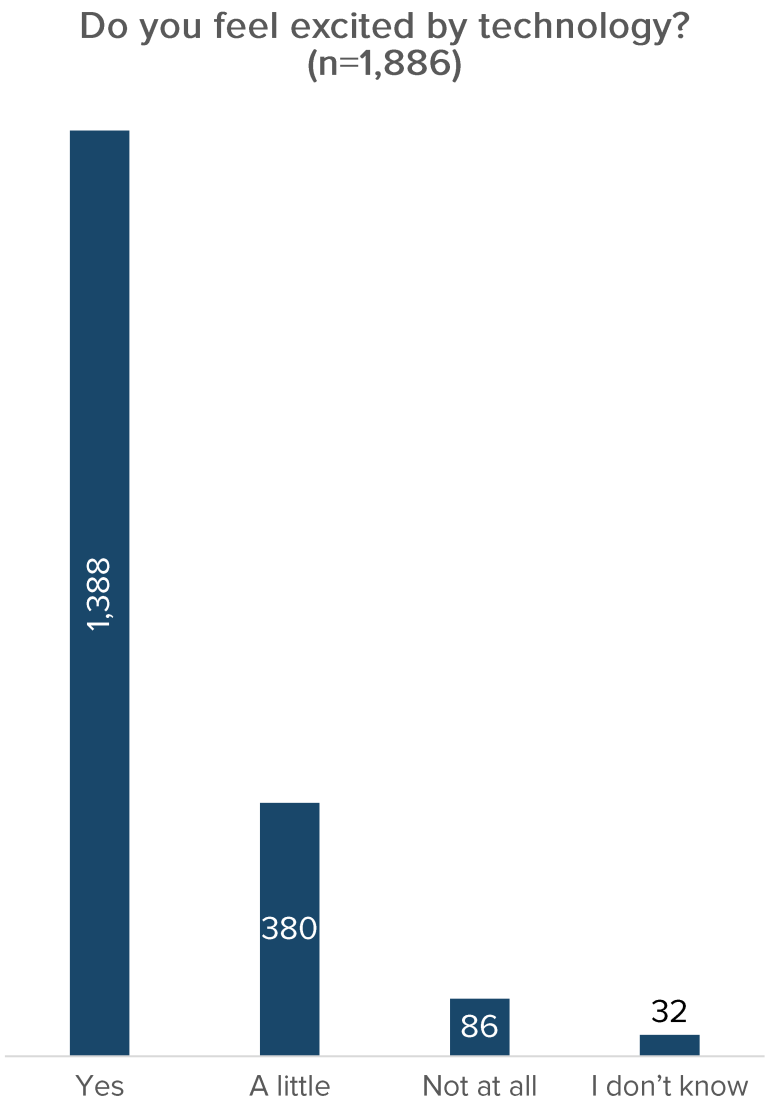


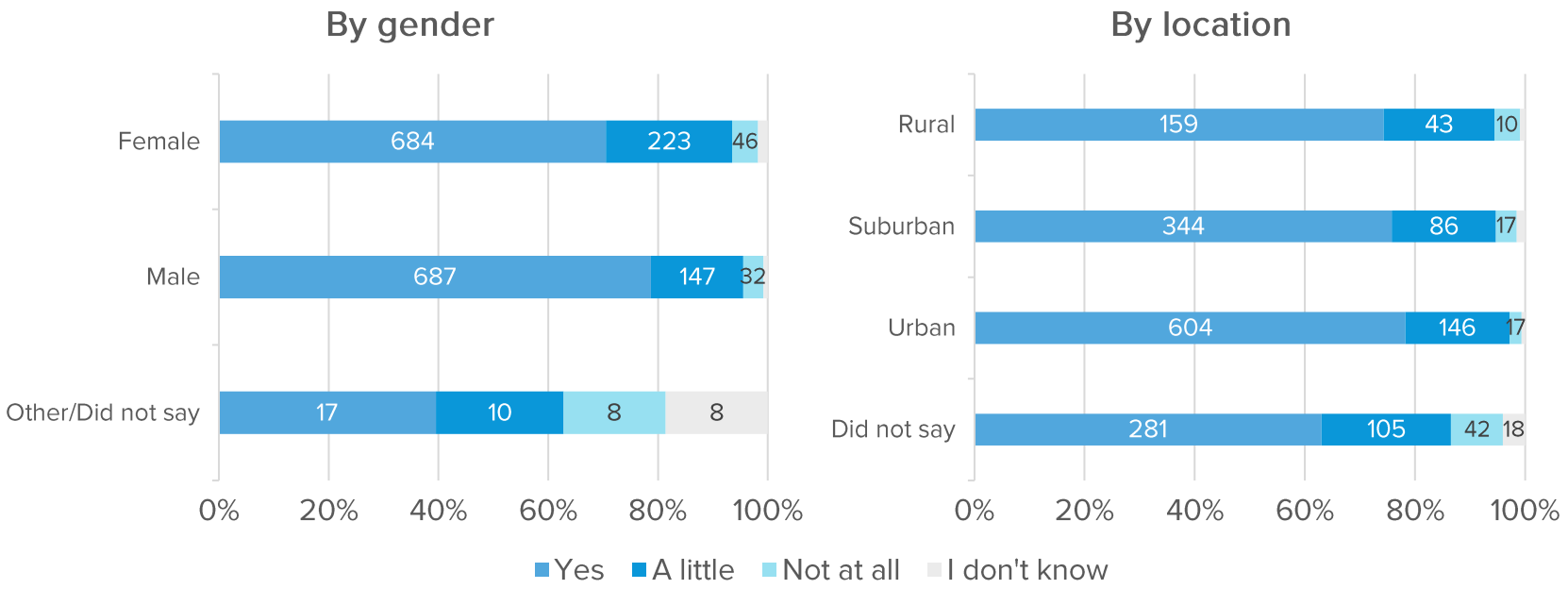


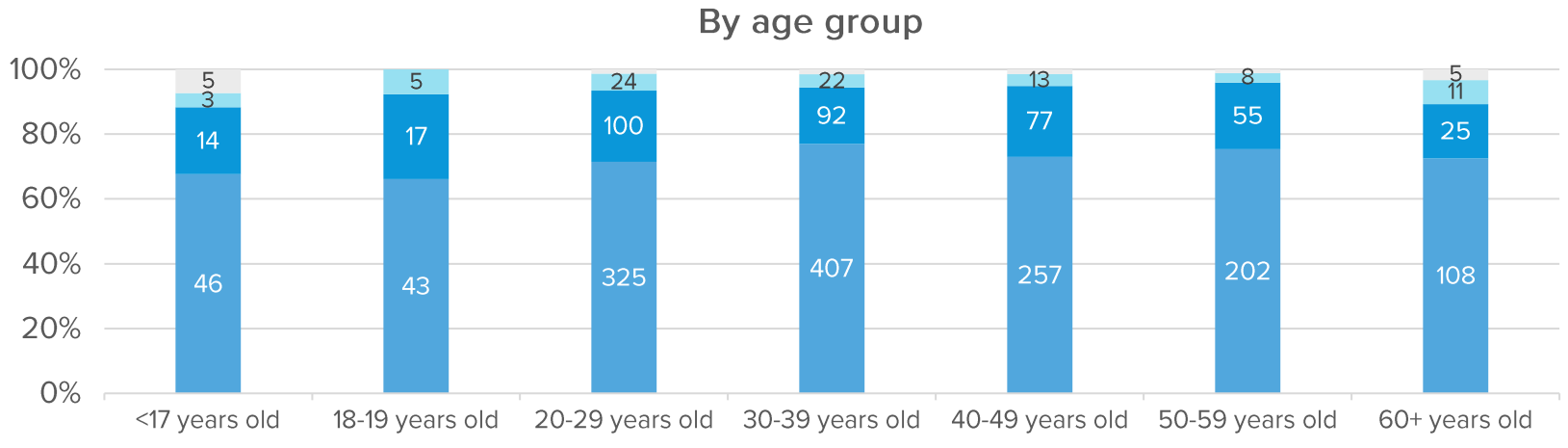




However, more privileged sections of society (men and urban residents) are more engaged with the potential of digital and technology







People: sub-pillars

Digital literacy skills	Culture	Digital wellbeing	Usage and ownership

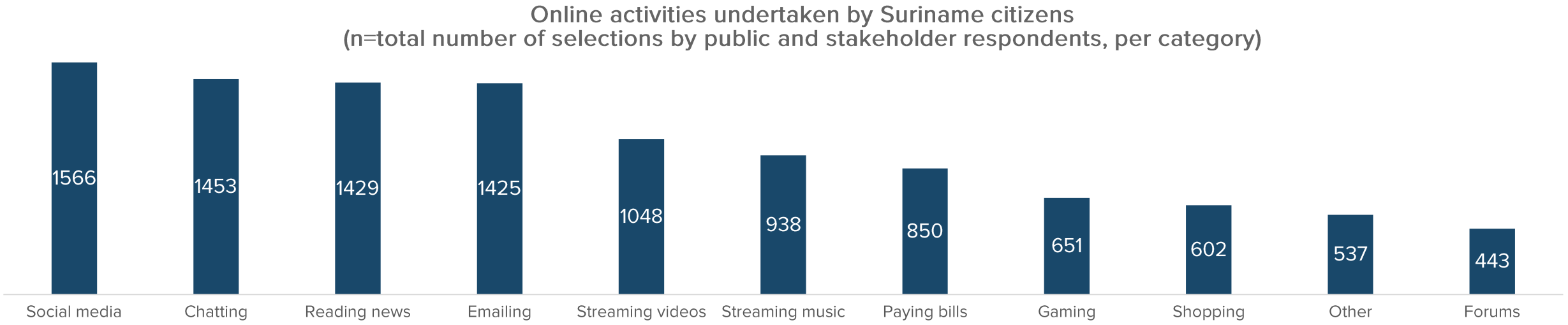
- Social media use, particularly Facebook and Twitter, has been increasing substantially in recent years. The total number of social media users at present represents 66% percent of the population – and has been increasing by an average of 8.3% annually (Data Reportal 2021). This suggests a growing **digital culture** and appetite for digital products and services. Reflecting this, Suriname receives a high consumer readiness in the GSMA Mobile Connectivity Index (2019). Public survey respondents also revealed a high interest in digital and confidence of its importance as a national priority.

