

Chapter 7

POLICIES FOR DIGITAL TRANSFORMATION: RECOMMENDATIONS FOR A WHOLE-OF-GOVERNMENT APPROACH

Going Digital in Brazil: An integrated policy framework

The previous chapters of this Review analysed recent developments in digital transformation in several policy fields in Brazil. The analysis resulted in an assessment and a set of policy recommendations for each field. These recommendations are discussed below and mapped against the OECD Going Digital Integrated Policy Framework presented in Chapter 1 and summarised in Figure 7.1.

The components of the framework under analysis were those expressed as priorities by the Brazilian authorities: access, use, trust and innovation.

Figure 7.1. OECD Going Digital Integrated Policy Framework



Source: OECD (2019a), *Going Digital: Shaping Policies, Improving Lives*, <https://doi.org/10.1787/9789264312012-en>.

Access

As noted in Chapter 2, the availability of high-quality fixed and mobile communication services at competitive prices are crucial for Brazil to go digital. One of Brazil's main challenges in this respect is expanding quality broadband to rural and remote areas. Fixed and mobile broadband penetration is similar to countries in the region, but well below the OECD average. Fixed broadband prices tend to be higher than in many OECD countries.

Brazil should take further action to promote access to broadband, increase the quality of communication services and promote competition in the market:

- Create a converged regulator for the communication and broadcasting sectors by merging the regulatory functions of the National Telecommunications Agency (Agência Nacional de Telecomunicações, Anatel); the National Film Agency (Agência Nacional do Cinema, Ancine); and the Ministry of Science, Technology, Innovations and Communications.
- Promote an independent decision-making process by the regulator while reforming personal liability regimes for public servants.
- Establish an independent oversight body to review the regulatory impact assessments of different institutions.
- Reform the legal framework to introduce a simple class-licensing regime for communication and broadcasting services.
- Enhance co-ordination among federal, state and municipal levels to promote broadband deployment, particularly in underserved areas.

- Upscale co-operation among the National Consumer Secretariat (Secretaria Nacional do Consumidor, Senacon), the consumer's protection and defence programmes (Procons) and Anatel on consumer protection regulations.
- Strengthen Anatel's enforcement framework based on quantitative evidence and targets.
- Merge sectoral funds into a single fund to support further development of the digital economy; consider abolishing all sectoral contributions in the long run.
- Further increase backhaul and backbone connectivity and promote open wholesale access models.
- Foster the Internet of Things (IoT) by abolishing fees (e.g. Telecommunications Oversight Fund) and establishing a separate IoT numbering plan.
- Consider removing the legal restrictions on foreign direct investment in broadcasting.
- Carefully design the upcoming 5G auction as to ensure competition in the market.
- Implement the recommendations of the OECD *Peer Review of Competition Law and Policy in Brazil* (OECD, 2019b), in relation to the assessment of market dominance.
- Design an integrated and overarching public policy vision for broadcasting, pay TV and emerging over-the-top services/video on demand.
- Improve the evidence base on broadcasting and communication services.

Use

Closing the digital divide

As explored in Chapter 3, Brazil has made significant progress in improving access to the Internet in recent years. In 2018, 72% of the population aged 16-74 was connected to the Internet, up from 50% in 2013. Despite rapid progress, 23% of the adult population has never used the Internet (CGI.br, 2019). Furthermore, the ability to use digital technologies effectively differs among individuals according to age, income and education.

While the digital transformation provides opportunities to foster inclusive growth, there is also a risk that the digital divide may add to the social divide, thus deepening social exclusion.

In Brazil, policies for digital inclusion have focused on bringing the Internet to remote areas and isolated communities. While Internet access should remain a priority, Brazil should put in place a wider set of policies to upgrade digital skills and address the digital divide:

- Raise awareness on the benefits of Internet use among all people.
- Develop content, services and applications that meet the needs of those with low digital uptake, e.g. low-educated, low-income and elderly people.
- Offer large-scale online courses on Internet safety and security, online banking, access to digital government services, e-commerce, content creation.
- Increase the role of telecentres as training providers, particularly in rural and remote areas, and ensure adequate funding and technical assistance from the federal government.
- Scale up the National Digital Inclusion Agent Training programme and the Computes for Inclusion programme, in co-operation with the private sector.
- Regularly monitor and evaluate the Connected Education programme.
- Implement the new Common Curriculum Guidelines across the country, by adapting textbooks, training teachers and aligning performance assessments in schools.

