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GovTech Launch Report and Short-Term Action Plan

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Contents

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Acronyms

AI	Artificial Intelligence
CfP	Call for Proposals
DE4A	Digital Economy for Africa
DGRA	Digital Governance Readiness Assessment
e-GP	Electronic Government Procurement
FMIS	Financial Management Information Systems
FCV	Fragile, Conflict and Violence
GGP	Governance Global Practice
GSM	Global System for Mobile Communications
GTGP	GovTech Global Partnership
ICR	Implementation Completion and Results Report
IDA	International Development Association
ID4D	Identification for Development
IEG	Independent Evaluation Group
IFC	International Finance Corporation
MDTF	Multi-Donor Trust Fund
SIM	Subscriber Identity Module
SME	Small and Medium Enterprises
SMS	Short Message Service
TTL	Task Team Leader
USSD	Unstructured Supplementary Service Data

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Executive Summary

This report presents the work program priorities for the first two years of the World Bank's GovTech Global Partnership (GTGP), drawing upon the trends in GovTech applications and lessons learned from the last 25 years of the Bank's support to governments using technology to improve the effectiveness of the public administration and service delivery. The report highlights the benefits of digital transformation for advanced and developing countries and discusses the enablers and constraints that can impact the success of these initiatives based on research and practice. The World Bank's engagement on GovTech has yielded a number of key lessons that inform the new approach to GovTech design and implementation, and reveal additional areas of research and focus areas to be supported by the GovTech Global Partnership over the next two years.

Since the 1990s the use of information technology in the public sector has increased exponentially, starting in developed countries and spreading to the rest of the world. A global scan shows how ubiquitous digital government has become, with 198 countries having at least one e-government website. Countries such as Australia, Canada, China, Czech Republic, Iceland, Ireland, and Japan are all earlier adopters who began their journeys in the mid to late 1990s. As of 2020, over 145 countries have launched a program to use technology to drive the transformation of their administrations and service delivery.[1] The rapid growth of such initiatives in certain jurisdictions reflects its compelling advantages, such as enhanced governmental performance, lower cost structure, greater flexibility, broader scale and scope of services, greater transparency, accountability, and faster transactions. However, in developing countries, the capacity to leverage technology for public sector transformation is uneven and typically weak.

The World Bank's client countries are more frequently requesting our support on how to design digital transformation programs to increase government efficiency and quality of service delivery, improve government-citizen communication, and modernize core government operations. The Bank's GovTech program is a response to this growing demand. For over 30 years the World Bank Group has provided substantial financial and technical assistance to developing countries around the world to modernize their public administrations, with the first government information systems project in 1984. Most of the Bank's lending projects financed the design and implementation of information and communications technology (ICT) and digital government solutions to support public-sector reforms and programs in line with the Bank's goal of ending poverty.

The GovTech Initiative and GovTech Global Partnership were developed by the World Bank Group in response to growing client demand for support in public sector modernization. The Bank has defined GovTech as the use of technology to support government operations, service delivery and transparency. It is a mechanism for whole-of-government public sector modernization that places the citizen at the center of the reform. Early digitization projects

were often sector-specific, uncoordinated efforts that led to islands of excellence in some cases and inefficiencies in others. GovTech promotes a vision of integrated e-government facilitated by digital solutions that simplify procedures, are more accessible to citizens, and that are accompanied by policies that promote greater transparency. GovTech represents a fundamental shift in the World Bank's approach to digitization, leveraging expertise across different sectors to support whole-of-government public sector modernization that results in tangible outcomes for client countries and beneficiaries.

The GTGP focuses on three core areas of public sector modernization. First, the Partnership supports the development of user-friendly and universally accessible government-provided services. Second, the Partnership supports citizen participation and engagement to foster transparency and strengthen accountability. Third, the Partnership supports governments to improve their core operations and to bring the machinery of government into the 21st century. The GovTech program focuses not only on technological solutions, but also the enablers such as programs for change management, activities to train and build capacity of government officials, and research and advice on how to build a conducive regulatory environment. A shift to the GovTech approach aims to enable countries to leapfrog in terms of access to publicly-provided services through a more rapid and sustainable adoption of technology accompanied by stronger governance and engagement with targeted beneficiaries.

The drivers for public sector modernization are many—from increasing efficiency in day to day operations to responding to growing citizen demand for quality services. The evolution of e-government can be seen as moving along a continuum of information to integration. Early digitization efforts in the 1970s and 1980s focused mainly on solutions to support productivity and functionality. The dawn of the internet in the 1990s provided opportunities for countries to introduce more citizen-centric tools to improve service delivery and interact with citizens. More recently, the trend is toward integrating systems to provide a seamless e-government experience to users. This approach is seen in both high income countries such as Estonia, Singapore, the United Kingdom and Uruguay and developing countries including Albania, Moldova and Uganda.

GovTech relies on the foundations of connectivity, robust identity systems, digital payments, and reliable national data registries to provide a seamless e-government experience. Taken together, these foundations support social, financial, and economic inclusion and provide the base for GovTech solutions. Without these foundations, citizens face significant barriers to public services which can increase marginalization of the poor and vulnerable. A key concern in GovTech projects is to ensure that the transformation is inclusive and does not exacerbate existing divides in terms of access, equity, and quality of service delivery.

GovTech is not a silver bullet, but a golden opportunity for developing countries. Technology is not a panacea for poor governance, and in some cases can exacerbate issues such as fraud and corruption risk in core operations and procurement. While research shows links to good governance outcomes such as efficiency, transparency, and trust, there are also risks. These include cyberattacks, privacy and data breaches, business continuity, and system resilience.

The organizational, political, legal, and social aspects can pose great challenges. Core success factors include sustained political commitment and leadership, coordination and communication, planning and sequencing of the reform, and prioritizing change management. From the demand side, user adoption and satisfaction with service quality[2] are success factors, but limitations in awareness, digital literacy, and connectivity can affect outcomes. In developing countries, additional factors constraining success include lack of financing, inadequate technical expertise and knowledge, and low human resource capacity. Growing concerns on cybersecurity and data protection can also be barriers to GovTech adoption. It is important to build and maintain societal trust through policies for managing the risks to privacy and data security.

Despite the complexities and challenges, the World Bank's investments in ICT, e-government and GovTech projects have yielded good results based on internal rating systems, but nonetheless show room for improvement. World Bank investments in ICT, e-Government and GovTech to support major public sector reforms have steadily increased since 1995. Over 25 years, the World Bank has supported 145 countries to modernize their public administrations through investments in IT, government systems, e-services, open government, identification (ID) systems and, more recently, disruptive technologies. A scan of project closing reports and interviews with World Bank Staff reveal seven key lessons learned for both client countries and practitioners.

1. Findings based on an assessment of the GovTech Systems and e-Services Dataset, which tracks the status of e-Government programs, core Public Financial Management (PFM) systems, and online services in 198 economies.
2. Reddick and Roy, 2013; Weerakkody et al, 2013; Lee 2006; Wirtz and Kurtz, 2016.

Key Lessons Learned:

1. **Modernize with a purpose.** Have a clear problem statement that technology aims to solve that is owned by all stakeholders, including beneficiaries. Ensuring wide ownership and clarity of the problem supports harmonization and sustainability of the reform efforts.

2. **Identify one unit of government that has strong convening and coordinating power to champion the reform.** High-level political commitment and leadership is needed to drive GovTech transformation to both coordinate and commit to the reforms. Placing this unit at the highest level of government can facilitate necessary policy, legal, and implementation coordination across government.

3. **Be flexible.** Political economy constraints impact implementation. A problem-driven iterative approach is more likely to succeed. Simple and flexible project design is beneficial as it can adapt to the changing environment. The scope, ambition, and complexity of project design should be balanced carefully towards the client capacity and readiness and the overall governance environment.

4. **Recognize the country-level constraints and divides to ensure inclusivity.** In countries where there are significant digital divides in terms of connectivity, access to devices, literacy, and skills, these issues should shape project design. The needs of the poorest and most vulnerable beneficiaries should be considered to ensure they are not further marginalized by GovTech initiatives.

5. **Employ a programmatic approach to reforms**. Public sector modernization is a long-term effort. Embarking on GovTech initiatives should be well coordinated and have a longer-term vision in mind, including financial sustainability and what happens next after solutions are built. Good preparation and sequencing guided by a costed action plan can support smooth implementation.

6. **Prioritize change management.** Adopting GovTech in the public sector requires cultural, behavioral, and process changes. GovTech projects are about institutional reforms and therefore resistance to change can derail efforts. Attention should be paid to incentives to motivate staff and reduce the potential for resistance. Further, it is important not to measure success by the establishment and implementation of a solution, but its use.

7. **Promote ongoing capacity building to improve uptake and sustainability.** Technical and administrative capacity gaps can be a major obstacle to technological transformation in developing countries,even for basic systems. Findings show that continuous training and awareness building activities were crucial to successful implementation of past projects.

8. **Focus on results and be selective with indicators.** Public sector modernization projects can be complex with many targeted outcomes. Work toward a simpler monitoring and evaluation framework that matches client capacity and focuses on measuring key results and outcomes.

9. **Establish partnerships to maximize impact and sustainability of reforms.** Engaging a wider group of stakeholders from the private sector, universities, industry associations, research institutions, and civil society organizations can foster innovation, build local capabilities and sustain reforms. These partnerships can aid in overcoming resistance and can help shape the political economy context.

10. **Promote innovation and agility to keep up with technology trends and solutions.** This lesson applies to both client and World Bank processes. Lessons from projects and interviews with task team leaders (TTLs) revealed that policies and guidelines fail to keep up with constantly evolving technology and regulations. More flexible and forward-looking procedures and processes—for example around procurement—can help secure take-up of new tech-driven solutions.

The lessons inform the design of pipeline projects and areas for future research. The lessons above and the trends in client requests identify specific areas where expert guidance is needed. The GTGP will also aim to close select GovTech knowledge gaps of global relevance and promote knowledge sharing. The Action Plan for the first 18 months includes additional research and guidance on topics such as organizing government institutions for GovTech implementation and management; legal and regulatory frameworks to enable GovTech; employing cloud solutions for resilient government; promoting efficiencies through shared services; and promoting responsible data governance. Additional research and analytics may be proposed during the first call for proposals (CfP) in 2020.

For the first 18 months of the GTGP, the Action Plan sets forth four thematic priorities. The priorities center on Covid-19 response, resilience and recovery; developing the foundations for GovTech; furthering service delivery innovations; and utilizing data to create value in a responsible manner. In addition, there is a special theme on universal accessibility to support policy commitments under IDA19.[3] Through the GTGP, the World Bank aims to contribute to the greater body of knowledge by convening stakeholders to drive the agenda forward and enable all aspiring countries to reach their development goals through digital transformation. The proposed GTGP work program for the first 18 months is presented below.

Indicative Deliverables	US$
Analytics and Thought Leadership	
Knowledge Base, Guidance Notes and Policy Recommendations, approximately 7-10 pieces	500,000
Subtotal	**500,000**
Global Public Goods and Convening	
GovTech Index/Assessment and GovTech at a Glance Briefs (TBC)	155,000
Accessible GovTech Design Handbook	15,000
GovTech Knowledge and Solutions Portal	100,000
Series of GovTech Learning Events and Infographic Briefs	260,000
Summit/convening/online conference (TBC)	(TBC)
Partnerships and Expert Roundtable exchange, Client Awareness and Outreach	70,000
Subtotal	**600,000**
Country and Regional Engagement	
Launch of Grant Program and 1st Call for Proposals	600,000
Subtotal	**600,000**
Program Management and Administration	150,000
Total	**1,850,000**

3. IDA is the International Development Association, the part of the World Bank Group that helps the world's poorest countries. IDA19 focuses on five special themes: climate change; fragility, conflict and violence; gender; governance and institutions; and jobs and economic transformation. IDA19 also incorporates four cross-cutting issues: debt, disability, human capital, and technology: https://ida.worldbank.org/replenishments/ida19.

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Introduction

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4. Findings based on an assessment of the GovTech Systems and e-Services Dataset, which tracks the status of e-Government programs, core Public Financial Management (PFM) systems, and online services in 198 economies.
5. Alawneh et al, 2013.

The GovTech Initiative and GTGP were developed by the World Bank Group in response to growing client demand for support in public sector modernization. The Bank has defined GovTech as the use of technology to support government operations, service delivery and transparency. It is a mechanism for whole-of-government public sector modernization that places the citizen at the center of the reform. Early digitization projects were often sector-specific, uncoordinated efforts that led to islands of excellence in some cases, and inefficiencies in others. GovTech promotes a vision of integrated e-government facilitated by digital solutions that simplify procedures, are more accessible to citizens, and that are accompanied by policies that promote greater transparency. GovTech represents a fundamental shift in the World Bank's approach to digitization, leveraging expertise across different sectors to support whole-of-government public sector modernization that results in tangible outcomes for client countries and beneficiaries.

The GTGP focuses on three core areas of public sector modernization. First, the Partnership supports the development of government-provided services that are easy to use and widely accessible. Second, the Partnership supports citizen participation and engagement to foster transparency and strengthen accountability. Third, the Partnership supports governments to improve their core operations and to bring the machinery of government into the 21st century. The GovTech program focuses not only on technological solutions, but also the enablers such as programs for change management, activities to train and build capacity of government officials, and research and advice on how to build a conducive regulatory environment. A shift to the GovTech approach aims to enable countries to leapfrog in terms of access to publicly-provided services through a more rapid and sustainable adoption of technology accompanied by stronger governance and engagement with targeted beneficiaries.

The GTGP is a core element of the World Bank's approach to applying digital solutions and technology in developing countries. The GTGP benefits from and complements other World Bank supported initiatives that support the development of the enabling environment, the digital infrastructure and the digital economy including the Identification for Development (ID4D), Government-to-Person (G2Px), financial technology (FinTech), the Digital Development Partnership (DDP) and the Open Government Partnership Multi-Donor Trust Fund (MDTF). The GovTech agenda is reflected in the World Bank's Digital Economy Framework, as public digital platforms are a key aspect of unlocking the benefits of the digital economy.

This report proceeds as follows. Section 2 focuses on the evolution of GovTech, drivers, benefits, and risks of modernization and the vision and the focus areas of GovTech. Section 3 provides a summary of World Bank engagement in the information technology and e-government space over the last 25 years, including topical coverage, performance, and lessons learned. Section 4 offers a forward look on GovTech and the focal areas under the GovTech Global Partnership. Section 5 highlights achievements to date and planned activities for 2020-2021. Section 6 suggests areas for additional research that could be carried out under the GTGP.

