United Nations | Department of Economic and Social Affairs

Expert Group Meeting
In Preparation for the UN E-Government Survey 2022
29-31 March 2021

Report

Introduction

The Expert Group Meeting (EGM) in preparation for the United Nations E-Government Survey 2022 was composed of three thematic sessions held over three days. In the opening session, it was noted that the United Nations E-Government Survey has become an invaluable asset, providing longitudinal insights on digital public services overthe past 20 years. It is also highlighted that its methodology has been improved over the years thanks to the support of experts in the digital government area.

In her opening remarks, the Assistant-Secretary General (ASG) for Policy Coordination and Inter-Agency Affairs highlighted five key areas of concern that are important for enhancing digital government to achieve the Sustainable Development Goals (SDGs). These are:

1. **Access to the Internet** - the ASG noted that the average E-Government Development Index (EGDI) for more than 50% of the countries in the world remains well below the global average.
2. **Digital Commons** - Redefining the Internet - noted that The Internet should be considered as a global public good – a digital common.
3. **Open Data and Managing Digital Risks** - noted that governments and policymakers should abide by the principles of data minimization, limited data collection, and retaining and sharing only necessary data
4. **Connected and Seamless Government** - highlighted the important shift from being ever-present in people's lives to becoming rather invisible while proactively offering automated services accessible anytime from anywhere
5. **The Way forward** - the importance of experts' views in improving the UN E-Government Survey methodology in order to capture and address current technological trends.

It was noted that the future of digital government must be at the service of all 17 Goals of the 2030 Agenda (and not just Goals 16 and 17). In the face of the COVID-19 pandemic, the future of digital government must be more agile, responsive, and resilient. Predictive governance will be critical for emergency response in both man-made and natural disasters, as well as mitigation measures. The future of digital government can be more "invisible" in nature (e.g. opt-in opt-out of services, which remains a question), but must certainly be grounded in trust, accountability, and transparency. In essence, a whole-of-government and whole-of-society approach is needed as silos are not acceptable, as witnessed in the critical need for tight collaboration to respond effectively to COVID-19.

Expert Dialogue I - The future of digital government

This was an introductory section to the EGM and the overall theme of digital government. In this future-focused session, experts were encouraged to think beyond today and try to visualize what kind of online public services are waiting for us in 5, 10, 20 years' time. What will be the key trends in e-government technologies, how public officials will interact with people, how will

people conduct business with governments in the coming years, and how digital government could bridge the digital divide and minimize social and economic inequalities and support the achievement of the 2030 Agenda.

Trends that will impact and drive the future of digital government for sustainable development

Many important trends were identified by experts. First, a quick summary by time horizon is as follows.

In the short term (5 years), one founding principle which will pave the way forward is the increasing awareness of and commitment to digital government. This will entail a wide-scale adoption/development of digital strategies furthered by the insights drawn from the pandemic. The latter will drive organizational change, migration to cloud-based services, and the implementation of new digital infrastructure. Likewise, the importance of digital infrastructure as a foundation, including key Internet infrastructure to ensure meaningful connectivity for all, cloud computing and its governance in the public sector, as well as supporting regulatory/policy frameworks is understood as another leading trend in the short term. Furthermore, the movement towards inclusive government and the creation of international standards are among the expected leading realities of the next 5 years.

In the medium-term (10 years), human resources will become an area of importance, particularly for soft and technical skills as well as data-driven governance.

For longer-term prospects (20 years), trends affecting digital government will likely include the forms of participation, both direct and passive, enabled by different channels and a wide-scale adoption and use of smart/disruptive/emerging technologies and anticipatory government.

All other trends discussed in the meeting are listed below in no specific order. Each trend is also structured into challenges and opportunities.

Accessibility, connectivity, and skill gaps

Despite governments implementing creative and advanced solutions to issues that arose during the COVID-19 pandemic, there remains the critical issue of those who still lack access to digital technologies, adequate connectivity, and the skills required to make use of these applications. Furthermore, attracting human resources to enable sustainable digital government development poses a considerable challenge to governments in the future, especially for capacity-building and the reskilling of government officials including soft skills for creating sustainable public value and digital inclusion.

As a potential solution to some of these issues, partnerships with the private sector can be leveraged to enable greater access to devices and broadband subscriptions, reducing inequalities and divides stemming from a lack of access.

Another issue to consider is the key role officials play in determining how technologies are implemented into government processes. Thus, there is a need to incentivize government officials to make use of new technologies extensively to provide real public value.

Artificial Intelligence and Machine Learning

Among the several issues to be aware of when implementing AI solutions is the inevitable requirement of new soft skills and capacities as well as regulatory frameworks that must allow the secure, ethical sharing of data especially as current frameworks may prevent the data sharing in government. Furthermore, another challenge that new technologies present is the algorithmic

governance that may lead to fragmentation and a loss of community; accordingly, Governments must be able to recognize and address filter bubbles and other issues associated with algorithmic governance.

