COMPONENTS AND CONDITIONS FOR DEVELOPING DIGITAL GOVERNMENT

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Abstract: This article reports the status of digital government in developing countries and provides observations and recommendations for donors. Digital government requires a revisioning and restructuring of how government operates. It requires different administrative structures, policies, and processes, which necessitates a transformation of how the analog parts of government operate in order to fit new digital dynamics.

Key words: e-government, digital government, digital transformation, ICT, transparency, digital infrastructure

There is considerable variation in terminology for information and communications technology (ICT) as it relates to government—variously referred to as e-government, digital government, and digital transformation.

•   **E-government** was a potential candidate to use in this paper, but the preface "e" is suggestive of "electronic," and government needs to do more than just adopt electronic technologies and capabilities.

•   **Digital transformation** was another candidate, but it suggests whole-of-society and whole-of-economy adaptation to the digital world, which is broader than the scope of this paper.

•   **Digital government** has been chosen as the term for this paper, as it is not as narrow as e-government but more limited than digital transformation. The focus of the paper is on government—how and what government can do to function effectively in the digital world. But government digital functionality also depends on the wider enabling environment, the ability to upgrade companion analog aspects of government, and the existence of supportive systems such as education.

ICT infrastructure serves as the platform upon which digital government is built. Without it, nations cannot develop digital solutions for their populations. Yet there is a considerable divide between developed and developing countries, and between different regions and groups within a country, in terms of ICT infrastructure access and capacity. Bridging the digital divide is an enormous task, requiring stepped up international commitment and investment to help bring developing countries into the digital world.

Digital has become the lifeblood of global economic, social, and political affairs, but not in an inclusive manner. As of the end 2023, 85 percent of the world's population was covered by 4G. This coverage reached 97 percent of the population of developed countries, 82 percent in developing countries, but only 40 percent in least developed countries. The urban-rural divide is equally broad. In developed countries, 100 percent of urban residents and 84 percent of rural populations have 4G coverage. But in developing countries, the urban-rural divide is 94 percent-70 percent, and in least developed countries the divide is more extreme at 68 percent 27 percent

This ICT infrastructure is only one element on which digital government is constructed. There are capabilities and structures both within and outside of government that are essential to the

performance of digital government. Besides government ICT capabilities, there is a broader enabling environment on which effective digital government depends. While not as allen compassing as whole-of-nation economic and social digital transformation, this enabling environment encompasses the digital knowledge and capabilities of the workforce and populace; government organizational management, behavior, and business processes; analog government policy and regulation; and public-private partnerships and interactions.[1] Digital government must be customer-sensing and promote a culture of innovation.

Digital government—electronically delivered communications and services by national, local, and regional governments[2]—is not only a common characteristic among advanced countries, but a growing imperative for countries at all income levels. There are various definitions and categorizations of digital government and its components. While there is overlap, a standard typology remains elusive.[3] This paper identifies six principal components of digital government based on the core capabilities required for a government to function in the digital age:

• Digital infrastructure
• Digital literacy
• Digital data/communications/services
• Digital participation
• Digital institutions/policies/regulations
• Digital security & rights

These six main components are the core elements of digital government. To recap, there needs to be adequate digital infrastructure in place on which to run digital government platforms and for individuals, business, and civil society to access and utilize those resources. Government staff and users must be digitally literate. Digital government needs to be constructed as a comprehensive platform, not department-by-department or service-byservice, based on common whole-of-government standards. Government data systems and applications must be interoperable and user friendly. Existing institutions and policies need to be adapted for digital use. The systems must be secure from cyberattacks and protect data privacy and rights.

These core components, however, are not the sole ingredients for effective digital government. A number of conditions/capabilities/dynamics, some of which are touched on in the explanations of the core components, are important for effective digital government.

1. **Political leadership.** Strong, high-level sustained political leadership is essential, especially in dealing with the considerable disruption during the transition to digital government. Digital government changes the way government has traditionally functioned and how individuals interact with elected officials and receive services, so it may meet resistance from vested interests. It is a long march that requires sustained leadership and budgetary commitments over decades, well beyond the typical tenure of political leaders.

2. **Comprehensive government plan.** A comprehensive government plan should underpin the transformation to digital government. It should provide a clear vision, avoid duplicative investments, gain buy-in from multiple government institutions and private stakeholders, and ensure inter-governmental coordination and collaboration.

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[1] Astok et al. (2021), Cisco (2023), pg. 7; Ojo, Adegboyega, and Janowski (2019), pg. 5.

[2] Alshehri and Drew (2010), pg. 79; Ahmadzai (2019), pg. 28.

[3] See European Commission (2019), *pg. 8 & 44;* Alshehri and Drew (2010), pg. 2; World Bank Group (2016a), pg. 62; Ojo, Shareef, and Janowski (2010). pg. 2; World Bank Group (2016c), pg. 4; Ahmadzai (2019), pg. 29; Ndou (2004), pg. 5; Digital Impact Alliance, October 2020

3.   **Mix of coordination and decentralization.** There must be a careful mix of coordination and decentralization in digital government administration. Alignment is essential in order to ensure there are common standards and guidelines across agencies, avoid duplication, support innovation, and ensure consistency in how government services interact with the public. At the same time, centralization of decisionmaking is to be avoided. Digital government functions best through high level coordination and decentralized implementation at the agency and local government level.[4] The comprehensive national plan must empower government at the local level to develop people-centered services that are responsive to the unique needs of the target populace. Effective decentralization evolves as digital government matures, as early stage digital government typically is accompanied by insufficient capability at sub-unit and sub-national levels.