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The GovTech Vision and Approach for Integrated Government

The evolution of e-government[6] can be seen as moving along a continuum from information to integration. Early public sector digitization efforts in the 1970s and 1980s focused mainly on single sector-based solutions to support productivity and functionality. These included resource management systems for financial management, human resources, tax administration, customs, and other sector-based information systems. The dawn of the Internet and web technologies in the 1990s provided opportunities for governments to have new windows to citizens. However, these windows were rather limited in form and function. In the 1990s a government website may have only provided basic information to citizens.

Over time, countries introduced more citizen-centric tools to improve service delivery and interact with citizens online.[7] From the late 1990s to 2005, countries experimented more with one stop government concepts, integrating systems facilitated by interoperability platforms to enable automated data exchange. More recently, the trend is toward integrating systems using a whole-of-government approach to provide a seamless e-government experience to users. This integration enables the delivery of transactional services.[8] Transactional services are the most common "advanced" services in developing countries, where users can be authenticated and pay for services online. Some examples include e-filing for taxes, school registration, business and vehicle registration, and other administrative services. Today, that same website that was static in 1995 may offer means to access, apply for and obtain services, track applications, and interact with government through feedback mechanisms.

A whole-of-government approach aims to break the silos of ministries, departments and agencies through coordination and collaboration across government structures to work toward shared goals.[9] This approach comprises horizontal and vertical integration with the aim to provide seamless e-government services.[10] Horizontal integration refers to cross-boundary across ministries and agencies, while vertical integration refers to cross-level levels of government. Integration is achieved through system interoperability.[11] This interoperability allows for seamless delivery of multisectoral services that encompass different ministries, departments and agencies for information, confirmation, approvals, and delivery. It can also cross boundaries between central and subnational entities. This approach is seen in high income countries such as Estonia, Singapore, the United Kingdom and Uruguay, and developing countries including Albania, Mexico, Moldova, Turkey and Uganda.

6. The World Bank has defined e-government as "government-owned or operated systems of information and communications technologies (ICTs) that transform relations with citizens, the private sector and/or other government agencies so as to promote citizen empowerment, improve service delivery, strengthen accountability, increase transparency, or improve government efficiency". Source: World Bank, LAC PREM – "Issues Note: E-Government and The World Bank". November 5, 2001.
7. Osman et al, 2014.
8. The UN proposes a four-stage model of e-service maturity ranging from Level 1: Emerging up to Level 4: Connected. More information is available at https://publicadministration.un.org/publications/content/PDFs/UN%20E-Government%20Survey%202014.pdf.
9. Examples include joined up government in the United Kingdom and Connected Government in Australia.
10. Gil Garcia and Martinez Moyano, 2007.
11. Interoperability is defined by Scholl and Klischewski (2007) as the ability of different types of computers, networks, operating systems, and applications to work together effectively, without prior communication, to exchange information in a useful and meaningful manner.

Meeting the Challenge of Modernization

The primary drivers for public sector modernization are the need to increase efficiency and spending and to respond to growing citizen demand for quality services. A 2015 survey of public organizations in 70 countries revealed that the primary driver for digital transformation of government was to cut costs (38 percent), followed by a response to citizen demand (37 percent).[12] The potential to unlock the benefits of the digital economy is also a driver for employing GovTech solutions. GovTech promotes development of local tech ecosystems as these solutions require local technical expertise for design, deployment, maintenance and upgrading. Digital transformation increases demand for these needed skills. In the longer term, it can contribute to private sector growth, competitiveness, and job creation.

GovTech is not only about technology and solutions, but also critical analog complements to further public sector modernization. Digital transformation requires critical analog complements. These include an enabling regulatory environment, institutional coordination towards common aims, skills to use the technology, and change management to adapt to new ways of doing things.

The organizational, political, legal, and social aspects of modernization can pose greater challenges than the technology itself. Transition costs can be high in terms of political will, buy-in by line ministries, enabling legal and regulatory frameworks that create trusted environments, change management, capacity and skill building. An integrated approach requires institutional coordination and communication to navigate the exchange of data across government entities. Even with the technology such as interoperability platforms in place, some countries still need legal mandates and rules to enable data exchange across systems.[13] Regulations on data governance, management and use are required to ensure proper safeguards.[14] Box 1 summarizes how GovTech enhances good governance.

12. Deloitte, 2015.
13. Dawes et al, 2009; Chen et al, 2019.
14. https://www2.deloitte.com/content/dam/insights/us/articles/digital-transformation-in-government/DUP_1081_Journey-to-govt-digital-future_MASTER.pdf

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BOX 1 - GovTech as a Contributor to Good Governance

Higher citizen demand for better services, more transparency, and less corruption puts pressure on governments to be responsive to citizens' needs and expectations. Decades of research on E-Government, digital government and GovTech have shown measurable impacts on governance dimensions of service delivery, efficiency, accountability, and corruption.[15]

From the citizen perspective, migration to e-services can promote improvements in service access, quality and efficiency. Access to services is enhanced by increasing reach through e-services that can be accessed online or on mobile phones. These e-services and alternative means of access can reduce travel time and costs, administrative burden of gathering documents, facilitate faster applications and approval processing, reduce delivery times, promote accessibility for those with disabilities, and foster transparency in terms of better access to information including service tracking.[16] Further, e-services can reduce bias and stigma attached to certain social services, promoting inclusion.

Greater efficiency gains occur through redesigning processes and procedures augmented by technology, often referred to as business process re-engineering or simplification. Further, interoperability can enable organization of services around life events, scenarios or life journeys such as having a baby, opening a business, and preparing for retirement. The consolidation of services provides a better experience for users by enabling service provision through one point of contact.[17]

Ensuring data registries such as civil registries, employment, social insurance, and others are interoperable can also promote inclusion by better identifying and targeting service beneficiaries. Exchanging information through electronic means via interoperability platforms or other solution also yields efficiency improvements and accuracy of data. Using a unique identifier such as a foundational identification number provides opportunities to identify potential beneficiaries, target services to underserved areas, and tailor government programs more effectively.

E-services eliminate face-to-face interaction, reducing discretion of service providers. They also eliminate front and back office interference, reducing opportunities for corrupt behavior.[18,19] This can be enhanced by ensuring rules and accountability mechanisms are applied to track and monitor the behavior and actions of service providers.[20] For example, an integrated e-government system can provide a high level of transparency in service delivery by identifying who is responsible for specific steps of the administrative processes to complete a service request.[21] These tracking systems can foster accountability across bodies as they can identify and document the agency or person who causes a delay or mistake.

GovTech can support the social contract. Recent events such as the Arab Spring and the Covid-19 response show the potential for digital tools to increase public participation and civic engagement of citizens. Further, a more citizen-oriented mode of contact that offers stronger service quality and satisfaction is likely to increase trust and confidence in government.[22] But, as governments increasingly use of these tools, there is a corresponding increase in the potential risks in the access and use of the resulting data collected.

Despite many benefits, technology is not a panacea for poor governance. In some cases, ICT can exacerbate issues such as fraud and corruption risk in core operations and procurement. Technology designed to support planning, tracking, and reporting can also be breached by improper or even criminal behavior. Some examples include ghost workers in HRMIS systems and fraud in tendering in e-procurement systems.[23] The risks rise for citizens and businesses regarding data protection, where breaches can lead to personal and corporate financial losses via identity theft and other crimes.

15. See for example, West, 2008; Bannister and Connelly, 2014; Wirtz, Piehler, and Daiser, 2015.
16. Rose et al, 2015; Wirtz, Piehler and Daiser, 2015; Scott et al, 2009.
17. Kotomraju and Van der Geest, 2011.
18. Buffat, Aurelien. "Street-Level Bureaucracy and E-Government," Public Management Review, 2015 Jan 2, Vol.17(1), pp.149-161.
19. A study by Anderson (2009) of e-government initiatives from 1996 and 2006 corruption data through ICT-enabled e-government initiatives, that e-government implementation significantly reduces corruption" after controlling for other factors. (Anderson, 2009, p. 210).
20. Bhatnagar, 2003; Shim and Eom, 2008.
21. Chen et al, 2019.
22. Tolbert and Mossberger, 2006.
23. See GovTech Fraud Detection in Public Administration, forthcoming 2020.

For developed countries, core success factors of public sector modernization focus on the soft aspects of institutional and organizational factors, governance, and change management. Success factors from the supply side include having a clear strategy and vision,[24] political leadership, authority and commitment,[25] and change management to introduce new solutions and promote acceptance of technology by government officials.[26] From the demand side, user adoption and satisfaction with service quality[27] are success factors, but limitations in awareness, digital literacy, and connectivity can affect outcomes.

In developing countries, these success factors can be considered constraints. Some client countries such as the Democratic Republic of Congo and other African countries as well as fragile, conflict and violence affected (FCV) countries have significant divides in terms of access that pose challenges to GovTech implementation. These divides include limited internet connectivity, electricity, and access to technological devices such as smartphones and computers. Developing countries also face additional constraints such as lack of financing, technical expertise and knowledge, and human resource capacity to develop, implement, and realize transformation objectives. Demand side constraints on user adoption are compounded by access barriers. Internet and data costs can be prohibitively expensive for households, and many citizens may lack basic digital skills and literacy.

The capacity to leverage technology for public sector modernization can be weak in developing countries. The multiplicity and complexity of tasks and knowledge necessary can pose significant challenges for governments in developing countries. Selection and procurement of necessary systems, hardware, and software can be a barrier, as well as adapting those systems to the country context and ensuring their compatibility. Adapting these systems and putting all the requisite pieces together without technical knowledge and capacity can negatively affect outcomes as systems may not be used to their full potential. This is an area of the World Bank's comparative advantage, supporting these aspiring GovTech countries to develop the strategies, knowledge, and capacity to deploy and maintain these systems over time and to ensure alignment with the country context.

Change management and incentives are an important part of promoting adoption and sustainability of GovTech across all country contexts. In the public sector, there is often strong resistance to change, and civil servants may feel the transitions imposed by technology may change their roles, responsibilities, and span of control.[28] Limited incentives and motivation for front line staff can increase potential for resistance which impacts the overall success of initiatives.[29] Research shows that flexibility in recruitment, training, pay, and sanctions can improve e-government project outcomes.[30] Strengthening institutions for development is a core area of World Bank expertise. For both groups, growing concerns on cybersecurity and data protection are barriers to GovTech adoption. Without a trusted environment, adoption of GovTech such as e-services and citizen engagement platforms may erode societal trust. It is important to build and maintain societal trust through policies for managing the risks to privacy and data security. In the context of e-government, the role of trust for continued usage of web sites is even more important. Government services are monopolies, and citizens have no private sector alternatives such as for driver's licenses, birth certificates, passports, and other services. Citizens using e-government websites are unlikely to find alternative websites serving the same purpose. If there is a trust gap, users may be motivated to revert to the traditional offline means of interaction with the government. This could lead to the failure of GovTech initiatives.

GovTech is not a silver bullet, but a golden opportunity for developing countries. A key concern in GovTech projects is to ensure that the transformation is inclusive and does not exacerbate existing divides in terms of access, equity, and quality of service delivery. Technology is not a panacea for poor governance, and in some cases, it can exacerbate issues such as fraud and corruption risk in core operations and procurement. While research shows links to good governance outcomes such as efficiency, transparency, and trust, there are also risks to manage. These include cyberattacks, privacy and data protection, data breaches, business continuity, and system resilience.

24. Luk, 2009.
25. Rose et al, 2015; El Naghi 2019; Alawneh et al, 2013.
26. Jaeger and Matteson, 2009.
27. Reddick and Roy, 2013 Weerakkody et al, 2013; Lee 2006; Wirtz and Kurtz, 2016.
28. Wirtz et al, 2016.
29. See Choi and Chandler 2020 and World Bank, 2005 as examples.
30 World Bank, 2015. https://openknowledge.worldbank.org/bitstream/handle/10986/11202/337540rev0premnote101.pdf?sequence=1&isAllowed=y

The GovTech Vision for Public Sector Modernization

GovTech adopts a whole-of-government approach to public sector modernization, with the citizen at the center. GovTech promotes simple, accessible and transparent government through integration and interoperability. GovTech represents a fundamental shift in the approach to digital transformation. This approach, which aims for seamless integration of systems to put people first, brings together the whole of World Bank expertise to enable the collaboration needed to deliver positive development outcomes.[31] Figure 1 shows a visual representation of an integrated whole-of-government approach including the foundations as envisioned by GovTech.

