GOVERNMENT SERVICES IN THE AGE OF DISRUPTION

A look at the effects of global trends on government services

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To Inspire and Enable The Next Generation of Governments

The World Government Summit is a global platform dedicated to shaping the future of governments worldwide. Each year, the Summit sets the agenda for the next generation of governments with a focus on how they can harness innovation and technology to solve universal challenges facing humanity.

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Government Services  
In the Age of Disruption

For the past two years, the world has been living through more disruptions – economic, technological, political, and societal – than over the whole previous decade. Rather than one single meta-event shaking the stability of the world as we know it, humanity faces a whole series of phenomena, each having substantial influence on our societies. Some of these phenomena are man-made, resulting from policy choices and clashes between individual worldviews, while others, like climate change or COVID-19, are external constraints outside of our direct control. But all of them impact humanity as a whole.

Governments have the responsibility to ensure sustainable development and stability for their citizens in face of external and internal constraints. In the age of disruption, they must find new and better ways to respond to all types of challenges. One of the sectors that is highly affected by such disruptions and challenges, and always surrounded by high citizens’ expectations for speedy evolution and development, is the government services sector. Government services include all the processes, tools and people striving to provide citizens, residents and visitors of a country with value, protection and support throughout their life journey. From guest workers to billionaire entrepreneurs, from local bakeries to international corporations, governments must reassure their audiences: they are ready to face every challenge.

But this new, rapidly changing world, also brings many exciting opportunities. New technologies, new trends in economy and global society provide great inspiration to governments. They invite to explore new ways to deliver better services, and do it faster, with more feedback, and in a more secure way.

This white paper, initiated and led by the “Emirates Government Service Excellence Program” of the United Arab Emirates, presents a glance at the world’s most impactful dynamics in the domains of technology, economy, and global societal changes. It also connects these trends with government services and explores how the world’s smartest governments may take advantage of the rapidly evolving international environment to become tomorrow’s leaders.

Quite obviously, the list of trends is not exhaustive, and the ideas presented are not absolute. The aim of this white paper is rather to unite under one cover the thinking of many experts over the last few months, and suggest an alternative view at the world’s most interesting dynamics.
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Section 1

Key Technology Trends

THE METAVERSE:
virtual 3D environment of communication and interaction

VIRTUAL INFLUENCERS:
artificial characters that act like real-life influencers and can be used as new-generation communication channels

WEB3:
a new iteration of the Internet, based on blockchain and further decentralization

Technology shapes the methods and channels through which innovations are delivered to and experienced by the end-user. Technology provides our societies with the opportunity to discover effective and often ‘disruptive’ ways to perform both mundane and complex tasks. In the context of government services, technology has the power to enhance and improve the channels through which essential public services are delivered to the citizenry as well as to improve the agility of government in different situations. Furthermore, it provides governments across geographies a means to improve their resource efficiency through optimal usage of critical resources (such as time, money or human effort).

It is important to understand that technology is constantly evolving, with new trends providing new opportunities for governments and their citizens. Whilst some technological trends have a better use-case for government services than others, it is important for all such trends and their functionality to be well understood by both civil society and government entities. We have chosen to focus on three of the most significant tech trends currently being explored across geographies: The Metaverse – once a dreamy sci-fi concept, now an achievable parallel reality, Virtual Influencers – a new paradigm in marketing and service delivery and Web3 – a new iteration of the future of the Internet.
The Metaverse is a generic term used to describe the convergence of social communication platforms and human interaction channels into virtual environments. All Metaverse projects have certain key elements in common: a three-dimensional world animated through virtual avatars (virtual characters that represent people) which interact with each other through virtual and augmented reality technologies. Such experiences often focus on replicating a certain type of activity or interaction from the ‘real world’, for example, a game, a chat, a given service, or even a financial transaction. The word ‘Metaverse’ was first used in the science fiction novel ‘Snow Crash’ by Neil Stephenson and the very concept of ‘3D worlds’ has found itself being represented in both fiction and non-fiction contexts for several years. For example, the virtual world platform - Second Life has existed since 2003 and given people a taste of the possibilities of such a platform.