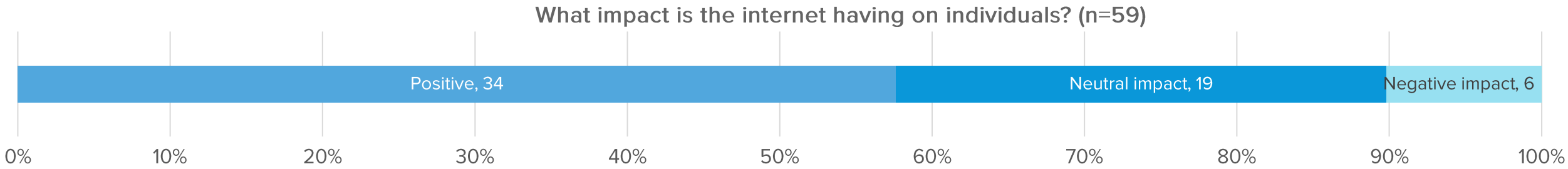
- These are encouraging developments, but Suriname lags behind regional SIDS in offering digital content and services of relevance to the local populace. This is reflected in a low content and services score, which could explain Suriname's comparatively low consumer readiness score in the region (see right). In this regard, the ICT Vision 2030 identifies a need to increase the market penetration of local quadruple play services (voice, internet, video, multimedia). In parallel, driving further digital uptake will depend on the affordability of connectivity, which is the lowest in the region (see right).

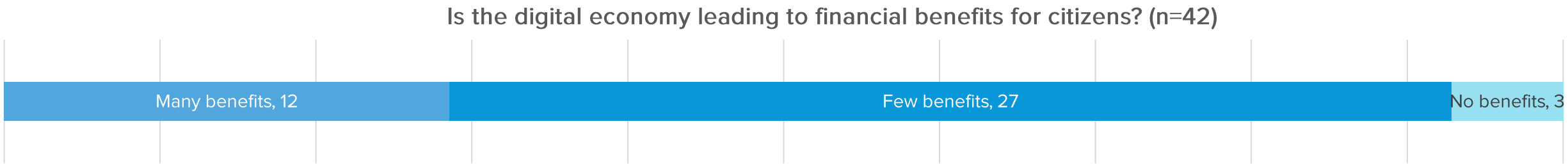
	Suriname	Jamaica	Guyana	Saint Vincent and the Grenadines	Dominican Republic	Trinidad and Tobago	Barbados
Infrastructure	57.3	58.2	42.5	58.9	57.2	67.5	65.6
Affordability	39.9	42.4	45	43.6	43.8	55.9	44.5
Consumer readiness	72.7	73	70.6	73.6	75.2	78.8	82.8
Content & Services	42.6	68.2	63.1	73.4	67.9	68.6	72.6

Source: GSMA Mobile Connectivity Index (2019)

Citizens are digitally-savvy, but the financial impact of the digital economy needs to be more wide-ranging