Fostering digital uptake in firms

Chapter 3 also showed that despite almost universal access to the Internet, Brazilian enterprises lag behind those in OECD countries in their use of digital technologies, the gap being particularly wide for micro-enterprises, which account for the large majority of firms. E-commerce is growing but some structural problems, such as low financial inclusion, poor transport infrastructures, low competition in the parcel delivery market and different tax regimes among states, hinder its development.

While advanced manufacturing and the IoT is a key strategic objective for the government, the share of Brazilian manufacturing firms using Industry 4.0 technologies remains lower than the OECD average. Lack of skills in the workforce hinders the digital transformation, with ICT professionals being the occupational category with the second most largest shortage in Brazil in 2018 (OECD, 2018a).

Brazil is stepping up support for the diffusion of digital technologies across the economy. The Brazilian Economic Development Bank (Banco Nacional de Desenvolvimento Econômico e Social, BNDES) and the Brazilian Agency for Innovation and Research (Financiadora de Estudos e Projetos, FINEP) are increasingly supporting investments in digital technologies. The Brazil More programme aims at fostering productivity in firms, including through digital technologies. The National Service for Industrial Apprenticeship provides training and consulting activities for Industry 4.0.

While continuing these programmes, Brazil should also:

- Run awareness-raising campaigns on the benefits of the Internet and digital technologies, targeting in particular micro-enterprises.
- Introduce incentives for firms to use online services, such as e-procurement.
- Take measures to foster greater competition in the parcel delivery market.
- Remove regulatory barriers to the development of e-commerce business models, such as multichannel models.
- Harmonise the rate of the tax on goods and services (ICMS) across states as a first step towards a federal value-added tax system.
- Improve co-ordination among programmes supporting digital uptake by firms; create a single portal where firms can access all information about these programmes.
- Introduce tax incentives for technological upgrade, training and ICT investments for all firms, irrespective of their sector and size.
- Facilitate the formal recognition of skills acquired in online courses and vocational training, through partnerships with vocational education institutions, companies or other entities.
- Increase funding for scholarships for students in science, technology, engineering, and mathematics (STEM) as well as PhD candidates in engineering, natural sciences and ICTs, in co-operation with businesses.

Pushing ahead with the digital transformation of the government

Chapter 3 also demonstrated that the digital transformation of government is a priority for Brazil, which is striving to make the administration more efficient and citizen-friendly. In 2016, the former Ministry of Planning (currently the Ministry of Economy) established the Digital Governance Strategy.

Brazil should push forward with the recommendations of the *OECD Digital Government Review of Brazil: Towards the Digital Transformation of the Public Sector* (OECD, 2018b). In particular:

- Continue reinforcing the responsibilities and resources of the Secretariat of Digital Government.
- Increase co-ordination and build synergies between the Digital Governance Strategy and E-Digital.
- Continue prioritising digital skills development in any policy or framework for the public sector.
- Continue enhancing interoperability among the public administration's systems.
- Advance the new legislation on the sharing of personal data among government bodies, initiated by the Data Sharing Decree (Decree 10.046/2019).
- Reinforce public efforts for the development of a digital identity framework.
- Speed up the establishment of the National System of National Digital Signature and Identification System.
- Reinforce efforts to develop a data-driven digital government.
- Update the digital government legal and regulatory framework so as to seize the opportunities of emerging technologies.

Trust

Fostering digital security

As discussed in Chapter 4, digital security incidents are on the rise in Brazil, but many firms lack contingency plans or budgets to deal with them (Marsh, 2019). To address this issue, Brazil is developing a broad digital security framework, starting with the adoption of its first National Cybersecurity Strategy. The strategy puts forward a vision for Brazil “to become a country of excellence in cybersecurity”. Its objectives are to make Brazil more prosperous and reliable in the digital environment; increase Brazilian resilience to digital security threats; and strengthen Brazilian performance in cybersecurity in the international sphere.