In spite of these important issues, there are countless benefits in AI including its ability to greatly increase the efficiency of government processes and help governments allocate resources and respond predictively to future challenges. These technologies also have great potential to reduce barriers to public service access. Most prominently, the experts agreed that AI and data analytics will not be limited to specialized applications in the future but will be a prominent element of all technology both in government and in other sectors.

Anticipatory public services

We should first emphasize that big data/analytics can greatly impact the redesign of public services delivery, for better or worse. Therefore, cautionary steps must be taken to combat the following threats of "data colonialism", misuse and manipulation of data, privacy breaches, and security issues.

In tackling security issues, some specific and important references are made to building digital resilience, evidence-based policymaking, and anticipatory/predictive governance (through AI and other technologies), putting people at the center of service. As a step further in comprehensive and good government, experts foresee a shift from being ever-present in people's lives to becoming a connected and seamless Government, rather "invisible", while proactively offering automated services accessible anytime from anywhere.

Experts have also underlined that through the COVID-19 pandemic, the collection and application of health and economic data have definitively illustrated the value of scientific simulations for public policymaking.

Data governance

One key question clouding the future of data governance is its respective role towards us and whether we will be governing data and new technologies or, inversely, if technology will dominate us. In addition to this important question, our reliance on algorithms may lead to the creation of filter bubbles, which in turn can cause extreme fragmentation and the loss of community, therefore we need to address the matter of how governments will govern algorithmic governance. Also, regulatory frameworks must be created which allow for the sharing of data in an ethical and sustainable way, as at present, legislation such as the General Data Protection Regulation (GDPR) may partly prohibit the use and sharing of data in government.

In response to these critical concerns, the concepts of data-sharing, partnerships, cooperation across sectors - specifically focusing on standardization and interoperability on a global level to reduce strain on resources or open government and transparent regulatory frameworks can play a key role in securing citizens' trust in digital government in the future and reinforcing the legitimacy of institutions.

Cybersecurity

Cybersecurity and data protection issues remain high on the expert agenda. The recent increase in cyberattacks and data breaches threatens to erode citizens' trust in government services. However, these threats can be counteracted through global partnerships aiming to establish shared, secure digital environments.

Cloud computing

Capitalizing on the potential of cloud computing requires capacity building and reskilling of many government workforces. Capacity building for cloud-based government entails not only technical integration but also organizational change to make cloud-enabled processes a part of the everyday programmes of government officials. Nonetheless, cloud computing and emerging technologies featured recurrently in the expert discussion on future opportunities for digital government and have risen to prominence as a cost-effective alternative to conventional digital infrastructure, especially for least developed countries and when considering that cloud technology can provide resilience and agility benefits for governments in transition.

New technologies

Creating enabling conditions for new technologies which can facilitate their use in public service delivery is a future challenge for governments. Nonetheless, we should emphasize the potential that blockchain and Distributed Ledger Technology have to increase citizens' trust in government services (SDG 16), help reduce corruption (SDG 16), support the allocation of scarce resources (SDG 6, 7, 13, 14, 15), enable trustful collaborations between stakeholders (SDG 17) and support product traceability and the circular economy (SDG 12).

Partnerships

An effective multi-stakeholder partnership is key to the future of digital government in the age of the 4th industrial revolution and partnerships across sectors are of importance in the short term as well as utilizing Government as a platform that further demands cooperation across sectors. In this manner, the United Nations has the potential to act as a broker in this area, especially as the global cooperation which sustainable development necessitates depends on the possibility to establish a secure international digital environment.

The impact of the COVID-19 pandemic on digital government

Technology is already a part of our everyday lives and will continue to shape our future after the pandemic. Governments have been forced to do more with less during the pandemic.

With the pandemic, the public health infrastructure and its importance have gained recognition. Standards have risen in relation to open data and emerging technologies. The pandemic has also pushed in different ways for citizens to engage more with the government and the latter has to reassess which services are essential and how to most efficiently deliver these services, so the next 5 years is when we'll have to adapt the most. Here, it is imperative that governments actively involve all stakeholders in the development of services, and data and service analytics will also provide crucial insight into service delivery and outcomes. Digital space becomes more and more important, and many people will not go back to physical services. To make this happen, we need to use cloud computing, as it is the only way to react quickly to the challenges posed, and it can become the new normal for governments. These new, cost-efficient technologies such as cloud applications may also reduce the costs of digital government. Concurrently, AI and data analytics allow for the optimization of supply chains and resource allocation, similarly reducing costs. These insights are essential as experts anticipate a drawback from governments on the achievement of the sustainable development agenda due to the cost of the pandemic response and economic recovery.