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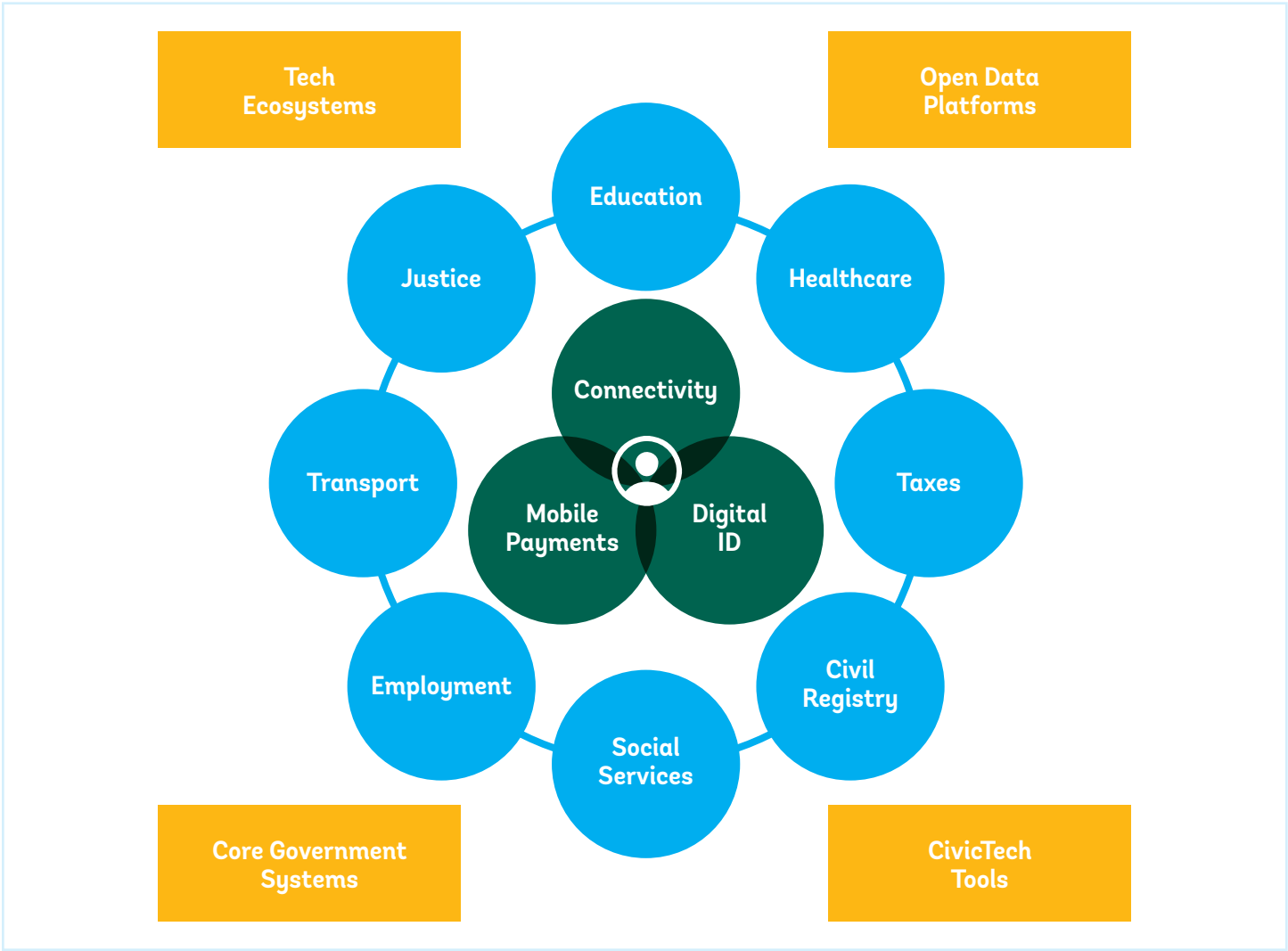
FIGURE 1 - GovTech Vision for Integrated Human-Centered and Responsive Services



31. For more information, see the GovTech Global Partnership Program Document.

GovTech relies on the foundations of digital connectivity, identity systems, digital payments and reliable national data registries to provide a seamless government experience. Taken together, these foundations support social, financial, and economic inclusion and provide the base for GovTech solutions.[32] Without these foundations, citizens face significant barriers to accessing public services, increasing marginalization of the poor and vulnerable. These enabling foundations need to be placed in a trusted ecosystem that provides a safe and reliable environment for end users.

The three focal areas of GovTech are: human-centered services that are simple, transparent, and universally accessible; citizen engagement to increase participation, foster transparency and accountability, and build citizen trust; and improving core government operations to bring the machinery of government into the 21st century. These core areas were selected as they reflect governments' intentions and aims under digital transformation initiatives, which often include higher quality and more efficient service delivery, improved public sector performance and responsiveness, and creating opportunities for citizen participation.[33] They also target the most challenging objectives that developing countries face, particularly in low income and fragile and conflict affected environments. Further, the core areas are complementary and often sequential initiatives. This section briefly introduces the three focal areas of GovTech.

Human-Centered Service Delivery

The first dimension of GovTech focuses on human- or citizen-centered service delivery. Human-centered service delivery focuses on the user's ability to interact with the system and obtain the information or service needed.[34] This design approach involves users to provide guidance and feedback on their expectations and needs at each stage of the process.[35,36] Ensuring services meet the needs of users is critical as it impacts user uptake of e-government services.[37]

An e-government service, as any other e-service, can be defined as the transactional journey involving customers, employees, and technology. The transition from traditional service delivery to electronic services requires both the service provider and recipient to take on new roles and to interact in new ways. The former face-to-face interaction is replaced by a new digital interface accessed via websites, kiosks, and mobile/smartphones. These new interfaces and e-service journeys must be designed with considerations for access, literacy, context and expectations of the user. Users should feel a sense of trust and feel confident in their interactions. If tech-enabled services do not inspire confidence and trust, and if citizens find it difficult to obtain services online, they may revert to offline means of access. These e-services therefore need to be perceived as a good alternative to increase take-up and re-use. Box 2 highlights major issues to address to improve access to and uptake of e-services in developing countries.

32. These foundations are also identified as the key pillars of the World Bank's Digital Economy Framework underpinning the Digital Economy for Africa (DE4A) initiative. These include infrastructure and connectivity, digital financial services, digital platforms, digital skills and digital entrepreneurship.
33. See for example Chen, 2010 and Poromobescu, 2015.
34. Reddick and Roy, 2013.
35. Human-centered design is an approach to interactive systems development that aims to make systems usable and useful by focusing on the users, their needs and requirements, and by applying human factors/ergonomics, and usability knowledge and techniques. This approach enhances effectiveness and efficiency, improves human well-being, user satisfaction, accessibility and sustainability; and counteracts possible adverse effects of use on human health, safety and performance. ISO 9241-210:2019(E).
36. Kotomraju and Van der Geest,2011.
37. Kotomraju and Van der Geest, 2011.

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BOX 2 - Focusing on Accessibility under IDA19

As part of the IDA19 policy commitments, the World Bank has committed to support IDA countries to design and implement universally accessible[38] GovTech solutions. This is an important aspect of GovTech's aim to put people first. To further this effort, the World Bank GovTech team is working with G3ict, the Global Initiative for Inclusive ICTs to create a guidebook on accessible GovTech to inform teams and clients to better mainstream accessibility in their digital transformation.

Evidence shows that in many cases, e-services that were intended to increase access to administrative services have resulted in further marginalization of disadvantaged groups because of accessibility and usability issues.[39] Certain groups of citizens are more likely to adopt e-services, including the youth population, those who are better educated, and have higher incomes.[40] These are important considerations in the developing country context, as a tool meant to increase reach and access to services could inadvertently further marginalize poor and vulnerable populations. This is an issue across many countries. A 2017 study of e-government websites in 31 countries in Sub-Saharan Africa showed that each country in the study scored a zero on accessibility on at least one government website.[41] Ensuring that usability includes the concept of accessibility is the focus of the World Wide Web Consortium's Web Content Accessibility Guidelines (WCAG).[42]

User acceptance and adoption of e-government play a key role in the success of such initiatives, and the design of these solutions needs to consider accessibility for disabled and other vulnerable populations. Considerations may also include text alternatives including Braille, speech, and simpler language, pictorial or icon-based interfaces, and compatibility with assistive technologies, among others. These considerations can also improve accessibility for low literacy users.[43]

GovTech does not inherently mean high-tech. There are a number of "low tech" options for accessing services and providing feedback such as Short Message Service (SMS) messaging and Unstructured Supplementary Service Data (USSD) communication. USSD facilitates live data exchange on GSM[44] standard cell phones that are based on SIM[45] cards. It does not require an Internet connection, and citizens in many developing countries such as Bangladesh, Cambodia, Pakistan and Tanzania use them to access services and pay for them. As of 2018, the International Telecommunications Union estimated that there were 7.906 billion mobile subscribers globally,[46] a huge beneficiary population.

38. "Universally accessible" means that GovTech services are designed so that they can be accessed, understood and used by all persons, regardless of disability, age, use of assistive devices, location or means of Internet access. It applies to both hardware and software.
39. See Kotomraju and Van der Geest 2011; van Dijk et al, 2007.
40. Morgeson, Van Amburg and Mithas, 2011; Welch et al, 2005; Carter and Belanger, 2005.
41. Verkijika and De Wet, 2018.
42. The World Wide Web Content Accessibility Guidelines aim to make content accessible to a wider range of people with disabilities, including blindness and low vision, deafness and hearing loss, learning disabilities, cognitive limitations, limited movement, speech disabilities photosensitivity and combinations of these. For more information: https://www.w3.org/TR/WCAG20/.
43. Bhatti et al, 2015.
44. GSM – the Global System for Mobile Communications is a standard developed by the European Telecommunications Standards Institute to describe the protocols for second-generation digital cellular networks used by mobile devices such as mobile phones and tablets.
45. SIM stands for Subscriber Identity Module. A SIM card identifies the user in a digital network.
46. ITU, 2020: https://data.worldbank.org/indicator/IT.CEL.SETS.

Integrated solutions and use of data analytics are enabling governments to proactively customize consumer experiences, lower costs, and accelerate service delivery. Further, interoperability can enable organization of services around life events, scenarios or life journeys such as having a baby, opening a business, preparing for retirement, and others. The consolidation of services provides a better experience for users by enabling service provision through one point of contact.[47] Services can be accessed online or in person via a single window or a secure single sign on. Services have been transformed to become organized, efficient, and accessible. E-services are organized and targeted through life events and customized for the user. To achieve this stage, governments undertake significant administrative reforms to enable the full potential of technology.[48] In some cases, e-services offered by the private sector have increased citizen demand for public sector services to be delivered with similar quality. In other cases, government provided e-services can open the door to a greater range of e-services in the private sector by improving digital literacy and comfort/trust in electronic platforms. In these cases, government leads the way for a greater digital transformation that can offer significant spillovers to the digital economy.

The success of these initiatives will depend on the acceptance of GovTech and e-services among citizens and other users. User adoption of e-services can be influenced by awareness, user satisfaction, trust (security and privacy), and service quality.[49] In some countries the transition to e-services can be difficult for some due to cultural factors, preferences, technical capacity, and digital literacy. Assisted access kiosks are one way to build the capacity and comfort level of non-digital natives to the concept and practice of e-services. Many World Bank projects include these as part of one-stop shop or administrative service delivery projects such as in Albania, India, and Moldova. Perceptions of quality can influence ongoing online e-government engagement: if users cannot obtain needed information or services or encounter difficulties online the first time, they may return to using traditional access channels such as personal visits.[50] User satisfaction is a crucial factor for continual usage of e-services and for the success of e-Government projects.[51]

Citizen Engagement Enabled by CivicTech

The second dimension of GovTech focuses on deepening the citizen-government relationship through CivicTech. Citizen engagement through CivicTech aims to increase civic participation, foster government transparency and accountability to citizens, and build public trust in government to support the social contract. GovTech plays a role to support interactions with the public and promote participation in policy and programs. Using technology can enable real-time two-way communication between citizens and government, which is key to improving the delivery and quality of public services, management of public finances, and promoting social inclusion.

With the right approach, CivicTech enables citizens to overcome income, social, and geographical barriers to interact with governments and participate in decision-making from the local to national levels. The advent and availability of technologies such as geo-referencing, social media, text and SMS messaging, online petition platforms, and other tools provide new opportunities to reach citizens with information, advice, and to request feedback. Citizen-generated and citizen feedback data on public decision-making and service delivery inform the government performance and decision-making as well. The real-time flow of feedback can empower public institutions to become more responsive, inclusive, and accountable. Ensuring there is a clear feedback loop where program or policy improvements can be made can enhance accountability to citizens and businesses.

These mechanisms yield valuable data on citizen priorities and preferences. Through these mechanisms, governments are hearing about issues that are important to citizens and can respond more effectively. The mechanisms also help governments to respond and to partner with citizens to design, implement, and monitor development solutions collectively. Social media are considered as one of the major means used by governments to collect data from their citizens.[52] Governments are using social media platforms as a new source of in-

47. Kotomraju and Van der Geest 2011.
48. Gil Garcia and Martinez Moyano 2007.
49. Reddick and Roy, 2013; Weerakkody et al, 2013; Lee 2006; Wirtz and Kurtz, 2016.
50. Teo *et al*, 2009.
51. Alawneh et al, 2013, p. 277.
52. Boudjelida, Mellouli, & Lee, 2016.

formation to communicate their achievements or to engage in discussions with citizens, while citizens are using them to express their opinions and to make governments accountable.[53] The challenge for governments is to find the ways to utilize these tools to inform and facilitate decision-making processes.

CivicTech solutions often do not require high end technology to be effective. Developing and deploying CivicTech tools including citizen feedback and complaint handling mechanisms can be done in low connectivity countries. Some solutions rely on "dumb" technology in the absence of high tech solutions such as smartphones. These include SMS and USSD applications that enable live exchange of information on phones that support the GSM standard (using SIM cards). These "dumb phones" widely found in developing countries in Africa and Asia, rely on SIM cards. Activities can also focus on accountability tools such as service charters and service standards with enforcement and monitoring mechanisms.

Modernizing Core Government Operations

The third dimension of GovTech is to bring the machinery of Government into the 21st century. As noted above, early modernization efforts focused on improving functionality and enabling efficiencies in day-to-day administrative tasks. These include core government systems such as Financial Management Information Systems (FMIS), Tax and Customs Management Systems, e-Procurement, Human Resource Management Information Systems (HRMIS) and Payroll as well as country-wide ICT infrastructure, shared data centers, and monitoring and evaluation systems. These systems can be considered the backbone of digital government as they enable executive and administrative functions of public administration. Their key functions of collecting, processing and managing records and data enable upstream functions such as public financial management, civil service management and central and local governance functions. Modernizing these systems remains a first step on the transformation journey of developing countries as they work to increase efficiency and effectiveness of the public sector.

Client countries vary in terms of maturity of these core systems. Some developing countries have achieved substantial digitization of the systems to collect and manage revenues, support planning, budgeting and expenditure management. However, most countries still manage these tasks and share information manually via ledger or excel spreadsheets, which can lead to errors and inefficiencies.[54] As a result, policy design, effectiveness and capacity to monitor and evaluate programs is negatively impacted. Most developing countries are trying to make best use of available digital technologies to expand transactional government systems with analytical processing capabilities for decision support, performance monitoring, and web publishing, benefiting from government cloud/shared platforms, Government Service Bus (GSB) and Web Application Program Interfaces (APIs).

Electronic Government Procurement (e-GP) is a fundamental GovTech building block. E-GP can reduce transaction costs and enhance competition and transparency in public procurement processes, thereby generating savings for countries while also facilitating delivery of key services. Using e-procurement can also support competition for small and medium enterprises (SMEs) and other businesses. Publishing information allows for monitoring of procurement by citizens and third parties, reducing the potential for collusion and corruption.[55] Most Bank operations using e-GP include open contracting, which promotes data disclosure and the engagement of citizens in the procurement process. The data can inform better procurement policies and objectives to generate continuous efficiency gains. Using advanced data analytics, e-GP systems can support risk identification and management.