The National Cybersecurity Strategy is clearly a step in the right direction. However, in order to achieve its objectives, a broader set of economic and social initiatives are necessary. In particular, Brazil should:

- Create a wide community of digital security leaders in the public and private sectors, academia, and civil society to implement the National Cybersecurity Strategy.
- Develop tools to evaluate the implementation of the strategy, assess progress and revise objectives accordingly.
- Significantly increase the budget for the implementation of the National Cybersecurity Strategy, setting clear and measurable milestones.
- Foster a decentralised approach to digital security governance, with ministries and agencies leading in their area of competence and the GSI/PR as a co-ordinator, by strengthening digital security expertise in government.
- Undertake awareness-raising campaigns among businesses, individuals and within government.
- Strengthen digital security training and education programmes at all levels; establish a national register of digital security trainers; encourage students to pursue careers in digital security.
- Strengthen multi-stakeholder dialogue about digital security, building on the Brazilian Internet governance (CGI) model.

Enhancing trust through greater privacy

Chapter 4 also noted that Brazil passed the General Data Protection Law (LGDP) on 14 August 2018. The law creates a normative framework seeking to harmonise and expand the right to personal data protection. The law is largely aligned with the 2013 update of the *OECD Recommendation of the Council concerning Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data* (OECD, 2013), although some important differences remain, notably in relation to the governance and oversight structures. In particular, the guidelines call on OECD countries to establish and maintain privacy enforcement authorities with the governance, resources and technical expertise necessary to exercise their powers effectively and to take decisions on an “objective, impartial and consistent basis”.

In order to enhance privacy, Brazil should:

- Re-evaluate and amend the conditions establishing the National Data Protection Authority (ANPD) in Article 55-A of Law 13.709 to ensure that the Authority operates with full independence from the date of its establishment.
- Ensure that the rules for appointing the ANPD’s Board of Directors and the National Council for the Protection of Personal Data (CNPDP) are transparent, fair and based on technical expertise.
- Clarify the responsibilities and tasks of the CNPDP.
- Set clear rules for decision making within the ANPD and for their implementation by the Board of Directors.
- Guarantee an adequate and predictable budget to the ANPD through a transparent process.
- Align the National Strategy on Artificial Intelligence to the General Data Protection Law and other relevant legal frameworks, in co-operation with all stakeholders.

Protecting digital consumers

Chapter 4 also showed that while business-to-consumer (B2C) e-commerce sales are relatively small, Brazil's e-commerce market seems to offer outstanding opportunities for online retailers at local, regional and global levels. Available data show that 23% of Brazilian consumers shop on US-based websites compared to 9% of European consumers. Half of the Brazilian population, or about 100 million people, has purchased through international websites at least once (Société Générale, 2019).

Brazil has taken significant steps over the last decade to strengthen consumer trust in e-commerce. In 2014, the Civil Rights Framework for the Internet (Marco Civil da Internet) provided the foundational principles, guarantees, rights and obligations for Internet users in Brazil. In 2017, Law 13.543/2017 strengthened the rules of online advertising of goods and services sold through e-commerce.

To continue strengthening the protection of digital consumers, Brazil should further the implementation of the OECD Recommendation of the Council on Consumer Protection in E-Commerce (OECD, 2016a). In particular:

- Establish a framework for analysing consumer complaints data and identifying issues that require policy and enforcement responses.
- Collect and analyse consumer complaints specific to cross-border transactions in order to better understand the nature and scale of consumer issues associated with these transactions.
- Provide relevant domestic authorities, such as Senacon, with adequate powers, tools and resources to enhance their participation in cross-border co-operation for consumer protection, including the International Consumer Protection and Enforcement Network.
- Improve the effectiveness of the government's dispute resolution and redress platform, Consumidor.gov.br, by evaluating consumer usage and satisfaction and looking into unresolved cases.

Innovation

Unleashing digital innovation

As explored in Chapter 5, Brazil has made significant progress over the past decades in modernising its policies and institutions to support research and development (R&D) and innovation. R&D expenditures relative to gross domestic product are above Latin American and Caribbean countries, but still behind OECD countries. Furthermore, Brazil's R&D business expenditures account for a smaller share of total R&D, particularly in the ICT sector.