Respondents answering 'I don't know' not included

People: sub-pillars

Digital literacy skills	Culture	Digital wellbeing	Usage and ownership

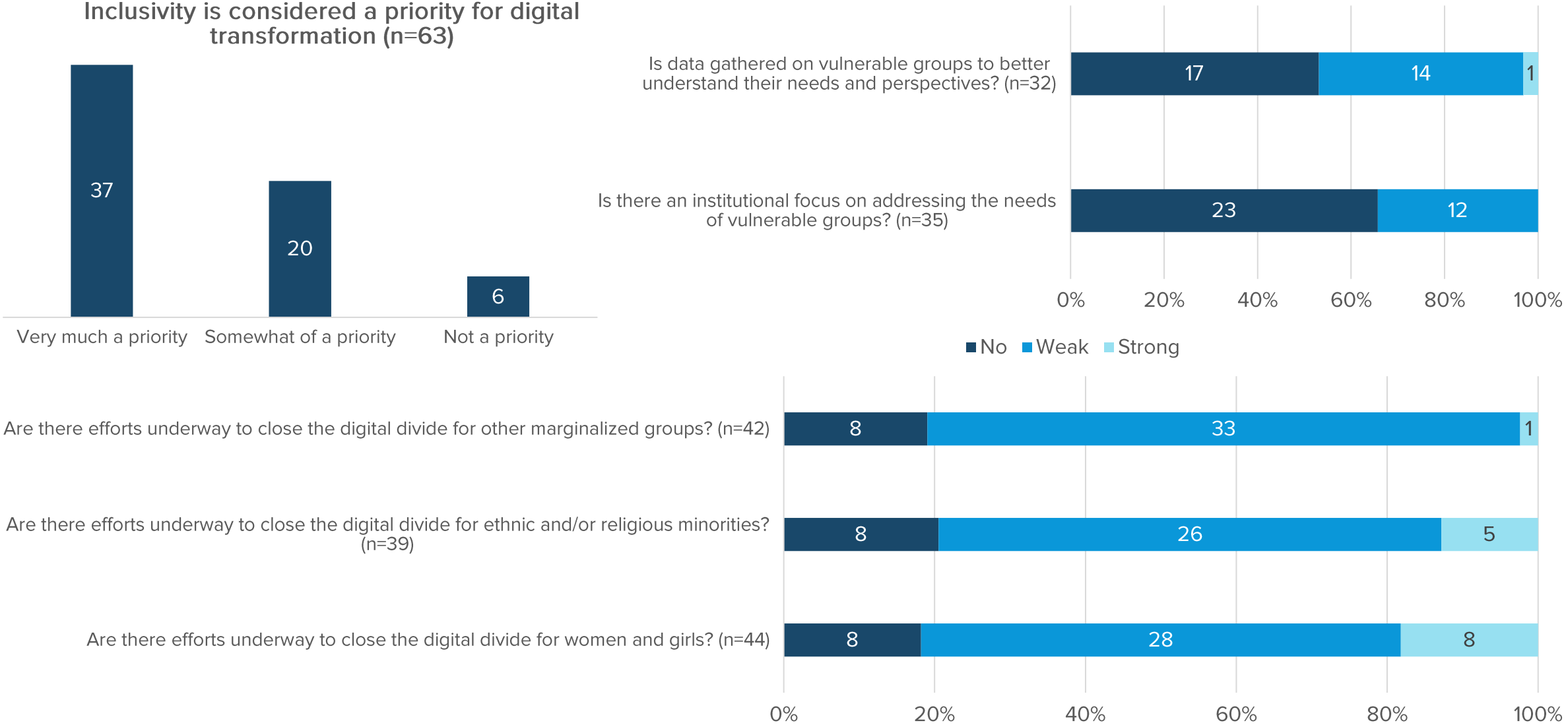
- Enhancing **digital wellbeing** in the populace is an area that has significant room for prioritisation in Suriname. This includes efforts that improve the cybersecurity awareness of the populace, increase citizen participation, and enhance the visibility of digital's potential and promise on the lives and livelihood of the people. These are important foundations for Suriname's vision of becoming a 'knowledge society' (Suriname ICT Vision 2030).

- Holistic approaches towards digital wellbeing have seen success in a number of SIDS. In Samoa, Fiji, and the Solomon Islands, community telecentres provide digital connectivity to underserved communities and serve as government information channels to disseminate digital wellbeing messages (cybersecurity, online misinformation, cyberbullying) to the public. This model could be considered by the Suriname government to increase last mile digital literacy and inclusivity.

- While digital adoption is gaining momentum, it is not clear as to the extent of broader policy initiatives tackling these issues of inclusivity. This reaffirms the need for an inclusive national digital strategy for the country that is guided by empirical evidence. Desk research returned little information on the **digital divide** in the country by demographic characteristics – and reflects the needs for disaggregated population census data collection and analytics focused on ICT access, usage, and broader digital inclusion.

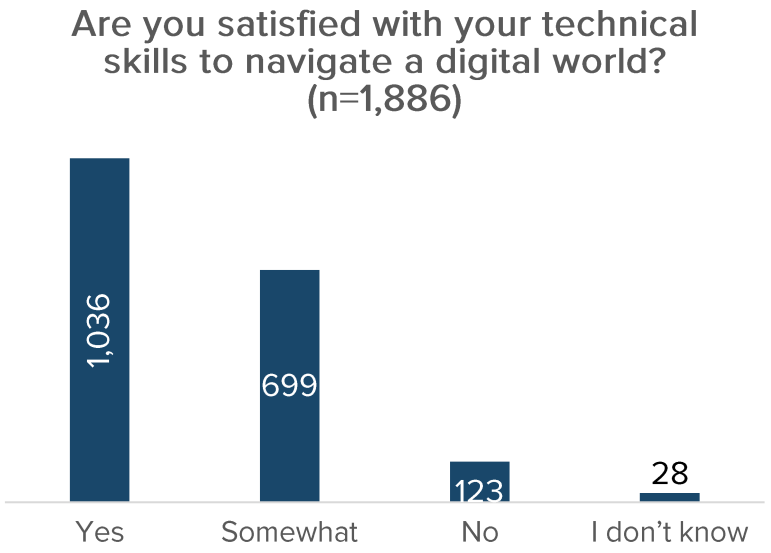
- Survey respondents also highlighted a need for more data to be gathered on marginalised and minority groups to better understand their digital needs and perspectives. This will be crucial to achieving and measuring various goals in the ICT Vision 2030 relating to bridging the digital divide in Suriname – including increasing the accessibility and affordability of connectivity for key vulnerable populations (women, the disabled, and households in rural areas).