In the face of COVID-19, the future of digital government must be more agile, responsive, and resilient. Data-driven crisis response, notably in health, has proven to be most fruitful in responding to the COVID-19 pandemic. Predictive governance will be critical for emergency responses in both man-made and natural disasters, as well as mitigation measures. Using scientific simulations for effective and inclusive public policymaking has shown its singular value during digital government planning. The future of digital government can be more "invisible" in nature but must be grounded in trust, accountability, and transparency. In essence, a whole-of-

government and whole-of-society approach is needed as silos are not acceptable (as witnessed in the critical need for tight collaboration to respond effectively to COVID-19).

Expert Dialogue II - UN E-Government Survey Methodology

The discussions on Day 2 started with a recap of Day 1, followed by three parallel breakout group discussions focusing on the following five areas: (1) assessment of a new set of e-services and features of e-government that would reflect the current/changing trends in digital government; (2) the key areas and features for such an assessment currently not captured by OSI and LOSI indicators; (3) synchronization of OSI and LOSI analytical frameworks, if needed; (4) methodological implications of assessing the new suggested features, areas, and services; and (5) alternative ways of capturing the advancement of e-government development at national and local levels. The key points from these discussions are summarised below.

(1) Assessment of new set of e-services and features to reflect the current/changing trends in digital government

COVID-19 has brought on significant changes in digital government, which will continue to be of great importance. The pandemic also elevated the emphasis on digital government applications in education, skill development, health, and small and medium enterprise services. The 2022 Survey assessment framework must capture and reflect these trends, and identify new e-services aligned to all SDGs to the greatest extent possible. The impact and importance of individual indicators and services to the attainment of SDGs should be highlighted throughout the Survey. Through its impact on digital government, the COVID-19 pandemic may also provide a test case for the development of new frameworks focussed on measuring developments in other areas of sustainability.

The Survey should gradually shift from assessing the availability of services to assessing the use and impact of such services. The countries leading in digital transformation are keen on designing their services around the concept of a 'user journey' throughout various life events. This is linked with the concept of moving from "availability" of services to their "completeness", quality, usability, uptake, and target groups' access.

Issues of the efficiency and usability of government services weigh heavily into e-government development. In this regard, the assessment of service quality should also reflect specific affordances of platforms, i.e. web, mobile, and more:

- **Accessibility and inclusivity:** In terms of aligning the assessment with existing accessibility standards.
- **Usability:** In terms of measuring the efficiency, learnability, satisfaction, and user-friendliness of services.
- **Usefulness:** In terms of monitoring the usefulness of service (the value it provides) within its context.
- **Feasibility:** In terms of the vertical capacity of governments to implement digital services within their legal, financial, and technical capabilities.

It is important to consider beyond the web-centric focus of the survey to include growth of mobile apps and omnichannel access. Moving towards a single user experience has been reiterated as a future direction for digital government. The survey should strive to measure the availability of services in a channel neutral way. The main concern is to deliver the services regardless of the channel chosen (mobile, web, both, or neither).

In addition, a service-centered assessment could shift the focus from the supply side to the demand side. One approach could be using a smaller number of core services and value-adding ones, with a particular focus on vulnerable groups.

(2) Key areas and features for such an assessment currently not captured by the OSI and LOSI indicators

Building resilient societies is a priority for the future, especially in the wake of COVID-19, and responsive services and cybersecurity are key features of resilient societies. In many ways, COVID-19 became a natural stress test of government structures. Insights from recent developments should be drawn on to guide the development of new and improved resiliency frameworks in a manner that can quickly adapt to situations like the COVID-19 crisis.

The seamless and invisible government increasingly gained prominence as a future direction for e-government. The example of Singapore's tax filing system, which has the built-in capacity to carry out transactions without user intervention, was raised as an example of a seamless government function. Assessing the e-government development towards seamless digital government will necessitate a shift in focus from service provision to user journeys and service usage metrics. In this context, many services could/should be invisible, through automation, often requiring only citizens' confirmation (e.g. Singapore tax-payment system). This consideration will also affect the scope and features of services to be assessed by the Survey. It is important to not only look at the total number of services and user journeys but also at the speed of evolution of services and governments' ability to address them.

The incentive structures and the importance of assessing the impact of government policy and regulatory action is another area of importance. E-government implementation often depends strongly on private sector actors, and political action, in turn, depends on the value digital technologies can add to government. Governments do not necessarily have to build on themselves but can provide platforms so that private firms/citizens can build their own platforms based on governments' standards.

Government communications and outreach strategies serve as a measure of e-government maturity. Especially during the ongoing health crisis, the aspect of how governments communicate the availability and utility of online services and information to their citizens has become increasingly important. Hence it would be necessary to better understand and reflect in the Survey assessment framework the impact of government communications and accurate usage metrics.