Low human capital, particularly in science, engineering and ICTs, is a major bottleneck in the innovation system. There is also a gap between basic and applied research, while collaboration between enterprises and academia remains limited. Although public support to business R&D has increased in recent years, young and small firms have limited access to it.

The main support to R&D in the ICT sector – the Informatics Law – has contributed to increase manufacturing production and employment. However, the policy does not seem to have achieved its objective to spur innovation and productivity.

Following the adoption of the E-digital Strategy and the National IoT plan, Brazil has been experimenting with new instruments and institutions to support key digital technologies. These include the “Technology Bonus and Grants in Advanced Manufacture” by the National Council for Scientific and Technological Development (Conselho Nacional de Desenvolvimento Científico e Tecnológico, CNPq), as well as several programmes for IoT or advanced manufacturing by BNDES, FINEP and the Brazilian Company for Research and Industrial Innovation (Empresa Brasileira de Pesquisa e Inovação Industrial, EMBRAPPII). The National AI Strategy is also set to promote high public-private co-operation around key national challenges. While extremely useful, these initiatives remain limited in number and volume of funding.

Brazil hosts one of the most active high-tech entrepreneurial communities in Latin America, mostly active in professional services, ICTs and finance. The proposal for a legal framework for start-ups and innovative enterprises aims to overcome some obstacles for start-ups arising from administrative procedures, rigid labour regulations and a complex web of state and federal level taxes.

To strengthen digital innovation, Brazil should:

- Orient public support to digital innovation towards mission-oriented research, building on the model of the National IoT Plan.
- Ensure adequate, stable and predictable public resources for research in ICTs.
- Develop clear roadmaps for advancement in key digital technologies, such as artificial intelligence and data analytics, in co-ordination with sectoral ministries and private stakeholders.
- Build capacity in the public sector to procure high-tech innovative solutions, borrowing expertise from businesses and institutions, such as BNDES.
- Increase legal guarantees for public servants contracting procurement for innovation.
- Open e-procurement to innovative solutions from start-ups.
- Increase knowledge transfer from business to academia, for example through higher business participation in technology transfer offices and in teaching.
- Consider introducing cash-refund or carry-forward provisions to make the Good Law more suitable for young innovative firms.
- Reform the Informatics Law so as to strengthen its support to innovation.
- Increase co-ordination among FINEP, BNDES and EMBRAPPI on innovation projects.
- Increase funding to EMBRAPPI, for example by increasing compulsory funding from the Informatics Law to priority projects for innovation.
- Strengthen innovation hubs for experimentation and technological transfer to small and medium-sized enterprises (SMEs), e.g. EMBRAPPI units as testbeds for digital technologies.
- Strengthen public-private partnerships for the advancement of artificial intelligence in a trustworthy way, ensuring participation by SMEs and start-ups.
- Strengthen programmes for start-ups targeting female entrepreneurship.

Fostering the digital transformation of the economy

As discussed in Chapter 6, digital transformation is reshaping established markets and creating new ones. With E-Digital, Brazil has developed an encompassing strategy for digital transformation, highlighting its core enablers and the emergence of new, data-driven business models in agriculture, industry and services.

While promising initiatives are under way in some of these areas, Brazil's capability to seize the opportunities and face the challenges arising from the digital transformation will require predictable and co-ordinated efforts by all government entities in close co-ordination with the private sector. Furthermore, policy makers need to focus on rules that are flexible enough to accommodate changing business models and sectoral boundaries.

Brazil should take specific policy actions in the following sectors, which are a priority in its policy agenda.

Agribusiness

- Foster a national innovation network and testbed environment for agribusiness through stronger synergies between public and private sector research.
- Develop an inclusive framework for agricultural data governance through multi-stakeholder institutions, like the Brazilian Commission of Precision Agriculture (CBAP) or the Agro 4.0 Chamber.
- Promote technical assistance and extension services, e.g. through mobile applications, with a focus on smallholders and farmers in remote areas.
- Ensure that drone regulation remains up to date through continuous co-ordination between the regulator and the private sector, e.g. through the Agro 4.0 Chamber.
- Further support the development of digital solutions for climate-smart agriculture, by scaling-up initiatives like the IoT pilot programme.
- Align the National IoT Plan and the Strategic Agenda for Precision Agriculture. Clarify the roles and responsibilities of the National IoT Chamber, the Agro 4.0 Chamber and the CBAP.