Today, the word Metaverse has become one of the most trending buzzwords — especially after Facebook was renamed META and its founder Mark Zuckerberg publicly announced that projects in the Web3 and Metaverse domains would become his priority. Metaverse-related projects in the past such as the customizable online gaming platform Roblox are indicative of the potential for such ideas to grow rapidly and capture a new generation of Internet users. According to The ‘Verge’, in August 2020, over 50% of all children under the age of 16 in the United States played Roblox, a mere example of how attractive such experiences are to the new generation.

The Metaverse is a trend that technology and innovation-driven governments must not ignore. The power of its promise and the potential impact that it could have on future generations of citizens is reason enough to take a deep-dive into the numerous possibilities on offer for government services.
As part of Seoul Vision 2030, the Seoul Metropolitan Government (SMG) is spearheading efforts to transform the concept of the ‘Metaverse’ into an actionable, feasible and achievable reality for its inhabitants. As SMG is amongst the largest national service providers, it has been quick to explore the possibilities for enhanced and improved service delivery and user experiences through extended reality (XR) experiences. ‘Metaverse Seoul’ will allow citizens to gain access to a range of services traditionally provided by the metropolitan government, including virtual consultations with city officials and eventually virtual town-hall meetings with the Mayor.

In essence, these platforms will strive to ensure existent hurdles such as availability and time latency are overcome with users having 24/7 access. This effort is part of a wider national strategy and functions under the auspices of the Ministry of ICT, Sciences & Future Planning. With pledged investments of close to $187 million, the government believes resulting projects will create upwards of 1.5 million jobs and boost the vibrant startup ecosystem in major South Korean cities, including Seoul.

### Example: Seoul City Metaverse Project

**$187 Million invested**

**Up to 1,5 million jobs to be created**

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The Metaverse allows the creation of a somewhat ultimate service delivery channel: 24/7 availability, personalization, immersive, and perfectly human despite the distance. The development and widespread adoption of 5G, satellite based Internet access such as Starlink and new energy sources will pave the way for Metaverse-based government services. Such provisions will build new ecosystems and facilitate the creation of stronger connections between governments and the governed.
Influencers are everywhere: these new generation celebrities have been rendered famous through successful management of their social media accounts and an ability to incite ‘virality’. Instagram, TikTok, Facebook, Twitter— whether we like it or not, plays a key role in influencing the behaviour and preferences of people of all ages, all genders, and in all countries. The latest trend in social media marketing are avatars: computer-generated characters with strong and relatable personalities which are now being recognized as ‘Virtual influencers’.

The main difference between real-life celebrities and virtual influencers is that these characters can be tailor-made for different situations and requirements: from their appearances to their behaviour, everything can be refined to make them more appealing and understandable to a given audience. Moreover, avatars are available 24/7, always at the beck and call of their followers and fans. With increased digitalization and the advent of the Metaverse, their influence and impact will only increase in times to come. Major retailers and brands such as PUMA are already actively using such virtual influencers to promote their new seasonal merchandise and products. Whilst the concept of virtual influencers has existed for a while, with the most famous virtual character on Instagram being Lil Miquela (3 million followers!), we are certain to see more organizations and brands adopting this trend.

THE VIRTUAL INFLUENCERS ON AVERAGE HAVE 3X BETTER ENGAGEMENT THAN REAL-LIFE INFLUENCERS

VIRTUAL INFLUENCERS HAVE SCANDAL-FREE, CONTROLLED EXISTENCE: AN ESSENTIAL FEATURE IN THE OVERCONNECTED WORLD

Section 1: technology trends

Virtual Influencers
Virtual Influencers and Government Services

Personifying government services and improving customer experience

**Virtual services ambassadors**
On launching new services, governments will be able to enlist virtual influencers to increase awareness and embody user-experiences. Virtual ambassadors will allow governments to reach out to a wide variety of audiences and ensure increased interactions and up-take.

**Virtual Civil Servants**
Virtual influencers technology can be used to create personas that will transform classic chatbot interactions into less robotic, humanistic experiences, replicating conversations with a real person. With the eventual Metaverse-based government services centre (see page 12), such AI-based Virtual Civil Servants can become the main interaction channel for governments.

**Citizens’ avatars**
Just like how governments can create virtual representatives, citizens will soon be able to generate their own avatars who will be able to perform simple interactions with their governments. Connected to one’s personal databases, these avatars will become the embodiment of their creators, allowing humans with specific access rights to request information such as income or health records.