As a general point, it is also suggested to deemphasize the ranking of countries and substitute/complement it with the assessment of the Digital Government maturity levels, grouping countries e.g. in Tier 1, Tier 2, and Tier 3, etc., sharing similar characteristics and approaches to digital government. Some experts expressed their concern over the existing ranking of countries and suggested fairer assessments and comparisons be made via country groupings. Often countries in the same region may differ in digital transformation far greater than countries that adopted similar approaches and strategies across the globe.

(3) Synchronization of OSI and LOSI analytical frameworks

A common suggestion across participants which, if implemented, could impact the analytical framework of both OSI and LOSI, is about building founding blocks of services available - for example, through National ID cards for citizens, businesses, or healthcare services. This would ultimately transform the structure of the analytical framework of OSI and LOSI placing the fundamental services required by citizens at the center of analysis.

In terms of merging OSI and LOSI assessments and concentrating on citizen services rather than jurisdiction, most experts advocated against merging, as there are distinct needs at national and sub-national levels currently captured by these assessments. Many experts agreed that merging OSI and LOSI would not bring any added value to the measurement and enhancement of e-participation.

In terms of synchronizing the categories of questions used in both LOSI and OSI assessments, the consensus emerged that the indicators, especially in the "Technology" category of LOSI must remain responsive to changes, and assessments of mobile and cybersecurity applications in e-government must feature more strongly in the assessment. Similarly, there is a call to increase the robustness of the assessment in the "Participation" category, particularly with reference to the utilization and impact of digital government services. Conversely, the content-service distinction of LOSI is considered decreasingly meaningful. Some overlaps in LOSI categories were highlighted, for instance in "Content" and "Service provision" areas, and "Technical" and "Participation" areas. This needs to be examined further. Further, this separation is not applicable in some cases where counties and cities overlap (e.g. Luxembourg), and the Survey should be mindful of the difference between big cities and smaller localities.

There is a perception that LOSI is a "smart city assessment", which does not appropriately reflect its aims. The issue of assessing local and national-level government separately faces challenges. Countries and clusters of countries possess different administrative characteristics, which not only makes it difficult to assess service provision but also to determine the scope of the assessment. Clear inclusionary criteria for the local online service assessment are thus required in addition to weighing in administrative characteristics for each city or country in the results. A service-centred assessment could circumvent the problem by shifting the focus from the supply side to the demand side.

The experts have also highlighted the need for greater transparency in the way the assessors of the Survey are being selected.

(4) Methodological implications of assessing new features, areas, and services

Several pilot studies were suggested, including on (1) digital inclusion; (2) user journeys and real-time responsiveness, (3) a sub-index on regulations and regulatory frameworks, (4) impact vs motivation of eGov, (5) digital government in the digital economy, (6) inductive research starting from use cases and building indicators from this.

In assessing the scope and quality of online services, a "deductive approach" could be combined with "inductive" and examine case studies of digitally developed countries to see what they are doing and how to measure similar approaches among others.

It is advised also to leverage data more effectively, e.g. by using technologies like AI for data analytics to complement the assessment. An expert highlighted the potential of web scraping to collect data automatically from the different national and local governments. However, the need to consider the validity of such automated methods is present.

To capture the usability and completeness of services, it is advised to automate services' feedback by gathering responses from the people who use the services. This could be done, for example, through built-in feedback options for the people while they are using the services.

Including digital skills into the HCI was agreed on as important. Currently, the Survey is reliant on UNESCO (and a committee involving UN DESA and ITU), however, the set of indicators that could best capture the level of digital literacy are not standardized yet.

Another important consideration is to improve/develop a new e-participation framework by considering the level of citizen engagement and impact when using a particular digital service. Experts stressed that public information can be a service for citizens when it delivers real-time information (such as bus schedules or interactive maps).

Measure internal data sharing: In addition to open data towards the society, it is also important to assess the flow of data within the government.

(5) Alternative ways of capturing the advancement of e-government development at national and local levels

The issue of the Survey's web-centric approach featured strongly in the discussion. The participants expressed an interest in alternative ways of measuring e-government development which could examine the full government digital service ecosystem, including mobile and API-based services, in line with the whole-of-government approach. Participants also advocated for a more holistic, user-centric approach to the assessment, which would measure important aspects such as service availability, delivery, usability, uptake, target groups' access, and use, and overall quality instead of solely focusing on their presence and location.

Overall, a stronger emphasis should go to connecting e-government development to the implementation of the SDGs, as tech is a common thread across all. The survey should also look into resilience frameworks especially in the light of pressures created during the COVID-19 pandemic response. Technology can and should address such pressures and demands, being the fabric for increased resilience.