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Manufacturing

- Enhance adoption of foreign technology with a long-term commitment to reduce tariffs on ICTs and capital goods.
- Enhance access to imported services by reducing the special tax on royalties and administrative and technical services provided by non-residents (CIDE).
- Reduce uncertainty about taxation of goods and services arising from new business models enabled by digitalisation, e.g. by introducing a single tax scheme on both goods and services (GST).
- Scale-up programmes connecting manufacturing firms to innovative start-ups, SMEs and service providers.
- Strengthen governance and co-ordination mechanisms to ensure that Industry 4.0 policies are well aligned and have sufficient scale.
- Include energy efficiency among the objectives of the Industry 4.0 Strategy.

Fintech

- Create a level playing field for new payment institutions by leveraging the Instant Payment initiative.
- Foster competition in the payment card market by investigating and sanctioning anticompetitive behaviour.
- Enhance competition in the credit market by implementing the Open Banking initiative and strengthening regulations about data protection, data security and banking liabilities.
- Consider enhancing the use of credit guarantee schemes to foster financial access for SMEs and start-ups.
- Enhance co-ordination among different financial regulators and better align regulation with regard to the emerging sandbox environments or cryptocurrencies.
- Establish a regulatory one-stop shop for Fintech companies to reduce uncertainty for Fintech companies crossing traditional market boundaries.

e-Health

- Validate and scale up Brazil's e-Health programme – Connect SUS – across all regions.
- Enhance interoperability and co-ordination between public and private health systems, leveraging the Health 4.0 Chamber.
- Update the regulatory framework for healthcare data protection and information security in both public and private facilities. Provide medical staff and hospitals with guidance on how to develop and implement information security policies.
- Foster the creation and use of digital health identities in line with the *OECD Recommendation of the Council on Health Data Governance*.
- Engage all stakeholders in regulatory reform that enables the use of telemedicine as a substitute for face-to-face consultations.
- Promote new regulation in emerging areas, such as nanotechnology-based drugs and software as a medical device.

Building a whole-of-government approach

The digital transformation affects different parts of the economy and society in complex and interrelated ways, making trade-offs between public policy objectives difficult to navigate. Leveraging the benefits and addressing the challenges of digital transformation requires co-ordination across all of the policy domains identified in the OECD Going Digital Integrated Policy Framework (Figure 7.1). It also requires consideration of transversal policy issues – e.g. skills, digital government and data governance – that cut across several of the framework's policy dimensions (OECD, 2019a). Therefore, the policy recommendations made in Section 7.1 do not stand in isolation, but need to be co-ordinated in a whole-of-government approach.

Co-ordination implies involving a wide range of actors in multiple parts and at different levels of government, as well as non-governmental stakeholders and international partners. A whole-of-

government approach, however, may prove challenging. For example, high transaction costs, power and information asymmetries, and different governance approaches across levels of government can make co-ordination and negotiations cumbersome.

While well-designed governance is fundamental for effective co-ordination, there is no one-size-fits-all approach. Different approaches can reflect, for example, variations in countries' institutions, government organisation, or administrative culture and capacity. In addition, governance arrangements are likely to evolve over time, for example with changes in government, technological progress and shifts in the constellation of actors driving the digital transformation.

This section examines the current co-ordination mechanism of Brazil's digital strategy and makes recommendations to help ensure a coherent and cohesive whole-of-government approach to policies for digital transformation.

Strengthening the role of CITDigital

In March 2018, with the same decree issuing the Brazilian Digital Transformation Strategy: E-Digital (Decree 9.319/2018), Brazil established an Inter-ministerial Committee for Digital Transformation (CITDigital). CITDigital is mandated to:

- Support with evidence the policies undertaken by different bodies and public entities in relation to digitalisation.
- Promote synergies among these policies and their coherence with E-Digital.
- Promote information sharing and undertake impact analyses on sectoral initiatives related to digitalisation.
- Monitor and evaluate periodically the results of E-Digital based on a set of pre-defined targets and indicators.
- Co-operate with similar bodies in other countries, the states, the Federal District and the municipalities.
- Propose to the competent bodies the adoption of measures and norms to implement the strategic actions defined by E-Digital.