Even without connectivity, countries can modernize public administration functions through the adoption of core systems. These include implementing or upgrading integrated FMIS, HRMIS, performance management systems, and tax and customs administration systems. These activities, best supported through lending and technical assistance, can be paired with change management and capacity building to promote adoption and use of new technologies in day-to-day government administration.

53. Driss et al, 2019.
54. OECD 2017.
55. OECD 2018

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Lessons from World Bank Engagement in GovTech

World Bank investments in ICT, e-Government and GovTech to support major public sector reforms have steadily increased since 1995. This is reflected both in the number of investment projects and the volume of investments as shown in Figure 2. A portfolio review of World Bank projects, presented in Box 3, identified over 1390 relevant investment projects with ICT/e-Government solutions as of January 2020.[56] These investments cover more than 145 countries in all regions of World Bank engagement.

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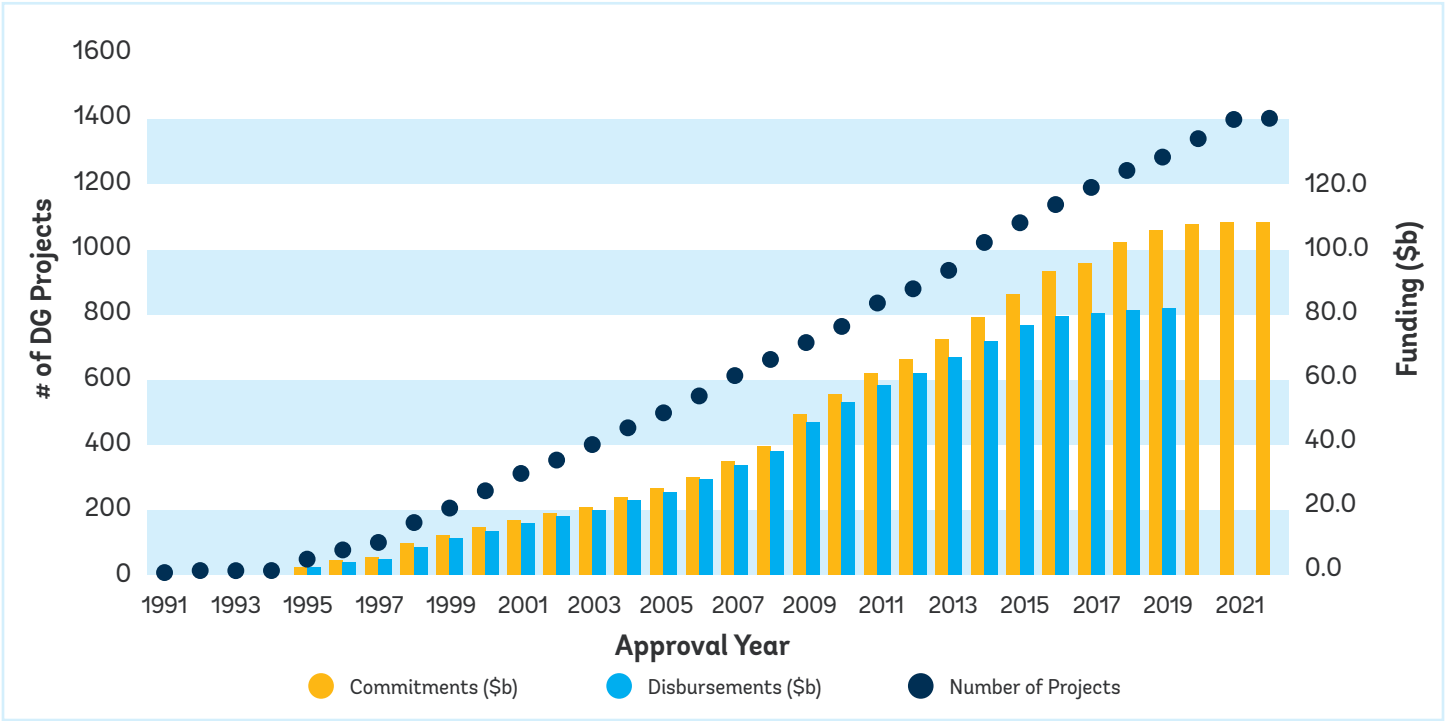
FIGURE 2 - Number of World Bank projects with ICT and e-Government Components (1995-2019)



56. Figures are based on investment projects and do not include analytical and advisory projects and other technical assistance provided through trust funds or other mechanisms.

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BOX 3 - Portfolio Review Methodology

The objective of the portfolio review was to examine the World Bank's investment patterns in ICT and GovTech related projects from 1995 to 2019. This analysis explored trends in topical coverage, regional representation, and project performance. These investments and activities have been tracked through several datasets to present the current operational status and functional scope of government systems. The portfolio assessment is based on the Digital Governance (DG) Projects Database, a comprehensive dataset of World Bank-funded ICT and Digital Government investments created in 2015. In January 2020, this dataset was updated and expanded to capture additional details on Disruptive Technologies (DT) and GovTech. The dataset contains metadata on each investment project including key activities, performance ratings, and other details.

As many GovTech activities and investments are embedded in various project components, it is difficult to identify and track each one. At present, there is no separate flag in the World Bank Operations Portal for ICT and GovTech projects nor appropriate thematic codes to automatically track activities. Projects were identified by scanning key project documents – Project Appraisal Document (PAD), Implementation Completion and Results Report (ICR), Independent Evaluation Group Reports (IEGR) – and using business intelligence (BI) queries and content analysis with a number of filters such as sector and thematic codes.

The analysis identified seven focus areas:

- ICT Infrastructure
- Public Financial Management (PFM) Systems – FMIS and other Governance Global Practice (GGP) solutions
- Government Systems[57] – Applications of EDU, HNP, SPL, and other GPs.
- e-Services – e-Gov portals and services
- Open Government – transparency and accountability
- Identification for Development (ID4D) – civil registration and identification systems
- Disruptive Technologies – Big Data, Artificial Intelligence/Machine Learning (AI/ML), Blockchain, Internet of Things (IoT), Smart Apps

Since the initial launch of DG Projects Database in June 2015, 3,100+ key project documents have been identified after text mining (using an extended taxonomy) to "tag" relevant ICT/e-Gov activities focusing on leading practices including Governance (GOV), Social Protection and Labor (SPL), Health, Nutrition and Population (HNP) and Digital Development (DD), formerly Transport and Infrastructure (TAI). After careful review of project documents, about 45 percent of these projects were found relevant.

As of January 2020, there were 1,394 GovTech projects (14 percent of total investments) included in the database (925 closed, 361 active, 108 pipeline) with $81 billion total disbursement (D) and $108 billion total commitment (C). For the 925 closed projects, $16.7 billion (29 percent) was for ICT/e-Gov components. For the 361 active projects, $15.9 billion (35 percent) commitment is for digital government solutions.

To better understand the success factors, challenges, and lessons learned, data was gathered primarily from internal ICRs and IEG Reports. Additional information was collected through semi-structured interviews with World Bank Task Team Leaders (TTLs) of current projects to obtain additional details on success factors, challenges and opportunities moving the GovTech agenda forward.

57. Government Systems include: sector applications, payment systems, MIS for Education, Health, Social Protection, Pensions, Land Titling and Cadastre systems, Agriculture MIS, Statistical Information Systems, Justice Information Systems, Transport Information Systems, GIS (Geographical Information Systems), Management Information Systems, and Digital Health.

World Bank investments in GovTech have expanded significantly across all regions. The largest percentage of projects (around 30 percent[58]) are in the Africa (AFR) region. These projects are in place across 46 countries. The Europe and Central Asia (ECA) and the Latin America and the Caribbean (LCR) regions follow with 20 percent and 18 percent of projects, respectively. The remaining DG projects are distributed among the South Asia (SAR), the East Asia and Pacific (EAP) and the Middle East and North Africa (MNA) regions. Figure 3 displays the regional distribution of the World Bank's GovTech projects.

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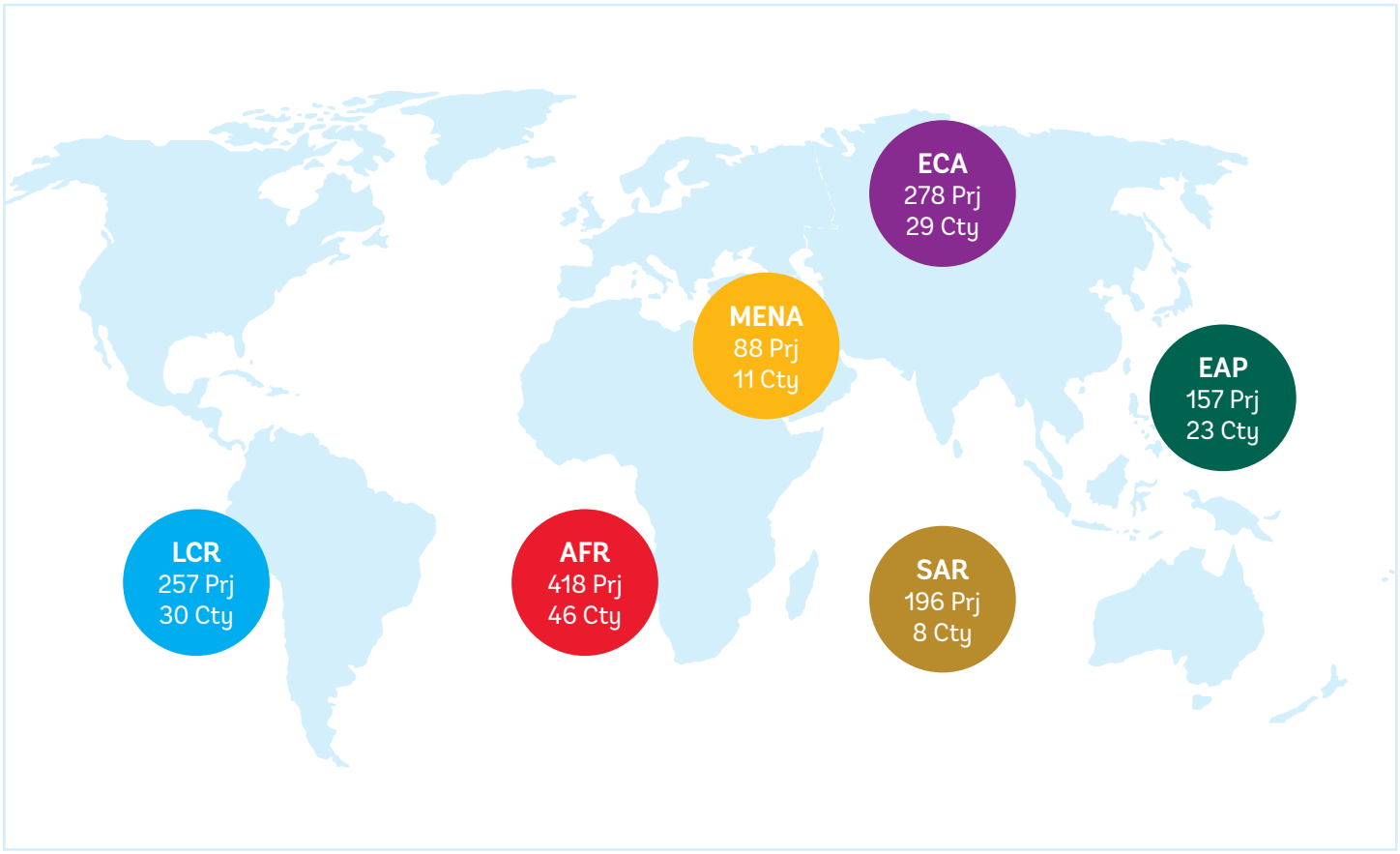
FIGURE 3 - Regional Distribution of GovTech Projects



Most of the project funding is directed to the AFR and SAR regions to address more difficult development challenges. Many countries in these regions face more difficult challenges that are higher priority including extreme poverty, inequality, shared prosperity, unregistered populations, and more. Further, these countries may also have challenges with the key enablers of GovTech including electricity and connectivity. Examining the financing amounts, the AFR region has the largest funding with $10.8 billion, and the SAR region follows with $7.7 billion. Figure 4 shows the regional distribution and financing associated with DG projects.