The past two years have been indicative of the need for governments and international organizations to embrace innovative solutions to unconventional challenges. At a time of crisis, the World Health Organization enlisted the use of extremely popular Instagram virtual influencer Knox Frost to share accurate information about COVID-19 with the GEN Z. Creating dialogue and facilitating interactions with the ‘GEN Z’ is oftentimes a major challenge for governments and international organizations across geographies. It is however critical for these entities to adopt methods which are relatable and interesting for the typical Gen Z citizen, thereby facilitating communication and increased uptake of government services. Virtual influencers prove to be an interesting option for governments in this regard and something we are sure to see more in times to come.

_used by W.H.O. to help battle the pandemic_

**Example: Knox Frost**

670K+ Instagram followers

Virtual influencers and avatars will become the new faces of the world’s most advanced governments and brands. They will allow for automated experiences to become more humanistic and experiential. Such capabilities will allow for governments services to be more inclusive, relatable and widely adopted.
Web3 is the next frontier of the Internet as we know it, a concept initially brought to the forefront by Gavin Wood, co-founder of Ethereum back in 2014. Over the past year, there has been renewed attention on the possibilities of Web3 and its different components, positioning itself as one of the major tech trends of our times. Web3 is different from the Internet as we know it today due to certain key factors. Blockchain based technologies allow for increased levels of decentralization and transparency whilst IoT capabilities allow for more humanized and experiential usage. Furthermore, the ability to use semantic data allows for improved responsiveness and for service providers to be more proactive.

As our global societies ponder over the possibilities of transitioning certain activities and services into the Metaverse, Web3 components will hasten this process by overcoming 3 major challenges the Internet currently faces: data security, scalability and privacy protection. This will largely become possible due to the rise of innovative and competitive small players who will provide both local and global competition to giants like Google, Apple, and Microsoft, paving the way for a more democratic tech ecosystem.

Web3 will promote the “everybody has a say” ideology: a crucial factor which governments must be aware of. Whilst today the transition to Web3 is probably “more hype than action”, some of its building blocks are already in place. Blockchain-based technologies, NFTs, and IoT ventures help global trends move in the Web3 direction and towards global uptake. While many think the word “decentralised” means no government involvement and a form of digital anarchy, Web3 has immense potential for digital government and service delivery. Web3 will allow for more efficient and proactive data collection, increased trust and transparency and framing a more proactive rather than reactive service delivery design.

Google Trends show tremendous growth of interest in Web3 starting late 2021.

Web3 will promote the notion that “everybody has a say” through increased levels of transparency and decentralization.
The SIOT agency of the Singapore government is a multi-dimensional team which strives to build scalable IoT solutions for the good of its citizens. SIOT is committed towards solving the hardest problems faced by the citizenry through smart objects such as wearable sensors and devices. Such devices and smart objects will allow for the collection of data and in formulating a better understanding of challenges faced by the citizens in their day to day lives.

Example: SENSOR & IOT DIVISION SINGAPORE

As a government agency, SIOT is able to understand major roadblocks in service delivery and facilitate tech enabled solutions which respond most effectively to pain points. SIOT projects have been involved in a number of government efforts in capacities relating to energy and water systems, smart gardens and even in contact tracing efforts during the pandemic.

Government services through Internet of Things
The world we live in today allows for one to conveniently resort to Alexa for news and weather updates or use Google Home applications to turn on the lights or switch off the television. IoT will only enhance such conveniences, especially how citizens interact with their governments. Citizens will possibly be able to use government supplied devices to receive a whole array of services, tailored to individual needs and preferences. Such devices will allow governments to truly understand their citizens, the environments in which they live and the major challenges they face on the day to day.

Virtual Civil Servants
One of the key elements of Web 3.0 is its semantic nature: new technologies will allow better work with speech, allowing people to communicate with software and hardware in ways very similar to their communication with other people. Government systems will be able to analyse raw data, understand requests written in plain language and design more proactive apps and platforms.

Decentralised government services
Forward looking governments must be open to partnering with local Web3 startups to benefit from the best innovative practices and capabilities. Services such as the delivery of NFT-based identity documents, KYC procedures for financial institutions and direct financial aid transfers will be offered by online consortia which are able to unite a multitude of stakeholders in a transparent way.