CITDigital is chaired by the Government Secretariat of the Presidency of the Republic and is composed of representatives (up to three) from: the Ministry of Foreign Affairs; the Ministry of the Economy; the Ministry of Education; the Ministry of Science, Technology, Innovations and Communications; and the Institutional Security Office of the Presidency of the Republic (Decree 9.804/2019).

Other public or private entities, as well as representatives of the legislature and the judiciary, may be invited to participate in meetings and activities of CITDigital, in accordance with its bylaws.

CITDigital's meetings are convened by its chair. Decisions are taken by simple majority of its members, with the chair having a casting vote.

The establishment of CITDigital has been a key step towards a whole-of-government approach to the digital transformation. The committee has helped to articulate and co-ordinate policy programmes across government institutions under the strategic actions set by E-Digital.

The chairmanship by the Government Secretariat of the Presidency of the Republic provides the committee with strong political leverage. The participation of the Ministry of Economy, which has taken up the portfolios of several former ministries, enhances the committee's capability to take decisions and to improve co-ordination with the government.

The legal effects of the decisions taken by CITDigital, however, remain unclear. Approved by a simple majority of the institutions sitting on the committee, they do not seem binding for those having voted against them. The effects on ministries not represented in the committee is even more problematic.

More fundamentally, there does not seem to be any predefined path through which a decision by CITDigital feeds into the regular policy-making process. As the committee is chaired by the Government

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Secretariat of the Presidency of the Republic, there may be an expectation that its decisions would lead to some policy initiative by the government. However, there is not any formal or implicit mechanism for this outcome.

It would be useful to define such a mechanism, for instance by providing that decisions by CITDigital should lead to a law proposal by the Presidency of the Republic. The Government Secretariat of the Presidency of the Republic may be given the responsibility to draft the law proposal within a set period. Similarly, it would be useful to link CITDigital's proposals to the legislative process in the National Congress, in particular to the work of its standing committees.

In order to ensure sufficient support for the above process, a qualified majority for decision taking by CITDigital may also be required.

Increasing resources for the digital strategy

The aim of E-Digital is to harmonise the federal government's initiatives related to the digital transformation in order to harness the potential of digital technologies to promote sustainable and inclusive growth and increase competitiveness, productivity and employment.

E-Digital has made it possible to bring existing policy programmes under a common umbrella, e.g. the IoT Chamber, and has provided a forum where governmental and private stakeholders can develop together new initiatives, for example the proposal for a Legal Framework of Innovative Start-ups and Entrepreneurship currently open for public consultation. Most policy initiatives developed under the E-Digital umbrella have been of a regulatory nature, e.g. the regulatory sandbox established by the Securities and Exchange Commission, or have relied on resources that were already allocated for that purpose, e.g. Connected Education Program (Programa Educação Conectada).

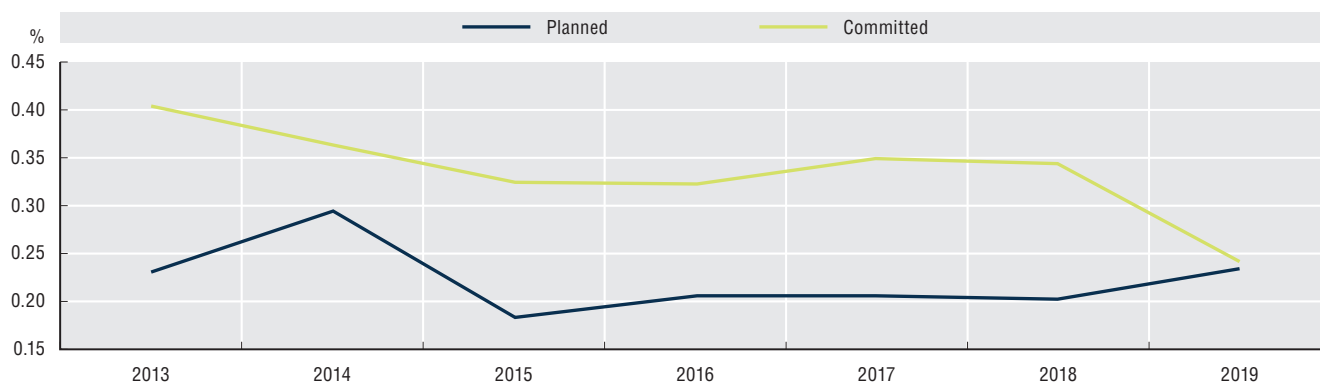
Indeed, the budgetary law does not provide for any specific appropriation for the digital strategy. The strategic actions are projects under the responsibility of different ministries and government agencies, which already have specific budget allocations. So far, the digital strategy does not seem to have been able to shift policy priorities and resources to new programmes.