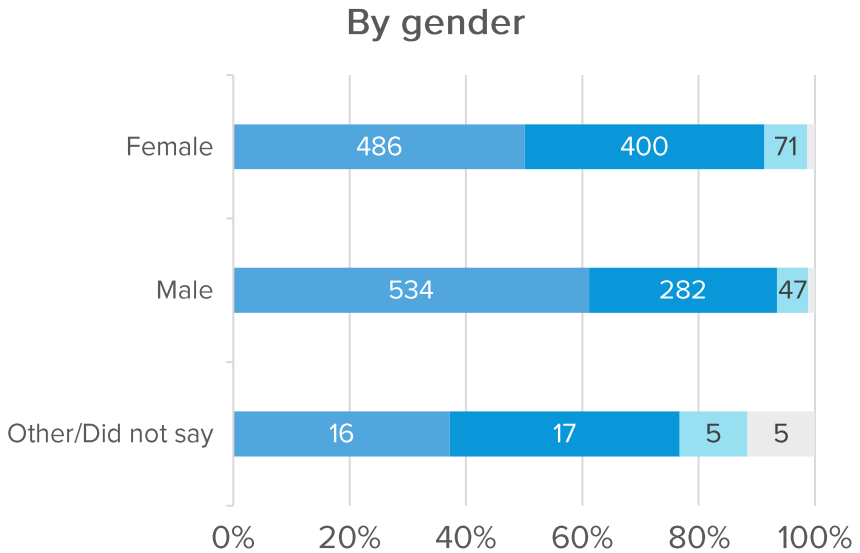
Although digital inclusion is seen to be a priority for government, strategies and policies may not always be translating into action

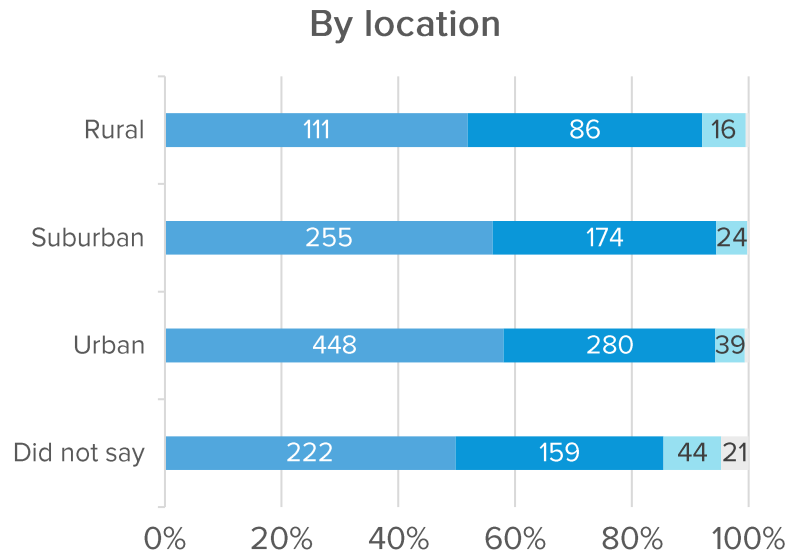


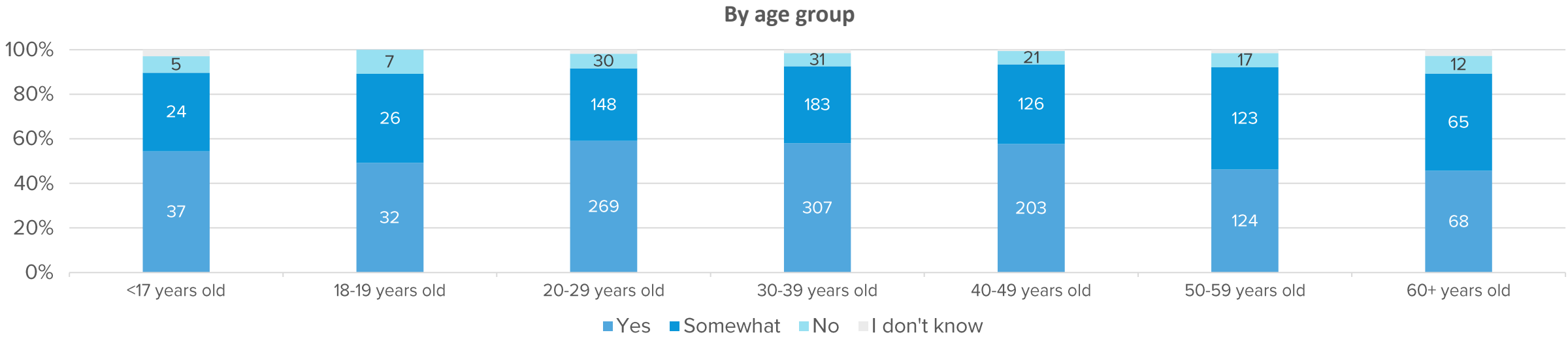
Respondents answering 'I don't know' not included