With the advent of Web3, governments will be able to dramatically increase the scope of their services to make them more proactive. They will do so by collecting data through IoT terminals, analysing this data in powerful government clouds, and ensuring safe, trustworthy transactions through Blockchain. All this will be done in partnerships with local and international organizations.

Connecting governments and their customers through devices and networks

Higher reach
New delivery channels

New audience
Humanized digital experience

New interaction channels
Inclusivity

Works as a part of Singapore Smart Nation Sensor Platform

Manages national cloud stack called Decada

Section 1: technology trends
Web3 and Government Services

Connecting governments and their customers through devices and networks
Interview: Taavi Rõivas

Taavi Rõivas is a former Prime Minister of Estonia, and Chairman of the Board of AuVe Tech. During his tenure Estonia became known as e-Estonia, one of the most digital countries in the world. Mr. Rõivas has also received the “Best Global Government Use of Blockchain” award on behalf of his country.

Technology trends

Mr. Rõivas, in your opinion, how will big trends like the Metaverse or Blockchain influence government services of the future?

Taavi Rõivas: I believe the key difference is the transition in the way people will have access to government services. I am quite certain that in the near future, most people will not have to physically go to any government offices for any type of service: they can just focus on getting these services online. Which format exactly will that take? It is difficult to say, but most likely it will be a combination of existing formats, like smartphone apps, and something new, like the Metaverse or augmented reality. This will make the world a lot “smaller,” as geographical distances become less important. Physical distance might mean much less in the future than it does today, because the very notion of “travel” and “meeting” might change.

Regarding Blockchain, while the “Web 3.0” trend is relatively new, the technology itself has already been used successfully for the past several years, for instance in Estonia where we use it to secure registers and health records, and are constantly searching for new possibilities of “blockchaining” our operations.

You are the Chairman of an Estonian autonomous vehicle company, AuVe Tech. What is the place for autonomous, AI-controlled objects in the society of tomorrow?

TR: There are a lot of them already today! For example we at AuVe Tech work with a vertical of autonomous driving that is already available and road legal: the last mile. This means that we can already use autonomous shuttles either in semi-closed areas like theme parks and resorts or to extend the reach of public transport (by taking you from the bus stop to the doorstep). There is a similar situation in many other domains, where AI-driven appliances are already a part of our lives, while we don’t really realise it. Even such seemingly obvious things as advertisement targeting are powered by algorithms, and why not use similar technologies to target government services? There is definitely something interesting to explore in this domain.

What must governments do today to secure their technological leadership tomorrow?

TR: The one thing everybody with responsibilities must understand is that digital is essential. Fears that for one reason or the other digital carriers are more vulnerable or less reliable than paper are, in my opinion, outdated. Any government document or service should be digital by default, and as easy and intuitive to use for the citizens as possible. The digital environment is much more controllable than the natural one, we can make data more secure, and its uses are simpler and more convenient for the end user, which goes in line with what governments must think about.

What are the best examples of highly successful hi-tech government services today, except your home Estonia of course?

TR: There are actually quite a few very successful digital governments. While there often is a certain gap between the announcements, the shiny marketing, and the on-the-ground reality, some countries are transitioning better than others to this all-digital reality we seem to be moving into. I would say that the UAE and Singapore are definitely very good examples of such successful transitions. But it is important to remember that there is no perfect case study of a completely successful fully digital government. Estonia might come close to that, but it is a relatively small country of only 1.5 million people, and obviously on larger scales the barriers are many. Although, I am confident we will be able to overcome them.
Section 2
Global Economic Trends

GREEN ECONOMY: main global trend in economy and beyond, forcing governments to adapt everything from legislation to technology

BLOCKCHAIN AND NEW PAY TECH: completely new ways of performing transactions, and a possible revolution coming from Central Bank Digital Currency

INFLATION: a major economic phenomenon that directly or indirectly impacts most of any government’s activities

The global economy affects people’s day to day lives in more ways than they can imagine. The way governments acquire, manage and safeguard resources impacts the extent to which their citizens are able to thrive and remain competitive in global markets. In this context, governments across the world are judged by their citizens on the basis of their economic aptitude and their ability to remain agile and adaptive to changing economic trends.