In 2019, ICT expenditures (USD 1.86 billion) accounted for as little as 0.23% of the federal fiscal and social security budget (Law 13.808/2019). This figure includes all expenditures on ICTs for the functioning of the public administration as well as for the implementation of policy programmes. It does not include expenditures for complementary policies, e.g. ICT-related education and training, nor ICT expenditures by the states and municipalities.¹

The share of the federal and social security budget *planned* for ICT expenditures in 2019 is in line with the average of the period 2013-18 (0.22%). However, the share of *committed* expenditures on ICTs decreased from 0.40% in 2013 to 0.34% in 2018 (Figure 7.2).

Figure 7.2. ICT expenditures in the federal and social security budget in Brazil, 2013-19

As a percentage of the total budget

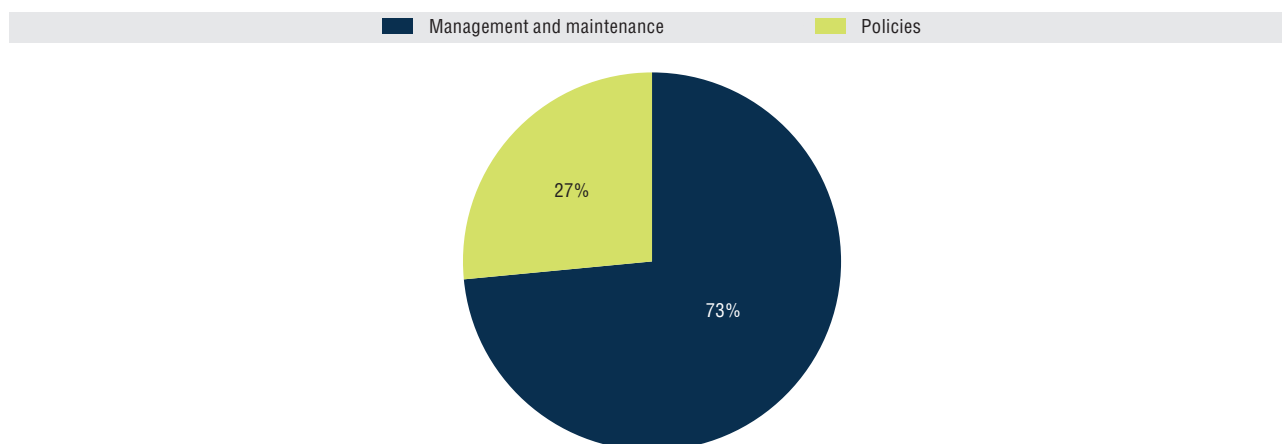


Source: OECD, based on SIOP (2020), Sistema Integrado de Planejamento e Orçamento (database), <https://www.siop.planejamento.gov.br/siop> (accessed on 4 May 2020).

Expenditures for the own functioning of the federal government and social security (*programas de gestão e manutenção*) account for 73% of all planned ICT expenditures in the 2019 budget, while only the remaining 27% is allocated to policy programmes (*programas temáticos*) (Figure 7.3).