This is a broad challenge. Digital skills may also be lacking in key populations – particularly women, rural residents, and the young and old









People: recommendations

There are a number of priority recommendations within this pillar, largely linked with prior recommendations:

- Suriname has good digital and broader literacy foundations. There is significant potential to build on these assets, and future-proof the country's digital talent offer. A **Digital Skills Strategy** could be a useful starting point, to map the current incentives, initiatives, opportunities and gaps. This should be broad in focus, and take a whole-of-society approach. Collaboration with higher and vocational education sectors on developing more advanced digital skills is also necessary. The private sector should also play a key role in this discussion – and ensure skills development in Suriname meets labour market needs. There is also opportunity for the government to leverage on the capital and knowledge resource of its digital diaspora to catalyse the development of more advanced skills in the labour market for the digital economy.

- At the same time, the government could also consider the role of the government's 'Centres of Excellence' in facilitating **digital knowledge transfer** to the broader public. This could take the form of a 'train-the-trainer' approach to catalyse broader public and private sector innovation, as well as demonstrate the impact of digital on the country's national development goals. For example, Rwanda has a Digital Ambassador Program that trains young people to deliver basic digital literacy workshops to the general public at scale. In three years, this programme reached 41,000 Rwandans in 12 districts.

- Digital skills often have a high correlation with financial literacy – especially in the context of the digital economy. In this regard, there is a need to enhance the population's financial literacy in preparation for Suriname's digital economy transformation, and broader financial inclusion goals (a key priority of the CBvS). CBvS is particularly keen to see the development of a **financial education plan**. This could be led by the Center for Financial Education and Development (CFEO) within CBvS, but will require a baseline study of the financial literacy of the population (the latter is emphasised by the CBvS 2019).

- Related to this, government should ensure inclusion is at the heart of the country's digital economy. This should include a guiding strategy or framework, but also practical tools and resources – from 'checklists' for developers, through to monitoring and evaluation approaches (including **collecting data** to identify digital inclusion challenges), and focused interventions to ensure that no one is left behind.

People: recommendations

There are a number of priority recommendations within this pillar, largely linked with prior recommendations:

- **Digitalising schools** as community digital centres could be a parallel strategy to simultaneously increase connectivity and digital upskilling. For example, the government of **Sierra Leone,** in collaboration with UNICEF, initiated infrastructure mapping of school locations and connectivity status in 2020 to inform procurement decisions relating to connecting schools without power supply to electricity and broadband networks. These schools are also intended to be connectivity hotspots for local communities. Similarly, in Fiji, community 'telecentres' are established in government schools throughout the country, and are open to the community after school hours with 'lab assistants' available to provide users with technical support. These centres have logged users totalling some 15% of the national population.

- The ICT Vision 2030 drafted by ICT-AS has a broad goal of increasing quadruple play services' (voice, internet, video, and multimedia) market penetration to at least 30% by 2021. ICT-AS could lead the creative and telecom sectors in considering strategies to **enhance the creation of locally relevant content.**

- More broadly, a strategy for the 'Orange Economy' could be helpful. This could include setting co-working spaces for creative actors, and providing fiscal incentives for R&D in the creative industry to develop digital products and services. Some SIDS have already positioned the creative sector as a driver of digital entrepreneurship. In Barbados, the government has a dedicated Ministry of Creative Economy that offers multiple funding streams and tax incentives for creative entrepreneurs looking to develop digital products and services. In a similar spirit, the Trinidad and Tobago government established a state-owned enterprise, CreativeTT, to invest in initiatives that would strengthen the creative industry's competitive advantage in the global digital value chain.

Foundational digital catalysts

Although digital transformation is a truly whole-of-government and whole-of society endeavour, it is also founded on – and accelerated by – a small number of digital catalysts. These are key products, services, or systems that improve the functioning, inclusivity, and sustainability of digital transformation.

UNDP has identified three foundational digital catalysts that have supported the digital development of countries around the world.

Digital transformation is driven by data, and this makes **data exchange** a crucial component of a country's digital progress. This includes systems of open government data, including to drive the development of products and services in the private sector, and canonical data registries. Data exchange is closely related to the need for a **digital legal identity,** covering the entire population to ensure participation in the digital – and broader – economy. This legal identity is often the unique identifier used in databases and other digital government components.