58. Percentages are based on the sample of 1,394 projects.

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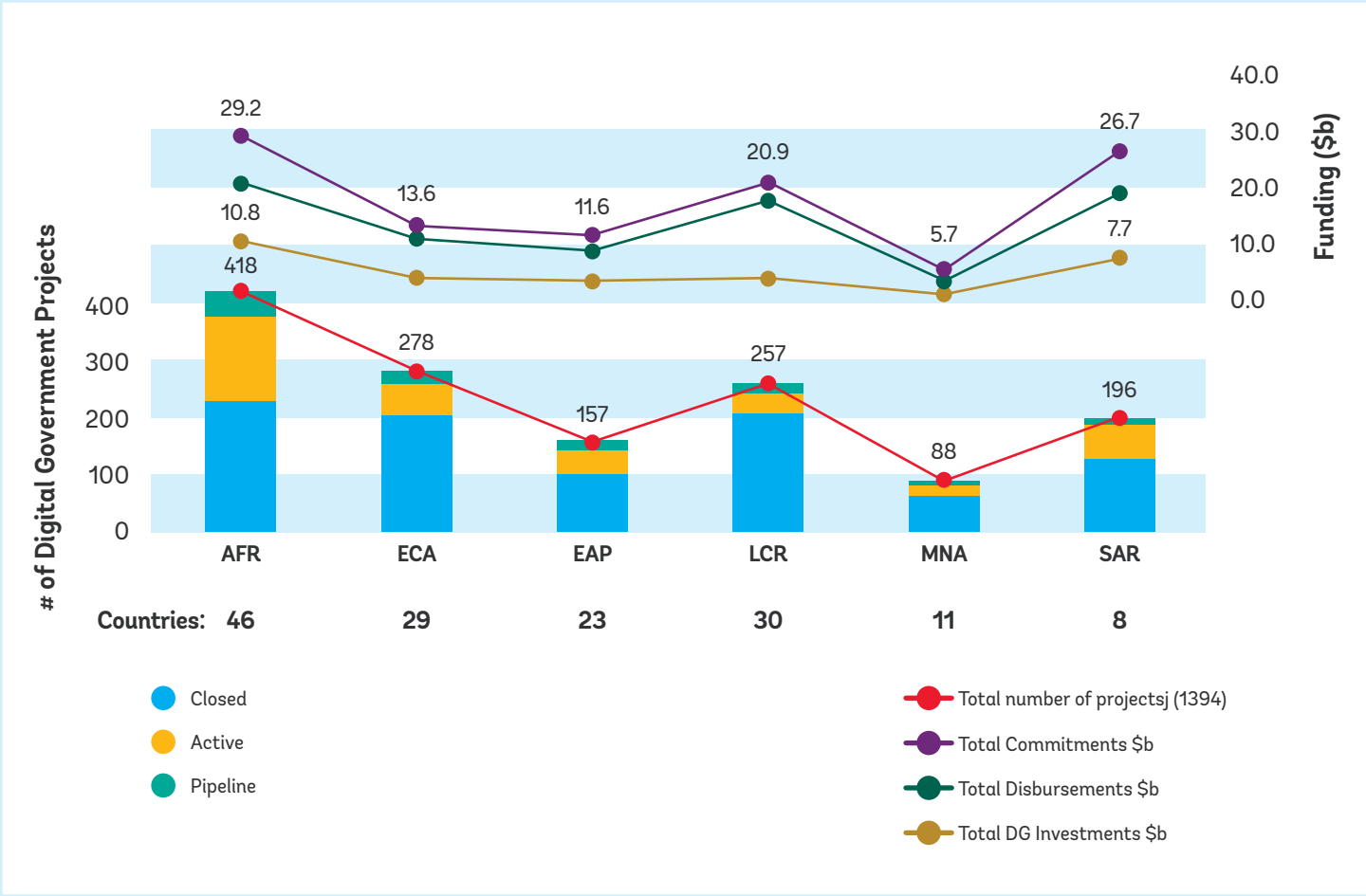
FIGURE 4 - Regional Distribution of DG Projects and Financing



The design and focus of the Bank's lending operations evolved over time. Early World Bank projects that focused on standalone solutions have migrated over time to include e-services, open government, and disruptive technologies.[59] From 1995-2004, the majority of projects (55.4 percent) focused on government systems, followed by PFM[60] at nearly 25 percent – see Figure 5. As presented in see Figure 6, from 2005 to 2014, more than one-third of closed projects focused on government systems while investments in ICT infrastructure and ID4D increased. Figure 7 shows that active projects initiated from 2007 to 2014 recorded an increase in e-services and ID4D investments, reflecting the trend toward integrated e-Government systems. Recently launched projects from 2015 to2019 show greater diversity in focal areas, as captured in see Figure 8. Investments in e-Services, open government, and disruptive technologies including data analytics, AI, machine learning and blockchain emerged, along with open government activities. In summary, initial World Bank investments that focused on siloed solutions have migrated over time to include e-services, open government, ID4D, and disruptive technologies.

59. It should be noted that most investments include funding for the development of multiple digital solutions under each project. Currently, there is no mechanism to track the cost and duration of all digital solutions separately in a project or to assess the outcome rating for specific digital solutions. Below graphs are presenting the total number of key focus areas in closed and active projects, and the total number of these areas is greater than the total number of projects due to multiple solutions visible in each project.
60. Due to the number of PFM projects in the portfolio it is separated in the analysis.

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FIGURE 5 -
Key Focus Areas of Closed Projects (1995-2004)

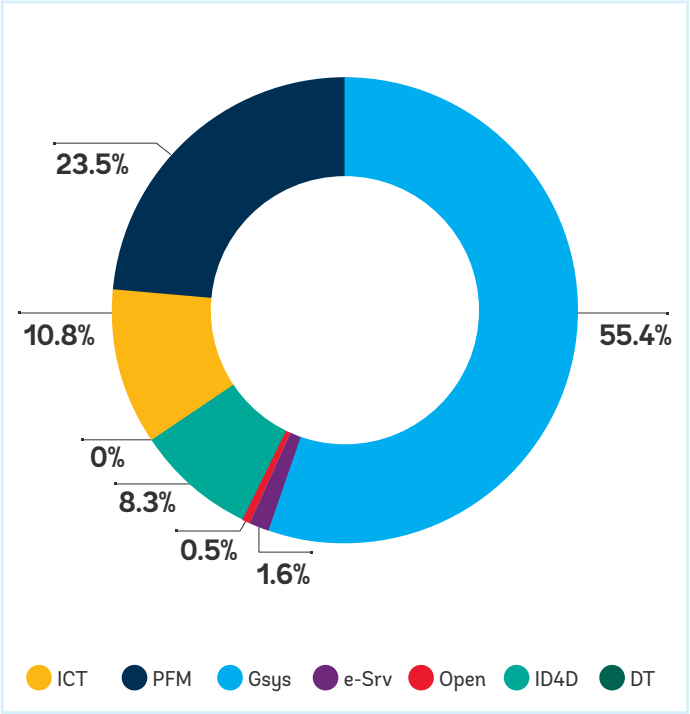

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FIGURE 6 -
Key Focus Areas of Closed Projects (2005-2014)

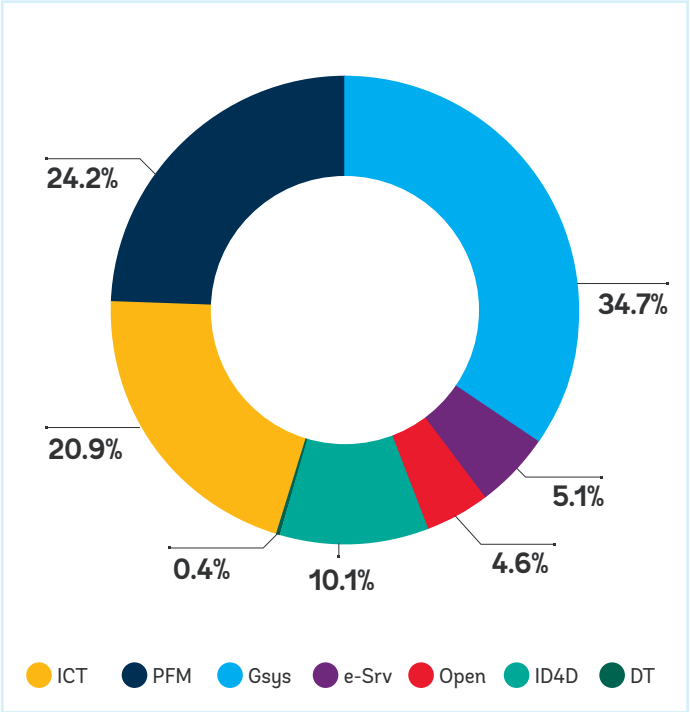

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FIGURE 7 -
Key Focus Areas of Active Projects (2007-2014)[61]

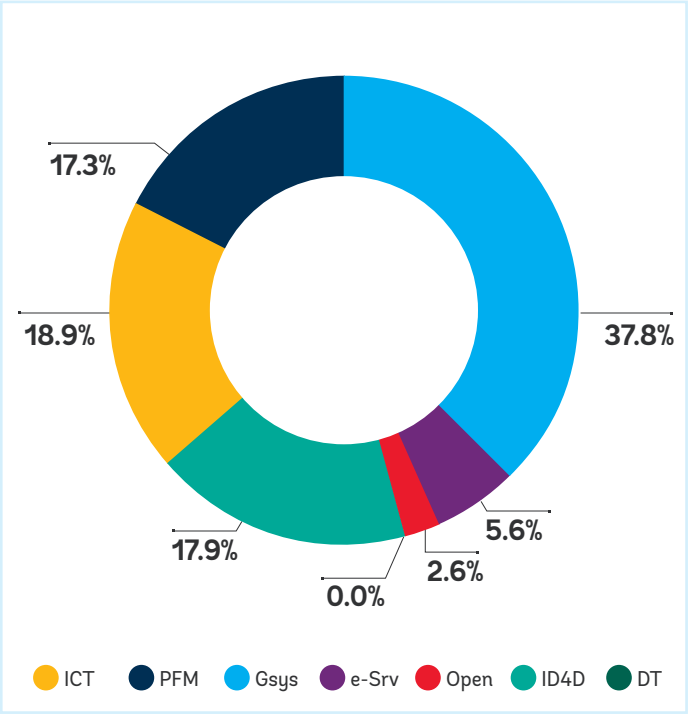

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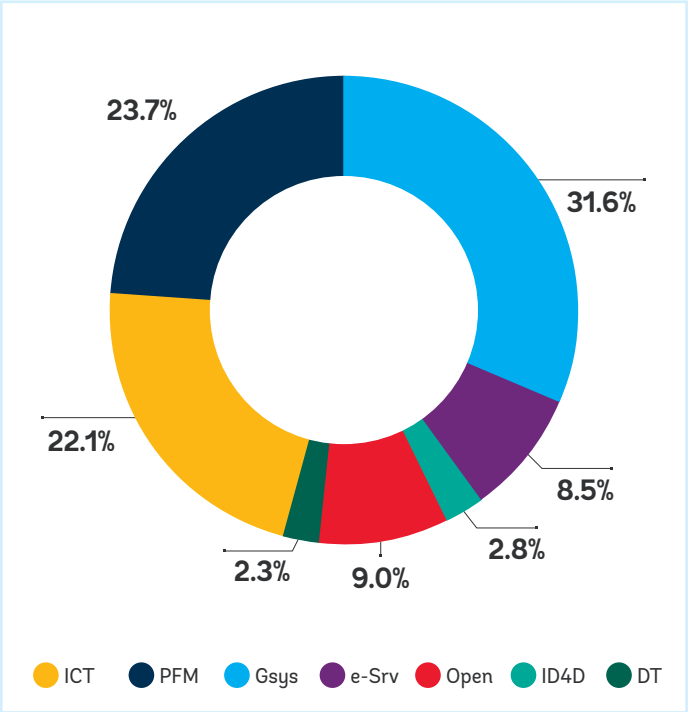
FIGURE 8 -
Key Focus Areas of Active Projects (2015-2019)



** ICT: Investments including infrastructure; PFM: includes Public Financial Management, FMIS Systems and other governance solutions; GSYS: Government Systems; e-SVC: e-services including portals; OG: open government; ID4D: Identification for Development; DT: Disruptive Technologies.*

61. Figures 5-8 have different timelines to reflect the evolution and changes over time. Separate charts were made for closed and active projects. There are some active projects initiated during 2007-2014.

The diversity of focal areas in recent projects show how activities have expanded over time to include sector-based systems and services. Projects are no longer so focused on government to government systems such as FMIS, HRMIS, and tax administration, but are including mechanisms to enable government to citizen and government to business services, data exchange and warehousing, and citizen engagement and open government tools to increase transparency. Trends are moving toward resilient systems such as cloud-based solutions, mobile services, and disruptive technologies such as Internet of Things to support integrated digital government.

Overall, World Bank projects in the GovTech space have yielded good results. The ICR outcome ratings show that 82.5 percent of the 842 rated projects were competed successfully. The IEG outcomes show satisfactory ratings for 72.2 percent of 806 projects; traditionally, the IEG ratings are more conservative than the ICR ratings. It should be noted that these ratings cannot be disaggregated to measure performance of specific project components or GovTech activities.

Key Lessons Learned

While the majority of World Bank GovTech projects were rated as satisfactory, there is room for improvement. A scan of these performance reports and interviews with World Bank Staff reveal ten key lessons learned for both client countries and practitioners. The lessons learned from both successful and unsuccessful projects inform changes in the Bank's approach to GovTech project design and implementation for better outcomes.

- **Modernize with a purpose.** Have a clear problem statement that technology aims to solve that is owned by all stakeholders, including beneficiaries. Ensuring wide ownership and clarity of the problem supports harmonization and sustainability of the reform efforts. If the problem statement is owned by the stakeholders, it helps to facilitate coordination. Use GovTech as an input to deliver governance improvements and better services. For example, for a GovTech project the outcome is not successful implementation of a specific digital solution, but a large quantity of high-quality and efficient services provided to the poor and vulnerable.

- **Identify one unit of government that has strong convening and coordinating power to champion the reform.** High-level political commitment and leadership is needed to drive GovTech transformation, to both coordinate and commit to the reforms.[62] Placing this unit at the highest level of government can facilitate necessary policy, legal, and implementation coordination across government and unlock bottlenecks. Horizontal integration requires significant coordination capacity; thus, a whole-of-government approach was noted by TTLs as both a challenge and a success factor. The convening unit needs to communicate clearly to raise awareness of the importance of the reform and the projected benefits to sensitize stakeholders and beneficiaries on the forthcoming reforms and secure buy-in. Even when the decision-making levels are championing e-Government, leadership and commitment needs to flow through to lower levels. This leadership helps guide and sustain the organizational change needed as a result of the implementation of new technologies, systems and software, processes and workflows.

- **Be flexible.** Political economy constraints can impact implementation as changes in government can affect leadership, government priorities, organizational charts, and financing decisions. The adverse effects of country-specific political economy issues, global shocks or a shifting political environment may have a substantial impact on any properly prepared project during its implementation and result in unexpected delays or failures. A problem-driven iterative approach is more likely to succeed. The scope, ambition and complexity of project design should be balanced carefully towards the client capacity, readiness, and overall governance environment. Because of the fast-moving nature of technology and other external factors, it is important to maintain some flexibility to be responsive to clients. A simple and flexible project design is beneficial as it can adapt to the changing environment.

- **Recognize the country level constraints and divides to ensure inclusivity.** In countries where there are significant digital divides in terms of connectivity, access to devices, literacy, and skills, these issues should shape project design. The needs of the poorest and most vulnerable beneficiaries should be considered to ensure they are not further marginalized by GovTech initiatives. These users may have different needs and preferences for accessing e-services and may need additional assistance

62. Rose *et al*, 2015; El Naghi, 2019; Alawneh et al, 2013.

to transition to digital. Tailoring services and approaches to reach these populations aligns with the World Bank's mission of boosting shared prosperity and the IDA commitments on accessibility.