Expert Dialogue III - E-Government: Leaving no one behind and leaving no one offline

On the third and final day of the Expert Group Meeting, Mr. Elliott Harris, Assistant Secretary-General for Economic Development and Chief Economist, United Nations Department of Economic and Social Affairs, delivered a keynote on the matter of leaving no one behind and offline, the main subject of the day's discussion. He reminded the audience of the utmost urgency, especially in post-Covid-19 recovery, to put people, notably the most vulnerable groups, at the center of digital government and sustainable development and close the digital gaps as inclusion is at the core of the 2030 Agenda and decade of Action and Delivery for Sustainable Development.

The COVID-19 pandemic was underlined throughout his address, as a common denominator for the hindered and uneven progress globally, especially during the onset of the pandemic. He noted that the number of people living in poverty is estimated to increase from 88 to 115 million this year, and that the situation is exposing the digital divides, which disproportionately impacts women and girls, older people, people with disabilities as well as the minorities. Against this backdrop and the remainder of the 'new social contract' called for by the UN Secretary-General based on inclusivity and sustainability, the Assistant Secretary-General thus posed three questions on leaving no one behind in e-government.

The first one asked how to leverage digital government and new technologies for inclusion cautioning on how 'digital by default' services exclude those who need them most citing persons with disabilities, older people, and those in lower-income groups who have greater difficulty in accessing online information and services.

of the second asked how to ensure gender balance in e-government services. In the quest to address this, there is a distinction to be made between access and accessibility, the latter calling for governments to provide digital services that are truly targeted to and designed for women and girls, along with facilitating their engagement in public policy dialogues and decision-making and training girls in digital literacy skills. Transpiring as a common thread throughout the EGM, a whole-of-government integrated approach – complementing digital with analogue or in-person services - was regarded as crucial in digital inclusion.

As a third and final theme, the issue of how to build and maintain people's trust in digital government and technologies was raised. With governments looking to enhance e-participation, and the increasing distrust in technologies and by the relation in digital government, the question of securing concurrently the trust, usage, usability, and usefulness of government services becomes all the more relevant. In this endeavor, the role of governments is paramount in ensuring public trust for technologies and innovation that can bring about sustainable development, including through digital government itself, especially as the future of digital government and digital inclusion is hinged on digital trust.

Role of governments in ensuring meaningful access to e-services

The moderator invited all experts and attendees to participate in a poll, on the following question "What are TWO (2) keywords that are important for today's and future digital government in leaving no one behind?" Figure 1 showed the responses by experts, reflecting the various issues related to ensuring meaningful access to e-services, that cover trust, education, and equity, and among others.

Figure 1: Word Cloud

In the pre-meeting survey responses, the experts shared the views about the following key factors for a more connected future: (i) digital literacy (81% of experts mentioned this); (ii) digital connectivity (54% of experts); (iii) mobile services (18% of experts); digital governance awareness (18% of experts); inclusive access (18% of experts); and others including partnership and cooperation, digital rights, leapfrogging technologies, usability, and R&D efforts.

The experts also debated about the trend of "invisible" e-services, "digital-by-default" and/or "digital-first" strategy/approach, wherein services are primarily offered online and might run the risk of isolating those who do not have online access, or do not know how to access or use them, or do not trust online services. They argued about how digitality can enhance government service delivery, foster transparency, and create new opportunities for education and inclusion. However, it was agreed that "a digital-only" approach could create new divides, forms of

discrimination and exclusion, and could drive a lack of "human-centric" focus by overfocusing on technology and its optimization.

On the question of how the Survey could better evaluate the targeted provision of e-services to specific vulnerable groups, including (i) women; (ii) people living below the poverty line; and (iii) minorities, experts offered various suggestions as summarized in the following Figure. It was suggested to widen the participatory scope of e-services - for instance, to those institutions providing frontline public services such as hospitals and other communities, as evidenced during the COVID-19 pandemic. Experts also suggested that the Survey could broaden its reference sources, referring to quantitative statistics and in-depth interviews.