4.   **Risk taking.** To create a hospitable environment for innovation, there needs to be a degree of calculated risk taking, acceptance of failure, built-in evaluation that identifies successes and failures, and the ability to pivot quickly with failure and changing circumstances.

5.   **Trust.** Discussions of digital government are replete with the concept of trust. Trust is required on two levels—internal to government and external. To be willing to use digital systems, government workers must have trust that they work, that they permit responsible officials to carry out their duties, that they facilitate rather than complicate their jobs, and that they do not threaten job security. Similarly, individuals must trust that digital services work and are reliable, that they facilitate their relationship with government and are responsive to their needs, and that individual rights and data and information are secure and protected from theft and misuse.

6.   **Transparency**. Critical to earning trust and facilitating accountability is transparency. Government transparency helps the populace understand what digital government is and can deliver and how government intends to use digital platforms. Individuals need to know what services are being provided, how to use them, and how to report issues if service delivery does not meet expectations. Transparency around new initiatives helps create buy-in and support. It is a principal means for individuals and civil society to hold government accountable for fulfilling its mission, providing effective services, and respecting individual and human rights. A vibrant and digitally literate civil society is critical to holding government accountable.

7.   **Democratic norms.** Trust and transparency undergird this larger principle of digital government. Democratic norms are critical in ensuring that digital government is rights respecting and people-centric. Digital capabilities can make democratic government more transparent and accountable, enabling better services and greater protection of individual and human rights. Digital capabilities also have the potential to give authoritarian governments control over their populations and enable repression. Without a grounding in democratic norms, digital government has the potential to make oppressive governments more efficient.

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[4] United Nations (2020b), pg. 5; Allen (2021), pg. 3; United Nations (2020a), pg. 5; Dzhusupova et al. (2011), pg. 2; Ahmadzai (2019), pg. 35 and 42; European Commission (2019), pg. 23; Deloitte Insights (2021); OECD (2020), pg. 17; World Bank Group (2016a), pg. 105.

8.   **Digital identification (ID)** is critically important to effective and responsive digital government, as it not only enables access to services, but also can enhance gender equity, financial inclusion, social protection, and even allow for voting. But users must have faith in the digital ID system and trust that their ID cannot be stolen, hacked, and otherwise misused.[5]

9.   **Stakeholders, partners, and users.** Individuals, civil society organizations, and the private sector play important roles as stakeholders, partners, and users of digital government. Multi-stakeholders should be involved from the early design phase on. As the private sector is a key source of knowledge, innovation, and investment in digital services, collaborative public-private partnerships bring efficiency and effectiveness to digital government. Individuals must know about digital government services and their advantages in order to have an incentive to use them. Civil society organizations are critical to holding digital government accountable. Successful early pilot projects are important in building public and political support by demonstrating the benefits of digital government, which can include improving the speed of service delivery and saving consumers and government money[6] by eliminating the middleman in routine government services that are often ripe with corruption.[7]

10.   **Personalized, frictionless, seamless, rights-respecting, and anticipatory.** The ideal digital government system is personalized, frictionless, seamless, rights-respecting, and anticipatory of future national and community needs. It must meet the personal needs and interests of the population; be accessed with minimal effort; be accessible anywhere, anytime, and from any device; be respectful of the rights of the individual; be proactive in identifying the requirements of individual citizens.[8] Digital government should be simple, intuitive, and user-centric rather than government-centric. It should put the individual in control of his/her information and enable them to seek redress when mistakes occur.[9]

11.   **Tailored to country contexts.** The elements of digital government cannot be imposed from outside. Each country has a unique relationship between government and its population, work environment, culture, skill sets, and technology framework. What works in one location and community will not necessarily work in another. Basic frameworks or platforms can be adopted from global public goods and standard commercial products, but indigenous stakeholders must do the selection and adaption according to local priorities and dynamics.[10] In particular, while technologies and standards can be imported and adapted to the local context, mind-shift and organizational change cannot; they must be developed and nurtured in-country.

This list of conditions for effective digital government is intended to serve as a synopsis of issues that planners, mentors, and implementers of digital government should address. This list illustrates the interdependence of the conditions and that implementing digital government is a complex process that is not for the lighthearted. Especially in least developed countries, building

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[5] E-Governance Academy (2019), pg. 8; Ahmadzai (2019), pg. 52; Alshehri and Drew (2010), pg. 83; African Union (2020), pg. 39; World Bank Group (2016c), pg. 17.

[6] The USAID/Eurasia Foundation supported Tapas program supports the digital procurement program Prozorro in Ukraine, reported to have saved the government over $7 billion from 2015 through 2021 (12/13/2021 email from Nehal Gupta, Eurasia Foundation).

[7] Ndou (2004), pg. 17; Astok et al. (2017); World Bank Group (2016a), pg. 34-35, 51, 119, 139, 147; AlphaBeta (2020); Eggers and Bellman (2015); *Republic of South Africa* National Department of Public Health (2019), pg. *11-12;* Foundation of Digital Development (2020), pg. 9; Eggers et al. (2021), pg. 7; Urban (2018), pg. 27; OECD (2020), pg. 20; World Bank Group (2016c), pg. 171; Shadrach (2007).

[8] Deloitte Insights (2021), pg. 4, 20-26; Eggers et al. (2021), pg. 4.

[9] OECD (2020), pg. 26; Deloitte Insights (2020), pg. 13; Foundation of Digital Development (2020), pg. 16.

[10] Astok et al. (2017), pg. 49; Dada (2006), pg. 6.

a strong foundation for digital government does not happen overnight. It is a multiyear process that takes long-term political commitment and buy-in.

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