Figure 7.3. Planned ICT expenditures in Brazil by type of programme, 2019

As a percentage of all planned ICT expenditures

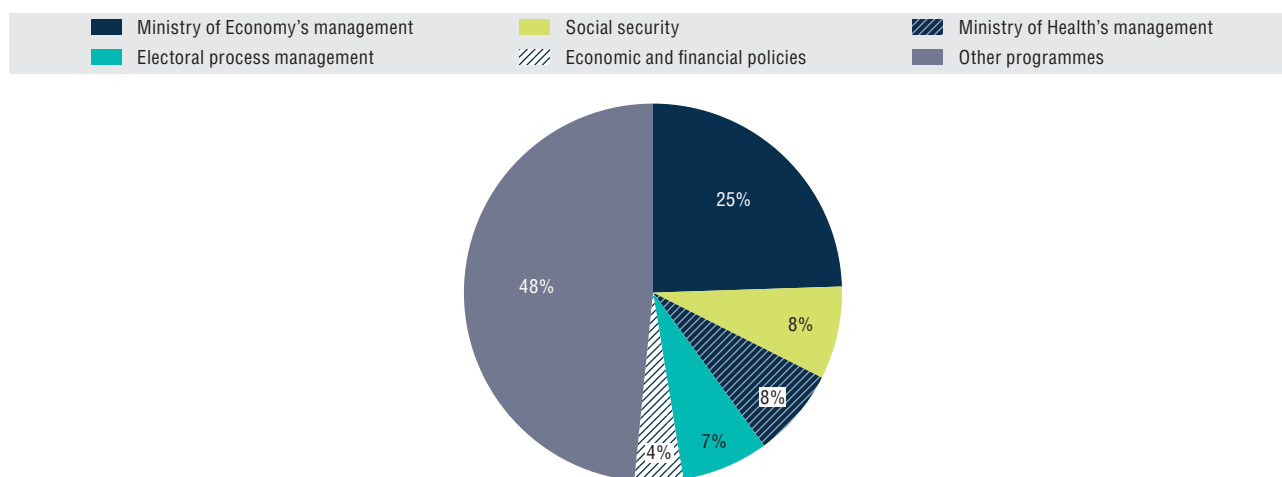


Source: OECD, based on Congresso Nacional (2018), “Exercício financeiro de 2019, projeto de Lei N° 27, de 2018, Volume I, Quadro 13, Despesas com tecnologia da informação”, https://www.camara.leg.br/internet/comissao/index/mista/orca/orcamento/OR2019/red_final/Volume_I.pdf (accessed on 26 September 2019).

ICT expenditures are allocated to 71 of the 125 programmes set in the federal budget. Five programmes account for 52% of all ICT expenditures planned in 2019: 1) management of the Ministry of Economy (24%); 2) social security (8%); 3) management of the Ministry of Health (8%); 4) management of the electoral process (7%); and 5) economic and financial policies (4%) (Figure 7.4).

Figure 7.4. Planned ICT expenditures in Brazil by programme, 2019

As a percentage of all planned ICT expenditures



Source: OECD, based on Congresso Nacional (2018), “Exercício financeiro de 2019, projeto de Lei N° 27, de 2018, Volume I, Quadro 13, Despesas com tecnologia da informação”, https://www.camara.leg.br/internet/comissao/index/mista/orca/orcamento/OR2019/red_final/Volume_I.pdf (accessed on 26 September 2019).

The remaining 48% of ICT expenditures is scattered among 66 small-scale programmes. For instance, the Quality Education for All programme (*Educação de Qualidade para Todos*) accounts for only 2.5% of all ICT expenditures; urban mobility for 1.2%; administrative simplification for businesses and citizens (*Bem Mais Simple Brazil*), risk and disaster management as well as development of industry, trade and services for 0.1% each.

Overall, the level of resources allocated to ICTs seems low and largely focused on the back-office of the federal government and social security. Increasing the efficiency of the public administration and improving the quality of its services is, indeed, a very relevant objective, particularly because 40-50% of public employees are foreseen to retire in the forthcoming 4-5 years (Guedes, 2019). In addition, ICT expenditures in the government tend to have positive spillovers on digital adoption by businesses and individuals (OECD, 2016b).

Nonetheless, as argued throughout this report, other policies are equally important for the digital transformation. These include, among others, policies to improve access to broadband, support the adoption and use by individuals and businesses, foster digital skills, promote innovation as well as enhance security and trust in a digital environment.

For Brazil to engage further in the digital transformation, its digital strategy should be supported by an adequate level of resources.

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Note

1. Some ICT-related expenditures may not be reported as such in the federal fiscal and social security accounting system. The figures, nonetheless, provide a proxy of the resources allocated to ICT and their evolution over time.



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