- **Employ a programmatic approach to reforms.** Public sector modernization is a long-term effort, and some outcomes can take years to emerge. Embarking on GovTech initiatives should be well coordinated and have this longer-term vision in mind, including financial sustainability and what happens next once solutions are built. Some ICR and IEG reports note that many projects could benefit from a longer time horizon given the complexity of horizontal reforms, ensuring enablers are in place, and the level of intensity of ICT procurements. Properly sequencing activities ensures key enablers are in place for GovTech solutions and platforms. For example, legal and regulatory reforms such as those on digital signature, accepting electronic payments, delegating authority for service delivery that enable e-services can take a long time in developing countries. Drafting technical specifications and procuring IT solutions can also cause delays and stall implementation for years. Understanding how the pieces fit together through mapping contingent activities and sequencing tasks can reduce the risk of failed implementation and delays. Teams should therefore identify preparatory activities that can set the stage for implementing solutions, including legal and regulatory reforms, service and registry inventories, interoperability and data governance frameworks. Appropriate preparation and sequencing guided by a costed action plan that identifies contingencies supports smooth implementation.

- **Prioritize change management.** Adopting GovTech in the public sector requires cultural, behavioral, and process changes. GovTech projects are about institutional reform and as such, resistance to change can derail efforts. Attention should be paid to incentives to motivate staff and reduce the potential for resistance. Further, it is important not to measure success by the establishment and implementation of a solution. Change management activities including consultation, communication, awareness raising, and capacity building are levers to ensure that all intended benefits are realized. For example, a project involving FMIS systems must also include activities to foster adaptation and monitoring mechanisms to ensure it is used for a broad range of transactions. Change management is a key part of successful implementation.

- **Promote ongoing capacity building to improve uptake and sustainability.** Technical and administrative capacity gaps can pose a major obstacle to technological transformation in developing countries, even for basic systems. Continuous training and awareness building activities are crucial to successful implementation of past projects. Civil servants and beneficiaries may need additional training to learn and acclimate to new ways of working and interacting with government. Teams are encouraged to include capacity building and outreach activities to build buy-in for the reforms at all levels of government. Training programs could focus on a specific technology such as cloud- based solutions, process and procedure training for service delivery, and basic digital and data literacy programs for supply- and demand-side beneficiaries.

- **Focus on results and be selective with indicators**. Public sector modernization projects can be complex, sometimes with many targeted outcomes. They require the same high standards of monitoring and evaluation (M&E) design and execution as projects in other sectors. Lessons from ICRs and IEG reports note capacity for monitoring and evaluation as a constraint to project performance. While projects need to include sufficient indicators to monitor progress on key aspects of implementation, too many can overwhelm the capacity of the client. For example, e-service delivery projects usually include a multitude of services, which may make it difficult to track sub-indicators on use, speed, citizen satisfaction and transaction success. It is advisable to craft a simple M&E framework that matches client capacity and focuses on measuring key results and outcomes. A selection of three to five services that are of highest demand can be used to track outcomes while reducing the burden on M&E staff. TTLs have noted that clear targets, strong performance on tracking outcomes and results, and avoidance of additional administrative efforts contributed to keeping projects on track.

- **Establish partnerships to maximize impact and sustainability of reforms.** Public sector modernization inherently involves many stakeholders. Partnerships can increase the impact and sustainability of investments.

This does not solely include mobilizing private sector resources but also collaborating with universities, industry associations, research institutions, and civil society organizations. This collaboration can encompass design, outsourcing and peer to peer learning. One TTL noted the benefits of leveraging digital agencies as well as educational, scientific, technical and innovational institutes to build capabilities and sustain reforms. Creating mechanisms for joint management of essential functions and structured opportunities for collaboration is a key lesson to facilitate coordination and improve sustainability.

- **Promote innovation and agility to keep up with technology trends and solutions.** This lesson applies to both client and World Bank processes. Lessons from projects and interviews with TTLs revealed that policies and guidelines fail to keep up with constantly evolving technology and regulations. More flexible and forward-looking procedures and processes—for example around procurement—can help secure uptake of new tech-driven solutions. Additional work on procurement strategies for GovTech is required to support client countries to increase efficiency of public spending on these efforts.

The lessons above inform the design of pipeline projects. GovTech is a World Bank Group- wide initiative relying on the Equitable Growth, Finance and Institutions (EFI) practices, Digital Development, ID4D, Social Protection, Health, Education, and Urban practices and the International Finance Corporation (IFC) to support transformation of public administrations. The new generation of investment projects reflect a collaborative approach, led by multiple practices to increase impact. For example, In Tunisia, the GovTech project highlights connectivity, access to services, and improvements in the quality of education. In Jordan, the Youth, Technology and Jobs project brings together e-services, digital payments, and skills development to build a local technology ecosystem and increase demand for digital skills. Investment projects are increasingly including components and activities to build local technology ecosystems through skill building and entrepreneurship programs. This aligns with the World Bank's Jobs and Economic Transformation (JET) Agenda, which aims at shifting the role of the public sector from key employer to facilitator for private sector growth. Current pipeline operations in Indonesia, Kenya, Morocco, Senegal, and Sint Maarten target connectivity, service improvements, and other activities to support e-transformation and build the digital economy. Box 4 highlights developments in GovTech and the potential for innovation.

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BOX 4 - Forward Look: Frontier Areas in GovTech

The pace of technological change is ever increasing, and some countries are pioneering in the GovTech space, utilizing new technologies and developing new applications. These innovations are benefiting from collaboration and participation of non-traditional partners including private sector, academia, and independent coders. Events such as hackathons and other crowdsourcing approaches are encouraging new innovations for common development problems.

Some innovations such as AI, blockchain, data analytics, Internet of Things, and mobile apps have been available for years, but are just being deployed in the public sector. Disruptive technology diffusion in the public sector tends to be more difficult due to capacity and resource constraints in public sector to exploit digital advancements.

There is no crystal ball to predict what may be next for GovTech, but there are a few frontiers worth mentioning. On service delivery, data analytics and AI are promoting the potential for predictive services launched in Singapore and Malaysia. By using integrated systems and cross-checking data, services such as pensions are being proactively pushed to potential beneficiaries. Citizens are notified six months before their birthdate to validate their eligibility and offer information to help the citizen apply for the service.

AI and chatbots[63] are also reducing administrative burden on service providers by provide virtual assistance to online and mobile users. One example is the Alex chatbot developed by the Australian Taxation Office to address general taxation inquiries from citizens. From its launch in March of 2016 to July 2017, it held more than a million conversations with citizens.[64] Facebook chatbots are also supporting service delivery in the Philippines and Madagascar. These chatbots provide information and expand the reach for citizen feedback to monitor the implementation of decentralized service delivery as is happening through the Madagascar Public Sector Performance Project.[65]

Augmented reality (AR) or the overlaying of the real world with additional data can promote citizen awareness around local issues. AR has a potential of supporting citizens to make informed decisions when participating in public deliberation.[66]

Recent events such as the Covid-19 response have inspired rapid innovation and development of new solutions for tracking, tracing, and monitoring as well as highlighted the need for rapid implementation of solutions for business continuity. The results of these initiatives will have impacts on the GovTech agenda for the next few years—Annex A provides details.

The level of e-government maturity and readiness informs the priorities of focus and sequencing of activities. Readiness can be measured with assessment tools such as the Digital Governance Readiness Assessment (DGRA), Digital Economy Country Assessments (DECA), and the Digital Economy for Africa (DE4A) assessments. While DECA and DE4A tools focus on the five pillars of the digital economy, the DGRA provides more granular insights on issues related to governance of digital transformation including institutional arrangements, regulatory environment, provision and uptake of e-services, capabilities and skills, and public sector IT infrastructure. Under the GTGP, a new GovTech Index will aim to measure country performance on the three key pillars that can identify additional entry points for country teams. Countries early in the process may prioritize infrastructure for connectivity and the base foundations of GovTech. Others may be at the emerging stage, developing platforms and initiating unique ID systems, digital payments, and working to ensure interoperability, data exchange, and setting the legal and regulatory policies needed to enable e-government, e-transactions, and trusted environments. Pioneering or leading GovTech countries are pushing the frontier with new solutions while also providing peer-to-peer learning to other countries wanting to learn from their experience.

63. Chatbots and voice bots are terms for computer programmers that people interact with by talking to them, either through written messages or spoken words (Peixoto and Steinberg 2019).
64. https://www.brookings.edu/blog/techtank/2017/06/02/chatbots-move-public-sector-towards-artificial-intelligence/.
65. Rakotomalala, Peixoto, and Kumagai, 2019.
66. Peixoto and Steinberg, 2019.

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Furthering Reach through Collaboration

The GovTech Global Partnership is a mechanism to support World Bank client countries to further their digital transformation efforts. The GTGP convenes key stakeholders to promote the use of foundational and frontier digital technologies in the public sector. These stakeholders comprise aspiring and advanced GovTech countries, multinational, local and regional technology companies, development partners, foundations and civil society organizations. A list of related initiatives by these donors and stakeholders is included in Annex B.

The GTGP will inform the next generation of foundational and frontier GovTech initiatives in service delivery, CivicTech, and core government operations. The GTGP is a five-year programmatic initiative that will cover a wide range of activities at the country, regional, and global levels. A multi-donor trust fund (MDTF) launched 2019 will finance three types of interventions: (i) analytics and thought leadership, (ii) global public goods and convening, and (iii) country and regional engagement. Through the GTGP, the World Bank aims to contribute to the greater body of knowledge by convening stakeholders to drive the agenda forward and enable all aspiring countries to reach their development goals through digital transformation. The following provides an update of the key priorities of GovTech over the first 18 months of MDTF implementation.

Achievements to Date

The GovTech Initiative was formally launched at the 2019 Spring Meetings, ahead of the initiation of the MDTF that supports it. In preparation for the launch of the GTGP MDTF, the GovTech team undertook a number of activities with the support of the Swiss Secretariat of Economic Affairs (SECO). This section summarizes the key achievements during the first year of the GovTech initiative. Annex E has links to additional outputs.

The first priority was to create useful knowledge products on key issues for GovTech. Reports and studies completed included:

- The GovTech and Fraud Detection in Public Administration report that explores the use of traditional and disruptive technologies in fraud detection in public sector including legal aspects for public financial management, human resource management and procurement and identifies relevant country cases. New information systems in public administration can be designed to incorporate ex ante programs (known as "Integrity Filters" or "Governance Filters"), and current systems can be modified to do so without undue technical difficulty or expense. This report includes comprehensive lists of the proven, most effective fraud detection algorithms and indicators to identify possible misconduct in procurement, IFMIS, and HR systems.
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- The Ensuring Better PFM Outcomes with FMIS Investments: An Operational Guidance Note that summarizes the critical success factors for FMIS implementation. The paper distills lessons learnt from the accumulated literature, case studies, and Bank experiences from 148 operations in 81 countries over the last 30 years. The aim is to apply these lessons and achieve better PFM outcomes from FMIS investments.

The second priority was to begin developing a set of global public goods for client countries and GovTech practitioners. The GovTech team worked extensively with external partners to inform and develop tools and guides to support public sector modernization efforts. These included:

- Building GovTech Skills in the Civil Service Microcourse. In collaboration with Apolitical (https://apolitical.co/), a global learning platform for government, the course objectives focus on promoting an understanding of what governments consider to be critical GovTech and digital government skills; examine different approaches to upskilling government for transformation through case study examples; and identify some key future challenges to inform ongoing digital government skills and needs.

- Open Source Solutions Inventory. A living worksheet to raise awareness of existing "fit for purpose" applications and code resources relevant to the core areas of GovTech.

- Artificial Intelligence in the Public Sector. Targeted to policymakers, practitioners and non-technical audiences, the report distilled existing knowledge, good practices, and use cases to guide the use of AI in public sector modernization for developing countries. The report includes a technical primer to provide practical information for foster understanding, including strategies and supporting materials.

- GovTech Procurement Strategy. This document aims to support countries in assessing and implementing potential public procurement and contract management solutions using traditional and disruptive technologies. The strategy focuses on the creation of a useable and replicable approach to exploring and procuring GovTech solutions to improve government services and core information systems.

Additional activities focused on learning events, workshops, and blogs to broaden the discussion around GovTech aspects, challenges and opportunities. These included day long workshops on public sector modernization and use of disruptive technologies in government; open source solutions highlighting sector applications; and enabling digital governance and accountability in low and middle income countries. Shorter knowledge events were held to discuss whole of government organization for GovTech, promoting interoperability, conducting diagnostics, and use of cloud solutions for public administration.

Country and regional work expanded significantly over the first year as a response to growing client demand. Under the GTGP, one country assessment was completed and number of teams designing and implementing GovTech projects received advisory from the GovTech team led by the GGP. At the regional level, the team developed an internal GovTech strategy for the Bank's MNA region. In the Africa region, work initially focused on providing guidance and quality assurance for DE4A assessments. Early in 2020, the focus shifted to the Covid-19 response—reflected in the planned activities for 2020-2021.

Planned Activities for 2020-2021

During FY21, the GTGP will be focusing on closing select GovTech knowledge gaps of global relevance and promoting knowledge sharing. All activities will adhere to the GTGP Core Principles listed in Box 5.

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BOX 5 - GTGP Core Principles

GTGP activities will be in line with the following core principles:

- Pursuit of a demand-driven and results-oriented program aligned to clients' needs and interests.
- Ensure rigorous analytical underpinning and create the knowledge base (i) to set the GTGP agenda and (ii) to provide access to knowledge and support capacity development and clients in pursuing e-government readiness.
- Utilize partnerships with a broad set of stakeholders including the private sector to ensure effective knowledge cascading'
- Support the digital economy, in particular the jobs agenda and empowerment of women and girls.
- Adapt to and mitigate the effects of COVID-19.
- Align with IDA-19 commitments and Bank strategies.
- Support the generation of a high-value GovTech portfolio by scaling up impact.

The planned activities outlined below are informed by the GovTech Program Document, consultations with the GovTech Global Solutions Group, and client demand. Additional details on planned activities are in the Action Plan included in Annex A.

Under the Analytics and Thought Leadership component, the GTGP will focus on research and advisory work informed by the challenges identified in Section 2. These deliverables respond to client requests for research and guidance on issues posing significant challenges to aspiring GovTech countries. These include organizing government institutions for GovTech implementation and management; designing legal and regulatory frameworks to facilitate GovTech; employing cloud solutions for resilient government operations; promoting efficiencies through shared services; and promoting responsible data governance. Additional research and analytics may be identified through the first call for proposals (CfP) in 2020.