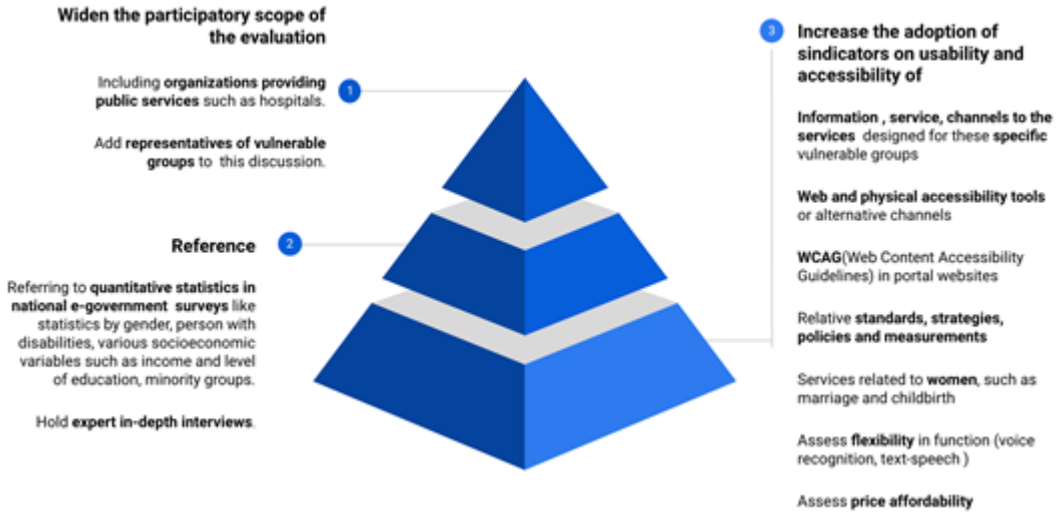


Figure 2: How the survey could better evaluate the targeted provision of e-services to specific vulnerable groups

On the question of building the digital capacity of users in utilizing online services, especially for the vulnerable groups, all experts highlighted the importance of education in building digital capacity. Experts also emphasized the need for user-centered approaches such as inclusive front-end design, WYSIWYG services (What You See Is What You Get), and usability assessments of digital services. Experts highlighted the potential of online tools and FAQs to help answer and train users. Furthermore, public communication and advertising are considered to play an important role in engaging users in e-government services. Most experts also agreed that attention should be paid to the engagement of the private sector in providing infrastructure to vulnerable groups when developing digital initiatives. They highlighted that a standardized understanding of digital capacity across government, the private sector, and community organizations is needed.

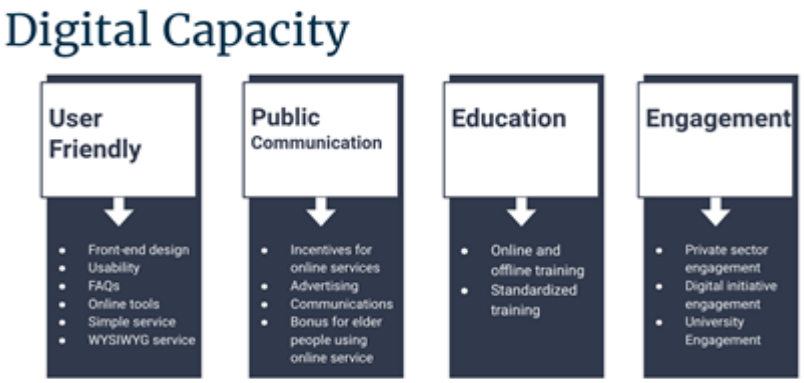


Figure 3 – Digital Capacity

With reference to the keynote delivered by ASG Elliott Harris, experts questioned the critical importance to build the digital trust of government services, security and privacy are essential. They called for the establishment of a set of cybersecurity mechanisms, and a whole-of-government approach. Experts proposed that the government should empower people by providing the possibility of choice and control over their information, and by communicating with people on how personal information is accessed, shared, and used. Data literacy is key for this purpose, as it would allow people to understand the value of their data for effective governance. Furthermore, experts called for an increase in the quality, availability, and resilience of digital services.

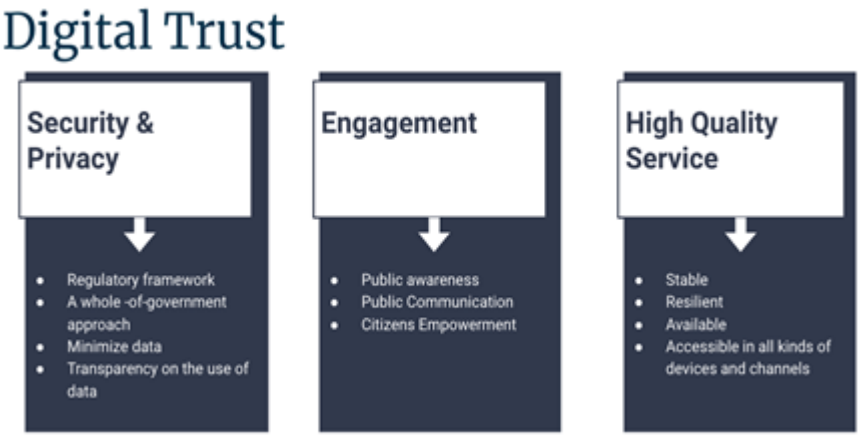


Figure 4 Digital Trust

Approaches to enhance digital inclusion through e-government tools and new technologies bring both opportunities and risks. The opportunities are expected to be digital dividends, cost reductions, overall control of corruption, and potential predictive policymaking. However, the application of frontier technologies and digital government may also lead to a lack of interaction, weaken regulation, privacy, and transparency and cause job losses. More elaboration and intent to set the end objective for e-government, such as in meeting the aims of the 2030 Agenda for Sustainable Development, is needed, including through effective multistakeholder partnerships.