Finally, a **digital payments ecosystem** is crucial in enabling the benefits of e-commerce and financial inclusion. This ecosystem includes digital financial service providers, but also the national and global enablers (such as platforms, agents, processors, and a commitment to interoperability).

Foundational digital catalysts: key insights and considerations

Data exchange	Digital legal identity	Digital payments

- Suriname should look to prioritise **data exchange** components. Within the government, key actors in data collection, sharing, and analytics include the General Statistics Bureau (ABS), the Monitoring and Evaluation Institute, the Central Bank of Suriname, and the Central Bureau for Civil Affairs (CBB). CBB's survey (2021) on citizen's perception of its services revealed that 70% of respondents would like to see the government offer more digital services – and, in the context of the new e-ID, are keen for personal data to be shared between public and private sector organisations for more streamlined digital service experiences. In this regard, harmonisation between government sectors, especially in developing standards for sharing of data, needs to be a foundation of data governance. Developing a government-wide approach to guide data standardisation and sharing practices in the public sector could be particularly useful – and could set standards for the private sector's use of data. As a reference, Curaçao's new ICT Security Policy (2021) classifies government data into four categories, from public data to restricted data, with sharing restrictions for each category based on data sensitivity and risk level. This public sector initiative is part of Curaçao's larger plan to develop standards around consumer data protection for the digital economy.

- In parallel, the government should also consider Open Data policies and processes, as well as underlying data architectures. A very real gap exists in public-facing open government data, and platforms for centralised information dissemination. Open Data is a key accountability, quality assurance, and efficiency mechanism that can improve public services. In Burundi, the Ministry of Health leveraged Open Data to implement results-based financing – thereby enhancing transparency and productivity in the health sector's delivery of public projects financed by development funds. Related to this, shaping legislation or policies to guide open data efforts could be a strong step forward.

- More widely, a data audit could facilitate the development of a broader national data governance strategy – and continue the country's Open Data journey. This strategy would explore different datasets – and their value and usefulness – within government, the economy, and society for more informed policy making. For example, there are broadly six types of public intent data (World Bank 2021): administrative, census, sample surveys, citizen-generated, machine-generated, and geospatial data. To maximise the value of this data, it should have useful coverage of the relevant population, be of high quality and easy to use by stakeholders and partners, and safe – ensuring adherence to privacy and security best practice.

Foundational digital catalysts: key insights and considerations

Data exchange | Digital legal identity | Digital payments

- The Ministry of Interior (BiZa) introduced a unique and standardised **digital identifier** (e-ID) in 2019. The new e-ID card has a machine readable zone (MRZ) that stores personal data, including e-signature, facial image, and fingerprints. It is intended to be an access key to e-government services – and opens the possibility of verifying online identification for commercial activities. The latter could be a strong catalyst for the development of e-commerce and broader digital economy modules.

- The launch of the e-ID is an encouraging step towards operationalising more sophisticated digital government initiatives – such as validating e-government transactions or introducing 'once-only' legislation to integrate e-government portals. Some survey respondents highlighted usage of their e-ID to access a small amount of services – but most are unaware of the service applications of the e-ID. This reflects challenges in the universal rollout of e-ID mentioned by survey respondents, including a culture of apathy or distrust towards digital (and low digital literacy amongst consumers and merchants), connectivity constraints, and costs and complexity around the logistics of implementation. The latter is a particular concern of government survey respondents.

- BiZa's Central Bureau for Civil Affairs (CBB) leads the e-ID's operationalisation in the country. There are 14 CBB units throughout the country that process e-ID applications – and an e-counter for online applications. However, take-up rate remains lower than expected due to the high costs of traveling to e-ID units and difficulties in collecting e-ID cards, which take six weeks to produce. With this in mind, the government should prioritise delivery of the e-ID and increase citizen interest – especially since the e-ID is an entry point to broader digital government services. These efforts should also be explored in combination with the digitisation and digitalisation of priority public services discussed earlier. Further research into the barriers and challenges (and opportunities) in using e-ID processes should also be considered.

- Despite these challenges, Suriname has made good progress in introducing complementary legislations to futureproof the e-ID system, including the legal recognition of e-identity, documents, transactions (forthcoming), and signatures. In addition, BiZa also launched two new committees in 2021 to update the existing Population Register and Civil Registry Act to meet CBB's new digitisation and digitalisation priorities. This could streamline legacy systems in government and enhance standardised data sharing practices across government sectors.

Foundational digital catalysts: key insights and considerations

Data exchange | Digital legal identity | Digital payments

- The development of **digital payments** and broader Fintech innovations has been identified by the CBvS as a key strategy to meet the country's digital economy and financial inclusion objectives (CBvS 2019). Specifically, the government intends to onboard 30% of the population to electronic payment services by 2022 – and is considering their retail and wholesale applications (ICT Vision 2030).