The Global Public Goods and Convening component prioritizes diagnostics and learning. Financing will support development of the Accessible GovTech Handbook and the GovTech Index. The Index will capture aspects of each of the focal areas of GovTech—core government operations, service delivery, and citizen engagement—and GovTech enablers in a consolidated manner. The GovTech Index aims to provide a snapshot of current systems, solutions, and enablers that reflect the maturity of GovTech 198 economies. This component will also target internal and external learning through a Global Distance Learning Stream, a core GovTech course through the Open Learning Campus, and the GovTech Knowledge and Solutions Portal.

The majority of activities under the Country and Regional Engagement component will come from the first CfP. Key deliverables include a meta-study of the DE4A assessments on the African continent. Additional activities will be identified during the first CfP.

Key Thematic Areas for 2020 Proposals

For the first CfP, four priorities are set forth for endorsement by the Partnership Council:[67] Covid-19 response, resilience and recovery; developing the foundations for GovTech; furthering service delivery innovations; and utilizing data to create value in a responsible manner. In addition, there is a special theme on universal accessibility to support policy commitments under IDA19. Each client country is eligible for financing. World Bank staff and external partners may submit proposals for the three categories of activities: analytics and thought leadership, global public goods, and country and regional engagement. The GTGP will carefully evaluate country-level needs and select priority activities for funding and implementation based on clear selection criteria to be endorsed by the Partnership Council.

1. Supporting COVID-19 Response and Recovery

The Covid-19 response has posed significant challenges and opportunities to implement GovTech solutions for resilience, business continuity, service delivery, and citizen en-

67. The Partnership Council provides strategic guidance on the themes and activities to be financed by the MDTF. This Partnership Council will endorse the strategic themes, annual work plans and annual budgets. More information on the governance arrangements can be found in the GovTech Global Partnership Program Document.

gagement and awareness raising. Countries around the world have sped up innovation and development of GovTech tools and solutions to manage response, continue to provide necessary administrative services, push critical alerts and information as well as engage with citizens to answer questions and understand concerns. Client governments moved quickly to remote work arrangements, increasing the need to adapt service delivery online quickly and securely to citizens and businesses. This thematic area will support efforts to utilize GovTech to support core government operations through virtual systems such as cloud-based solutions, Infrastructure as a Service, and Platform as a Service to ensure business continuity and reduce risks. These may include remote work solutions and recommendations, solutions and applications for tracking, communications and engagement. Box 6 provides a snapshot of how GovTech is contributing to Covid-19 response efforts in World Bank client countries.

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BOX 6 - GovTech – COVID-19 situation, issues and actions

The COVID-19 pandemic resulted in a major health and economic crisis globally and the World Bank responded promptly by developing new fast track financing mechanisms and policy advice. A number of fit-for-purpose policy, financial, investment and advisory operations were designed to: (i) contain and assess the damage; (ii) protect the poorest and the most vulnerable; (iii) enable fair burden sharing and the socialization of losses; (iv) prevent a collapse in the financial and other strategic sectors; (v) support jobs and firms,; (vi) ensure appropriate management of state assets; (vii) leverage global networks and support; and (viii) link immediate response to sustainable recovery.

As a part of these efforts, the GTGP is also providing a stream of work in support of institutional reforms for a successful response to COVID-19. This includes the creation of a COVID-19 Response Tracking Portal to follow country specific policy actions, preparing policy papers on relevant aspects of the response—for example, treasury management, anti-corruption measures, GovTech—and operational support to emergency response activities including continuity of core government operations, secure remote access of key government officials to support emergency actions, tracking and reporting of COVID-19 related expenses and revenues.

The individuals, businesses and governments around the world are undergoing an unprecedented shift towards digital culture, to be able to develop effective responses to COVID-19 crisis. As highlighted in the Digital Development Practice's recent policy paper, the world's high dependency on digital infrastructure and increased reliance on secure online services have never been clearer:

- Over one billion students are now out of school and in need of online learning.
- Voice calls have almost tripled in some countries while the use of communications apps has more than doubled, causing increased congestion.
- Data traffic has increased by at least 20 percent and cyberattacks in the health sector increased by 150 percent during a two-month period in 2020.

As the situation worsens, economies with low internet access are bracing for the worst:

- Most of the developing countries are not equipped with adequate digital infrastructure to enable remote work at scale, thus affecting business continuity, decision making, and public services.
- Scarce broadband access is increasingly putting at risk economic activities, cash transfers, and remittances, while limiting distance learning and weakening health coordination response.
- AFR and FCV countries with relatively high prices for mobile broadband connectivity, high data taxes, and limited penetration will be most affected.

The COVID-19 crisis has demonstrated that GovTech solutions play a central role to manage the crisis in many countries. Governments are looking at technology to support business continuity, interact with citizens and inform them on a mass scale, and track the spread of the virus and manage their responses. While offices may be closed, countries are using technology to maintain service availability and some leading countries are deploying new solutions quickly. These include service platforms, cloud-based core government systems, and citizen engagement mechanisms ranging from SMS push alerts to voice response systems to allow citizens to obtain information on the virus, to get in touch and report symptoms and need

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68. http://pubdocs.worldbank.org/en/788991588006445890/Speedboat-Partners-COVID-19-Digital-Development-Joint-Action-Plan.pdf

for testing or assistance. Seeing the need, many startups are responding quickly to support government efforts at the local, country, and regional levels. Global innovation challenges such as hackathons are promoting collaboration to quickly develop suitable solutions to government problems in the face of the crisis.

World Bank teams are incorporating a COVID-19 priority focus in all operations in all regions. The COVID-19 responses elevated the importance of the cross-practice collaboration to the next level, as we see the first response of all sectors leveraging digital solutions to help countries cope with the pandemic. In addition to the collaboration of Digital Development, Governance, and Finance, Competitiveness & Innovation Global Practice (FCI) teams on ID4D and the foundations of digital economy, the pandemic is bringing additional focus to country specific solutions for digital transformation and highlighting the need for closer collaboration with Health, Education, and Social Protection sectors as well.

As countries emerge from the lockdown, it is crucial to gradually initiate the recovery phase while preventing the re-emergence of the COVID-19 cases to strengthen digital connectivity and create trust in the use of online services with a view to building further resilience. The importance of cross-practice work in this period is key to leverage GovTech solutions, as well as key sector applications—health, education, agriculture, financial sector, and more—to ensure better preparedness for future crises and a faster economic recovery. Some of the key GovTech focus areas for the recovery phase include the continuity of core government operations—for example, secure remote access, government cloud solutions—supporting the vulnerable and businesses through challenging times through online services and incentives, improving the transparency, collaboration and accountability (open data portals presenting reliable info on budget, performance, citizen feedback and results), and better access to open government data to support the development of digital solutions for emergency responses and monitoring/reporting needs.

2. Organizing for Effective Digital Government

As client countries move toward integrated e-government models, there is a demonstrated need for guidance and recommendations, particularly around organizing government institutions for transformation. A whole-of-government approach requires clear institutional roles and responsibilities to manage reforms. Work in this area may include guidance notes on institutional coordination and communication, case studies on different models that could be adapted to developing country contexts, and capacity building activities. Additional work is planned on supporting the whole-of-government model with shared services to realize economies of scale and reduce redundancies in investments.

3. Government Service Delivery

Client countries remain focused on improving access, quality and efficiency of administrative services. Work under this theme may include guidance and tools to employ and user-centric service design principles and organizing services according to life journeys. Activities will also target citizen engagement for information dissemination and two-way communication to give voice to citizens and increase accountability of service providers.

4. Data Platforms and Governance

The growth of technology and resulting data collection from governments highlight the need for robust data protection. Governments collect and generate a tremendous amount of data that can be used to support evidence-based policymaking and planning, creation of value-added services, and accountability through third party monitoring. However, these opportunities also come with risk. Regulations on data governance, management and use are required to ensure proper safeguards. This theme will focus on research, recommendations and solutions to develop robust data platforms and support responsible data governance.

5. Special Theme: Universal Accessibility

Under IDA19, the World Bank has committed to supporting 12 countries over the next three years to implement universally accessible GovTech solutions. Universally accessible GovTech services, which includes the modality and content of services, requires that services are designed in a manner that can be accessed, understood, and used by all persons regardless of disability, age, use of assistive devices, location or internet access. It applies to hardware—electronic kiosks, touch screen interfaces—and software components—websites, electronic documents, forms, e-portals, multimedia. The World Bank is developing an Accessible GovTech guidebook to identify key principles supporting accessible GovTech and provide guidance to enable World Bank task teams and governments to mainstream universal accessibility and inclusiveness in government digital transformation initiatives. The guidebook will equip task teams and practitioners with the resources to ensure that persons with disabilities have access to and are able to use GovTech solutions, and efficiently addresses the issues that government digital systems aim to resolve.

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Conclusion

Over the past 25 years, the World Bank has supported 145 countries to modernize their public administrations through investments in IT, government systems, e-services, open government, ID systems and, more recently, disruptive technologies. As the technology and its uses for the public sector have evolved, so too has the World Bank's approach to supporting the reform efforts of client countries. These projects have shown satisfactory performance and yielded a number of core lessons that inform the next generation of GovTech projects.

The lessons learned justify the need for a new approach to public sector modernization. GovTech is this new approach, catalyzing expertise across the World Bank, and involving development partners, and key stakeholders globally to build knowledge to a response to growing client demand for investment support and technical assistance to modernize their public administration. Establishing partnerships with private sector, academia, research entities, and other partners has been shown to maximize the impact and sustainability of reforms. The next generation of GovTech projects reflect collaboration and partnership with external bodies and across the practice groups of the World Bank. Pipeline projects are benefiting from collaboration to increase the development impact of investments, making inroads in multiple sectors, and promoting financial and social inclusion while modernizing the public sector.

The lessons learned highlight the importance of political economy and country context in project design. There is not a step-by-step blueprint for digital transformation, neither is it a short-term endeavor. Core success factors include sustained political commitment and leadership, coordination and communication, planning and sequencing of the reform and project activities, and prioritizing change management. GovTech projects at the core are institutional reforms and resistance to change can derail efforts. Ensuring the key enablers such as connectivity, reliable and authenticated ID systems, digital payments and data platforms are in place to support GovTech ecosystems is the first step to an integrated seamless digital government.

The portfolio assessment and lessons also reveal areas for additional research that could be examined under the GTGP. Areas include guidance notes and research on impacts, benefits and risks of cloud solutions for resilience; digital transformation and benefits to the digital economy; and legal and regulatory frameworks for responsible digital government. Additional work could be done on how to be more dynamic in terms of technology adoption and procurement to capitalize on the fast-evolving nature of technology. GovTech's significant potential to support FCV countries could also be further explored.

The World Bank will continue to provide financial and technical resources for GovTech through investment loans, IDA credits, and the GTGP MDTF. As technology changes, so do the priorities of developing countries, particularly when faced with crisis situations such as Covid-19 and other disasters. The first cycle of the GTGP places resilience and recovery at the forefront to support clients to respond to needs of citizens, businesses, and frontline service providers. This reflects the GovTech motto: putting people first. Through the GTGP, the World Bank aims to contribute to the body of global knowledge by convening stakeholders to drive the agenda forward and enable all aspiring countries to reach their development goals through digital transformation.

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Annexes

Annex A: Indicative 18 Month Action Plan and Proposed Activities

This annex presents the proposed activities for the first year of the GovTech Global Partnership MDTF.

Proposed Workplan

Indicative Deliverables	US$
Analytics and Thought Leadership	
Knowledge Base, Guidance Notes and Policy Recommendations, approximately 7-10 pieces	500,000
Subtotal	**500,000**
Global Public Goods and Convening	
GovTech Index/Assessment and GovTech at a Glance Briefs (TBC)	155,000
Accessible GovTech Design Handbook	15,000
GovTech Knowledge and Solutions Portal	100,000
Series of GovTech Learning Events and Infographic Briefs	260,000
Summit/convening/online conference (TBC)	(TBC)
Partnerships and Expert Roundtable exchange, Client Awareness and Outreach	70,000
Subtotal	**600,000**
Country and Regional Engagement	
Launch of Grant Program and 1st Call for Proposals	600,000
Subtotal	**600,000**
Program Management and Administration	150,000
Total	**1,850,000**

Indicative List of Planned Outputs

Component 1: Analytics and Thought Leadership

A series of knowledge pieces and guidance notes that focus on policy advice and actionable recommendations may include:

1. **GovTech Strategy for Impact 2021-2023: Mapping, Entry Points and Priorities.** This Strategy will guide GovTech engagement over the short term.

2. **Enabling Legal and Regulatory Frameworks for GovTech Guidance Note.** This note will outline good practices for creating the legal and regulatory frameworks needed for successful GovTech implementation in core government operations and service delivery.

3. **Building GovTech Skills in the Civil Service Report and Guidance Note.** Attracting, retaining, and motivating talent in the civil service is a global challenge and a critical success factor for digital transformation. This work will examine effective strategies for the attraction and development of digital skills in the public sector context.

4. **Organizing Government Coordination for GovTech Series.** Fragmentation in the leadership of the ICT function in the public sector is one of the key obstacles to successful GovTech implementation. This work will focus on the institutional organization and coordination for successful implementation and design of GovTech. Specific themes may target the whole of government approach and center of government coordination, managing shared services, and innovating from within.

5. **Service Delivery, User-Centric Design and Design Thinking Policy Guidance Notes Series.** Migrating to digital service delivery provides opportunities to redesign services with the user in mind. This series of three notes will include lessons and guidance on creating service inventories and conducting horizontal reviews; defining life scenarios; models of assisted service delivery; and business process re-engineering.

6. **GovTech as Catalyst for the Digital Economy Series.** Two companion pieces will be created.
   a. GovTech as Catalyst for the post-COVID-19 Digital Economy: Policy Note for immediate actions.
   b. GovTech as Catalyst for the Digital Economy Analytics and Policy Guidance. This output will focus on development of local tech ecosystems, job creation in GovTech, and fostering digital entrepreneurship with a focus on women-run businesses.

7. **Resilience and Business Continuity** - Guidance Note. This output will focus on strengthening resilience of critical public administration systems to respond to internal and external shocks.

8. **Cloud Computing Guidance Note.** Increasingly, client countries are moving to cloud solutions. Working with partners across the World Bank this guidance note will provide information for clients on procurement issues, legal and regulatory risks, change management, skills, and data classification to inform decision-making, planning and implementation.