How can the UN E-Government Survey better assess e-participation and open government data?

The following figure depicts a summary of the recommendations from experts regarding how the e-government survey could better assess e-participation and open government data. Regarding the assessment of Open Government Data, the experts suggested that open data services, accessibility, usability, and impact on the policy should be measured, including those across various sectors. Whereas regarding the assessment of E-Participation, the experts suggested that service performance should be measured based on citizens' feedback and highlighted that various forms of participation should be identified and assessed. Experts also offered advice on the methodology of the survey. Most experts mentioned that new indicators and assessments should be developed according to academic research and private initiatives. For instance, some suggested the consideration of the effort required from assessors to be part of the overall assessment.

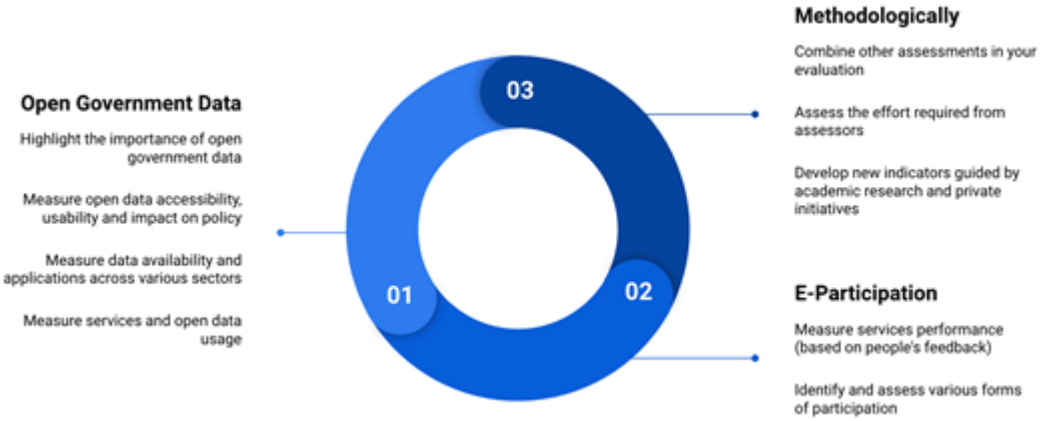


Figure 5 Open Government Data and E-participation

The Way Forward

Experts highlighted benefits and pitfalls of new and emerging technologies, including cloud computing, artificial intelligence and big data analytics, during the discussions on current and future trends in digital government. In the coming decades, governments will shift their focus from the technical aspects of digital government to organizational and regulatory challenges. Data privacy, cybersecurity and skill gaps both inside and outside of government are key areas in need of urgent attention. As the challenges mount and the need for digital skills grows, governments must forge responsible partnerships with the private and public sectors to capitalize on the value of digital government applications in a sustainable manner.

Importance of responsiveness both in digital government and in the Survey methodology were highlighted in the meeting. Governments are expected to leverage new technologies to tailor services to peoples' needs, serving them where and when they need it the most. To continue to keep up with digital government development, the Survey must also adapt and examine service-delivery from a citizen-centric, demand-side perspective, considering all modes and channels of delivery. The focus of the assessment should not be on the availability of services but on understanding the real value and impact of the numerous ways governments deploy technologies to the benefit of people.

Experts also agreed that more attention must be paid to digital government in context. Trust in government services and in digital technologies are important predictors of service uptake and participation. In the interest of inclusivity, surveyors must strive to understand the local factors that impact peoples' perceptions of government services. In that regard, experts highlighted the importance of online government services at the local levels. Governments, in turn, are urged to engage with communities through trusted, widely-available channels and to take regulatory action to ensure the protection of data and privacy, with the aim of promoting inclusion and fostering trust in the digital space.

Specific recommendations included to continue to deemphasize the ranking of countries and substitute/complement it with the assessment of the Digital Government maturity levels, grouping countries e.g. in Tier 1, Tier 2, and Tier 3, etc., sharing similar characteristics and approaches to digital government, to establish a of a set of cybersecurity mechanisms, and a whole-of-government approach, to develop new indicators based on academic research when assessing online participation, to incorporate people's feedback in measuring service performance, and to incorporate quantitative statistics and qualitative research techniques (in-depth interviews) in the E-Government Survey.

There was also overall agreement that the future of digital government must be at the service of all 17 Goals of the 2030 Agenda (not just Goals 16 and 17). In the face of COVID-19, digital government must be more agile, responsive and resilient. Predictive governance will be critical for emergency responses in both man-made and natural disasters, as well as mitigation measures. The future of digital government can be more "invisible" in nature (e.g. opt-in opt-out of services, which remains a question), but must certainly be grounded in trust, accountability and transparency. In essence, a whole-of-government and whole-of-society approach is needed as silos are not acceptable, as witnessed in the critical need for tight collaboration to respond effectively to COVID-19.