- Suriname has been forward-thinking in its operationalisation of this goal. In 2015, it launched the National Electronic Payment System (SNEPS), which enables cashless transactions amongst commercial banks and the CBvS. The forthcoming Electronic Payment Transactions Act will set out the framework for the SNEPS to facilitate retail payments such as digital and mobile banking. There is also strong political commitment to mainstream digital payments in wider society, with the government considering using the SNEPS for welfare benefits and pension transfers (CBvS 2019). This could increase Suriname's unbanked population's access to financial services and demonstrate the benefit of digital payments to the public. Currently, formal financial inclusion is low. The World Bank's Enterprise Survey (2019) reveals that an average of 67% of the labour force in core industries are informal workers. Most Surinamese also rely on cash payments – 49% of the population reported using cash as their sole payment method, especially those who live outside of Great Paramaribo and are employed in the informal sector (IDB 2021). Access to bank accounts and debit cards in Suriname is also much lower than in other Caribbean countries (IDB 2020).

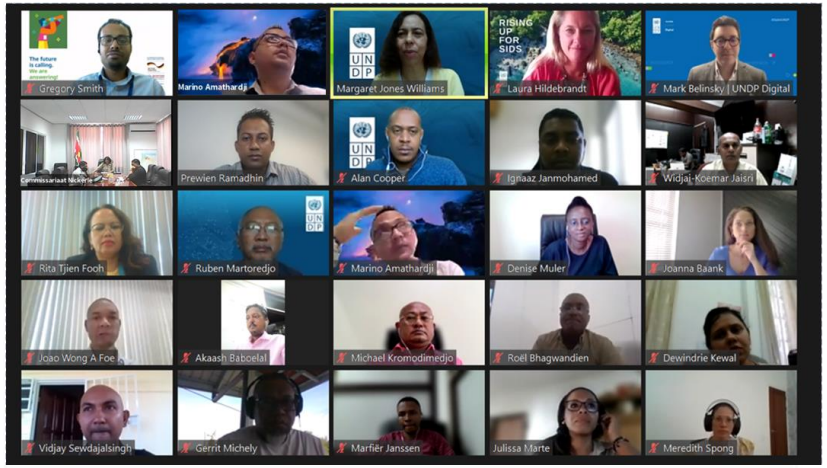
- In Kenya, India, and Indonesia, mobile banking has seen successes in increasing vulnerable groups' access to financial institutions – and formalising the economy. However, in Suriname, despite high mobile cellular subscriptions and the presence of foundational electronic payment infrastructure, the use of mobile money for payment purposes is rather nascent. The digital payments market is also just emerging. Currently, innovations in digital financial services and products are limited to developments by commercial banks and the CBvS.

- In the context of low consumer demand and operator supply, the government will need to play a more active role in creating a digital payments ecosystem. This could include efforts to increase accessibility and affordability of digital payment solutions – such as increasing competition between financial institutions and payments operators, introducing legislation regarding interoperability, streamlining procedures for SMEs to obtain local payment solutions, and encouraging payments operators to offer bundled services (BIS 2020).

Next steps

Next steps

- Official handover of the final report to Government of Suriname.
- Dialogue with E-gov. on follow-up strategy and technical assistance needed.
- Support E-Gov. to organize workshop to present findings and generate input for development of a National Digital Strategy with senior policymakers, technical leads, and other key stakeholders.
- Development of National Digital Strategy roadmap and implementation plan and mapping of internal and external funding opportunities to drive digital transformation in Suriname.
- Seek support for E-Gov to launch the Digital Strategy roadmap and implementation plan.
- Seek Technical Assistance for E-Gov in execution of Digital Strategy roadmap and implementation plan.
- Identify discrete projects, programmes, or other interventions based on the report's recommendations that can be taken forward by the Government of Suriname with development partners and donors.



Annex

Methodology

- The Digital Readiness Assessment is a non-representative digital survey-based tool to provide rapid, high-level insights into a country's digital strengths and opportunities. It features more than 140 single-choice, multiple-choice, and free-text responses. The Digital Readiness Assessment was developed by the UNDP Chief Digital Office.

- The survey is split into seven sections: perspectives on strategy, infrastructure, government, regulation, business, people, and socio-demographic questions. The survey is targeted at stakeholders in government (both national and local government), the private sector (including business associations), civil society organisations, and private citizens. Several questions are only asked of those from particular sectors.

- In Suriname the Digital Readiness Assessment was launched in November 2021, with participants completing the survey (using the Kobo Collect platform) during virtual meetings. Targeted follow-up to key stakeholders was undertaken after the workshop, to drive further responses. A separate public survey in English and Dutch was also launched in November 2021.

- Members of the UNDP Global Centre for Technology, Innovation, and Sustainable Development; UNDP Small Island Developing States, and UNDP Chief Digital Office teams led on survey analysis and reporting. Analysis was conducted in November and December 2021 – and finalised in March 2022.

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