9. **Data Governance Guidance Note.** Data governance and ensuring data is protected are growing concerns of many client countries. Based on the forthcoming World Development Report this guide will provide recommendations to operationalize guidance and good practices on good data governance.

10. **Shared Platforms -** Guidance Note will discuss organizing and implementing shared platforms including guidance on interoperability.

Component 2:
Global Public Goods and Convening

1. **GovTech Index and at a Glance Reports.** The GovTech Index aims to measure the maturity of GovTech environments in 198 economies. Building on the indicator, individual country datasheets can be created based on a template to show country performance, regional comparisons and values of underlying indicators.

2. **Accessible GovTech Design Handbook.** Aligning with the GovTech commitment under IDA19, this handbook provides operational guidance to task teams and clients on how to ensure GovTech solutions are universally accessible.

3. **GovTech Knowledge and Solutions Portal.** This publicly accessible knowledge portal will serve as the repository for GovTech outputs, resources, and solutions.

4. **Learning Tools:**
   a. Series of GovTech Infographic Briefs. Based on the longer notes in Component 1, these briefs will be bite-sized versions of guidance with actionable recommendations.
   b. From Theory to Learning and Application. A global community of practice (CoP) and Distance Learning Stream to develop specific GovTech skills for a variety of audiences.
   c. OLC GovTech Core Course.

5. **Convening, Awareness Raising and Exchange:**
   a. GovTech Summit. A series of online meetings will be staged in lieu of an in person global event (due to COVID-19).
   b. Technical Working Group & Expert Roundtable discussions.
   c. Client Awareness Raising and Outreach via brochures, newsletter, Linked-in, etc.

Component 3:
Country and Regional Engagement

It is proposed to pursue a strictly demand driven approach and organize two calls for proposals during FY21 to directly gauge and support country needs.

1. Call for Proposals I: *Rapid Response to Country Needs.* Proposals may include Analytics and Assessments, Capacity Building and Technical Assistance, Proofs of Concept, Pilots and Prototypes in the thematic focus areas listed above. Priority will be given to COVID-19 response efforts.

2. Call for Proposals II: *Response to Country Needs.* Proposals may include Analytics and Assessments, Capacity Building and Technical Assistance, Proofs of Concept, Pilots and Prototypes. Planned for March/April 2021 for implementation starting in FY22.

Annex B: Map of Related Donor Initiatives

Organization/Donor	Initiative	Description
Agence Française de Développement (AFD)	Digital Africa Initiative	Supports the African entrepreneurial dynamic and the development of digital innovation projects impacting the continent. https://digital-africa.co/en/new-home-2/.
Austria	Digital Austria	Austrian Federal Government's initiative for a successful digitalization in Austria aim is to further ensure Austria's role as a leading digital nation. https://www.digitalaustria.gv.at/.
Belgium	AI 4 Belgium	A community-led approach to enable Belgian people and organizations to capture the opportunities of AI while facilitating the ongoing transition responsibly. https://www.ai4belgium.be/introduction/.
	mHealth Belgium	A unique platform that centralizes all relevant and required information on mobile apps for patients, healthcare professionals and healthcare institutions. https://mhealthbelgium.be/.
Consortium of donors and partners (USAID, Gates Foundation, Swedish Gov't, UN Foundation)	Digital Impact Alliance (DIAL)	Advances digital inclusion to achieve the Sustainable Development Goals (SDGs), so that all women, men and children can benefit from life-enhancing, mobile-based digital services. https://digitalimpactalliance.org/.
Consortium of Donors in private sector, academics and NGOs (List of partners: https://www.partnershiponai.org/partners/)	Partnership on Artificial Intelligence (AI)	Works to ensure that AI is developed in a safe, ethical, and transparent manner. https://www.partnershiponai.org/.
Denmark	Techplomacy	A formal diplomatic platform established to promote dialogue and collaboration on a broad range of topics with the tech-industry. https://techamb.um.dk/en/techplomacy/abouttechplomacy/.
European Commission	Coordinated Plan on Artificial Intelligence	Prepared with Member States to foster the development and use of AI in Europe; proposes joint actions for closer and more efficient cooperation between Member States in four key areas: increasing investment, making more data available, fostering talent and ensuring trust. https://ec.europa.eu/digital-single-market/en/news/coordinated-plan-artificial-intelligence.
	Policy and Regulation Initiative for Digital Africa (PRIDA)	The objective is to create a more harmonized and enabling legal and regulatory framework for the use of Information and Communications Technology (ICT) for social and economic development. https://africa-eu-partnership.org/en/projects/policy-and-regulation-initiative-digital-africa-prida.
European Union	European Union-African Union Digital Economy Task Force	Provides a platform of partnership for the private sector, donors, international organizations, financial institutions and civil society based on a shared understanding of how an already fast evolving African digital transformation can achieve cross-border integration and bring benefits to all citizens. https://ec.europa.eu/digital-single-market/en/news/new-africa-europe-digital-economy-partnership-report-eu-au-digital-economy-task-force.

GIZ	Digital Africa initiative	An innovative tool for firmly linking development cooperation and the digital world. https://www.bmz.de/en/publications/type_of_publication/strategies/Strategiepapier459_01_2019.pdf.
	Digital Skills for Entrepreneurial Women	Launched in 2017, the initiative promotes education, employment and entrepreneurship for women in the digital economy. Supports female role models in the tech sector, as well as cooperating with local stakeholders and organizations and forming strategic partnerships with the private economy. https://www.giz.de/en/workingwithgiz/75874.html.
	Make-IT in Africa Initiative	Promotes digital innovation for sustainable and inclusive development from West and East African entrepreneurs in their early growth phase. In close collaboration with corporate and financing partners, social enterprises, hubs and networks Make-IT in Africa creates an enabling environment for better access to finance, markets and skills. https://make-it-initiative.org/africa/about/.
Inter-American Development Bank	MapaInversiones	An initiative that develops digital platforms to encourage transparency in government spending. https://www.iadb.org/en/reform-modernization-state/initiatives-investmentmap.
Inter-American Development Bank	+Digital	The + Digital initiative of the Inter-American Development Bank (IDB) proposes to research and share digital solutions that enhance the services offered by governments and improve the experience of citizens. http://socialdigital.iadb.org/en.
OECD	Going Digital Project	Aims to bring about stronger and more inclusive growth from the digital revolution, it is essential to build a coherent and comprehensive policy approach. https://www.oecd.org/going-digital/.
	Going Digital Toolkit	Helps countries assess their state of digital development and formulate policy strategies and approaches in response. https://goingdigital.oecd.org/en/.
	Digital for SMEs Global Initiative (D4SME)	Intends to promote knowledge sharing and learnings on how different types of SMEs can seize the benefits of digitalization, and on the role of government, regulators, business sectors and other institutions in supporting SME digitalization. http://www.oecd.org/going-digital/sme/.
	AI Policy Observatory	aims to help countries enable, nurture and monitor the responsible development of trustworthy artificial intelligence (AI) systems for the benefit of society. https://www.oecd.org/going-digital/ai/about-the-oecd-ai-policy-observatory.pdf.
Singapore	AI Singapore	A national program in AI in order "to catalyze, synergize and boost Singapore's AI capabilities to power its future, digital economy." https://www.aisingapore.org/.
South Korea	Global Digital Seoul 2020	Seoul Metropolitan Government's initiative to resolve a variety of urban problems with its citizens, invigorate the economy and create more jobs by boosting the digital industry. https://digital.seoul.go.kr/eng.
Switzerland	Swiss Digital Initiative	The Swiss Digital Initiative is a long-term, sustainable process to safeguard ethical standards in the digital world. It seeks to strengthen trust in digital technologies and in the actors involved in ongoing digital transformation. https://digitalswitzerland.com/sdi/.

The African Development Bank	Africa Digital Financial Inclusion Facility	An innovative financing facility designed to accelerate digital financial inclusion across Africa. https://www.afdb.org/en/adfi.
	Coding for Employment Digital Training Platform	Prepares Africa's youth for tomorrow's jobs and unleashes the next generation of young digital innovators from the continent by training youth in demand-driven Information and Communications Technology (ICT) curriculum and matching graduates directly with ICT employers. https://coding4employment.org/.
UNECA	Digital Identity, Digital Trade and Digital Economy initiative	Supports member countries to fully harness the digital potential, and to exploit the benefits of digitalization for the continent's development. https://www.uneca.org/dite-africa..
UNICEF	FamilyConnect	FamilyConnect sends targeted life cycle-based messages via SMS to pregnant women, new mothers, heads of households, including male partners, and caregivers with information on what they can do to keep themselves and their babies in good health. https://www.unicef.org/uganda/what-we-do/familyconnect.
	Generation AI	Aims to fill in the gaps in evidence to further child rights in the context of the extremely far reaching, fast-paced, and in some cases unpredictable, development of AI technologies. https://www.unicef.org/innovation/GenerationAI.
	GIGA	An initiative launched by UNICEF and ITU in September 2019 to connect every school to the Internet and every young person to information, opportunity and choice. https://www.unicef.org/innovation/giga.
	Drones Program	Addresses transport, connectivity, and better emergency preparedness. https://www.unicef.org/innovation/drones
USAID	Women's Global Development and Prosperity Initiative	A U.S. Government-wide effort that aims to economically empower 50 million women in the developing world by 2025. https://www.womenconnectchallenge.org/.
	Center for Digital Development (CDD)	Works to address gaps in digital access, affordability, and advance the use of technology and advanced data analysis in development. https://www.usaid.gov/digital-development.
World Economic Forum (WEF)	Internet for All Initiative	Internet for All establishes and facilitates physical and digital platforms at the global, regional, and national levels and aims to create millions of new internet users, with a focus on the hardest to reach. http://www3.weforum.org/docs/WEF_Internet_for_All_4_pager.pdf.
	Digital Transformation Initiative	The initiative has developed a value-at-stake framework to provide an evidence base and a common language for public-private collaboration focused on ensuring that the benefits of digital transformation are fairly and widely shared. https://reports.weforum.org/digital-transformation/introducing-the-digital-transformation-initiative/.

Annex C: Targeted GovTech Outcomes

Focal Area	Results
Citizen-centric Service Delivery	• Increased access to administrative services by gender, income, etc. • Increased citizen satisfaction with service delivery • Reduced administrative burden/increased service efficiency for citizens and businesses
Citizen Engagement	• Increased citizen participation • Increased government responsiveness • Increased government transparency, accountability, and integrity
Core Government Operations	• Improved PFM systems and processes • Reduction of Customs clearance times • Improved government performance monitoring and reporting • Increased domestic revenue mobilization • Strengthened legal, regulatory & policy enabling environment • Share of tax returns filed electronically • Share of customs declarations filed electronically • Enhanced performance of public contracts and value for money • Level playing field for businesses, especially SMEs, to compete in public procurement markets
Open Data Platforms	• Improved access to information • Improved access to administrative data for policy-makers for evidence based policymaking • Increased innovation and value-added services

Annex D: Examples of GovTech Activities

- Conducting diagnostics including governance and service delivery quality surveys; service delivery needs assessments; Digital Government Readiness Assessments; Digital Economy Country Assessments or Digital Economy for Africa Assessments; Methodology for Assessing Procurement Systems; and Open Data Readiness Assessments. These can help to identify areas for assistance, provide entry points for future work, and establish baselines for pipeline projects.

- Supporting integrated service delivery by promoting interoperability and shared back-end services. Teams are supporting design and implementation of interoperable platforms for service delivery, facilitating data exchange, and simplifying business processes through the use of ICT. These activities are often combined with other activities such as CivicTech to measure success of initiatives and citizen satisfaction.

- Developing and deploying CivicTech tools including citizen feedback and complaint handling mechanisms to gather real-time targeted feedback from users on services delivered and to collect and respond to complaints. Ensuring that there is a clear feedback loop where program or policy improvements can be made can enhance accountability to citizens and businesses. Activities can also focus on accountability tools such as service charters and service standards with enforcement and monitoring mechanisms.

- Providing strategic policy advice to ensure an enabling regulatory environment for a thriving GovTech ecosystem. Teams provide advice and training on whole-of-government digital strategy design including open data and e-procurement. This may include guidance on institutional governance structures and procedures, policy best practices, legal due diligence, data licensing and standards, long-term action plans, and performance indicators.

- Supporting whole-of-government coordination and change management through institution building for digital transformation coordination; development of service delivery and e-government bodies; advice on HR models to ensure proper training, incentives and sanctions; support for performance monitoring including KPIs, dashboards, and project management.

- Technical assistance to build e-service, e-procurement and open data portals, and document management systems for whole of government or specific ministries—e-tax, e-justice, etc. These platforms can enable one-door access to services and information. These can be linked with other tools for performance management and monitoring, communication, and feedback.

- Capacity building and training to support development of a citizen-centric public administration. Specific training could include GovTech skills for civil servants, customer orientation, service design and simplification, and conflict resolution. Activities may include peer-to-peer learning opportunities with leading GovTech countries, study tours, and expert training. Supporting capacity development activities for stakeholders at different levels is crucial for the sustainability of GovTech and open data initiatives.

- Activities stimulating the demand side of GovTech ecosystem including stakeholder consultations and multi-stakeholder platforms, promoting innovation and re-use of Open Data including through relevant training and hackathons, and others to engage CSOs, NGOs, private sector, and academia.

- Disruptive technologies including Internet of Things, Artificial Intelligence, Machine Learning, blockchain, virtual reality and others to augment current systems in all areas of GovTech focus.

Annex E: Links to Additional GovTech Outputs

GovTech Blogs

- Digital services help governments deliver solutions during COVID-19
- Reaping digital dividends to build future resilience
- How governments can use data to fight the pandemic and the accompanying infodemic
- Five reasons why you should check out this procurement database
- The rise of open source to spur agile digital government
- Digital Government: Minding the empathy gap
- Big data & the public sector: Resource blessing or curse?
- Ground control to major policy makers: Unlocking user-centric AI's potential for development - Part 1
- Ground control to major policy makers: Unlocking user-centric AI's potential for development - Part 2
- 2020 and Beyond: Managing the intersection of technology and citizen engagement
- Taking the pulse of digital government in China
- How Bangladesh bridged the gap between amateur and professional in government procurement
- How mobile text reminders earned Madagascar a 32,800% ROI in collecting unpaid taxes

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