Annexes

Annex I
List of Participants

Keynote Speakers

Mr. Elliott Harris, Assistant Secretary-General for Economic Development, Chief Economist, UN DESA

Ms. Maria-Francesca Spatolisano, Assistant Secretary-General for Policy Coordination and Inter-Agency Affairs, UN DESA and Officer-in Charge, Office of the Envoy on Technology

List of Experts

Name	Organization	Country
Jane Treadwell	Amazon Web Services	Australia
Anir Chowdhury	a2i (Aspire to Innovate)	Bangladesh
Alexander Barbosa	Cetic.br|NIC.br	Brazil
Mixia Liu	China National Academy of Governance	China
Lei Zheng	Fudan University	China
Rony Medaglia	Copenhagen Business School	Denmark
Birku Reta Entele	Adama Science and Technology University	Ethiopia
Enzo Le Fevre	Department for Informatics, European Commission	Luxembourg
Cheow Hoe Chan	Government Technology Agency of Singapore	Singapore
Francisco Lupiáñez Villanueva	Open University of Catalonia	Spain
Fadi Salem	the Mohammed Bin Rashid School of Government	United Arab Emirates
Ellen Helsper	London School of Economics and Political Science	United Kingdom
Julia Glidden	Microsoft	United States
Salim Hasham	Google	United States
Minerva Novero	UNDP	United States
Aroon P. Manoharan	University of Massachusetts Boston	United States
Theresa Pardo	State University of New York	United States
José Clastornik	GovTech	Uruguay
Jane Coffin	Internet Society	
Sunil Geness	SAP Africa	
Marijn Jansenn	Delft university of Technology	
Samia Melhem	The World Bank Group	

Jessica Musila		
Davoud Taghawi-Nejad	Whiteshield Partners	

List of Resource Persons

Name	Organization	Country
Ayman Alarabiat	Al-Balqa Applied University	Jordan
Rehema Baguma	Makerere University	Uganda
Gianluca Misuraca	Danube University Krem|Politecnico Milano	Italy
Mariana Lameiras	UNU	
Morten Meyerhoff	UNU	
Dimitrios Sarantis	UNU	
Delfina Soares	UNUEGOV	

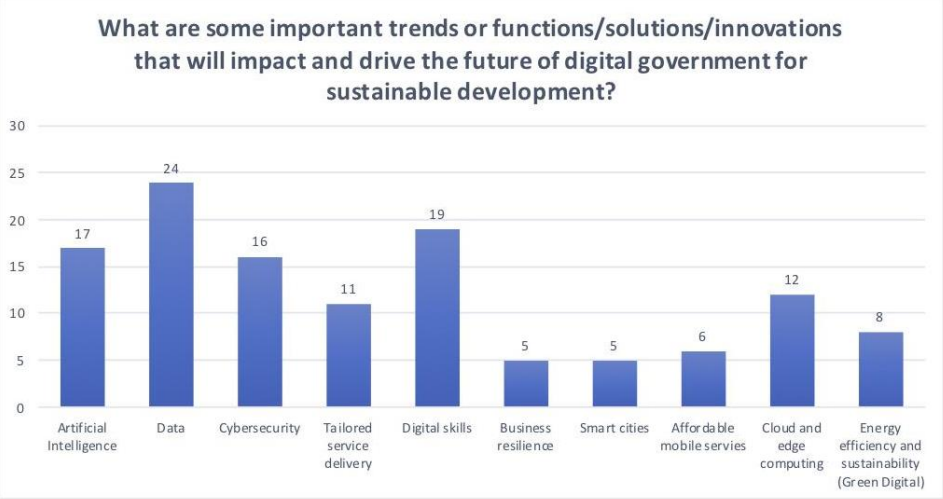
List of Staff

Name	Organization
Juwang Zhu	UN DESA
Vincenzo Aquaro	UN DESA
Arpine Korekyan	UN DESA
Wai Min Kwok	UN DESA
Deniz Susar	UN DESA
Yusuf Ekrem Eren	UN DESA
Angelica Zundel	UN DESA
Tommi Salminen	UN DESA
Guillaume Eric Hemmert	UN DESA
Victoria Palacin Silva	UN DESA
Xinyu Yang	UN DESA
Nato Balavadze	UN DESA

Annex II
Poll Results

Graph 1

Exact Question: "What are some important trends or functions/solutions/innovations that will impact and drive the future of digital government for sustainable development?"
Type of Question: Closed-ended questions in the format of multiple choice with multiple answers (up to 4)



Graph 2: Evaluation Outcome

Exact Question: "Please rate the quality and clarity of this Expert Group Meeting"
Type of Question: Closed-ended questions in the format of multiple-choice with a single answer

Annex III
Zoom Session Pictures