The global economy is affected by several factors, among which inflation and the disruption of supply chains are the most significant. The former urges investors to relocate to more stable and sustainable ‘economic safe havens, whilst the latter urges countries to prioritise strategic autonomy through increased onshoring of production and innovation. In the context of government services, an increased amount of attention must be paid to some of the other key strategic trends: the global shift towards a cleaner and greener economy, the rapid development of decentralised financial technologies and lastly, the impact of inflationary pressures on government services.
Climate-related shifts in business and policy is a global trend of monumental proportions. In the current international context, this domain risks being characterised by competition rather than cooperation, as the impact of polarization seeps into global climate and economic policies.

As it becomes clear that investment in ‘old energy’ will be penalised and that there is significant incentive to transition toward renewable and sustainable sources, governments must create ecosystems which facilitate such transitions for themselves and consequently their businesses and industries. There must be a willingness within the governments to adapt policy, rethink legislation, and reimage their approaches to taxation in order to respond to the sentiments and requirements of key economic stakeholders who shape this green transition.

The challenges of transitioning to a greener economy also provide a plethora of opportunities for startups and homegrown businesses. Such businesses and resulting innovations will shape countries’ ability to respond to this trend and remain competitive. Governments must create frameworks to support the most innovative and disruptive climate-tech/green-tech startups, thereby establishing themselves as regional and international hubs for development and growth in this new green economy.

According to the United Nations, the green economy is worth as much as the fossil fuel sector, accounting for 6% of the global stock market—roughly valued at $4 trillion.
Section 2: Economy Trends

Green Economy and Government Services

Transforming governments into climate-conscious entrepreneurs

Better image for government services

Carbon-conscious services
Government apps will develop the potential to track and display their carbon footprint, making users aware of the ecological impact of their screen time and data usage. With the advent of Web3, digital documents will replace paper and plastic ones, thereby reducing waste and empowering reusability.

Customer-focused innovation

Attracting green tech companies
Governments might be urged to review their taxation systems in order to attract the most innovative climate-tech companies. Innovation in this sector will significantly boost economic performance as well as the reputation of the country. Aside from taxation systems, governments must build service frameworks that are attractive to young entrepreneurs and startups.

Creating new clusters and environments

In-government green practices
In order to set the standard and to establish best-practices, governments must take it upon themselves to boost in-house ‘green practices’. This could be through inter-ministerial units which support and develop their own startups or through ‘0 plastic and paper’ strategies which minimise their carbon footprint.

A driver for innovation in services

Governments at all levels are understanding the urgency and criticality of climate change. For example, 65% of UK local councils have declared a climate emergency and have developed (or are developing) a Climate Strategy, and the European Union aims to be climate-neutral by 2050.

Example: German government EV incentive scheme

The new environmentally friendly German government has extended a pre-existing incentive scheme system for buyers of EV’s and hybrid EV’s. Beneficiaries/purchasers of EVs can benefit from up to 9000 euros of incentive for purchasing these vehicles.

Whilst the existing scheme will only be in place over the next year and is subject to periodic review with the possibility of stricter criteria, it is a step in the right direction in terms of government backed initiatives to urge cleaner and greener practices. With a goal of having 15 million EV’s on the road by 2030, this scheme will help increase uptake and a shift towards greater levels of electromobility.
Whilst Web3 paves the way for a more decentralised internet based on trust and transparency, the underlying technology in Blockchain has numerous implications for the financial world. Distributed ledgers provide us with a completely new approach to facilitating and executing financial transactions. The most important quality of this technology will not just be decentralization but the removal of intermediaries which in turn will drive efficiency and allow for safer and more seamless transactions. It is needless to say that the high levels of encryption and security provided by such technologies are an added advantage for governments looking to build robust cybersecurity capabilities for their key infrastructure.

Apart from the more structural changes Blockchain technology brings to transactions and record-keeping, the emergence of central bank digital currencies (CBDC) is attracting the attention of the world’s most advanced governments. CBDC provides governments with the opportunity to take advantage of high mobile phone and internet penetration rates in order to further increased levels of financial inclusion. Soon, the common man will have access to faster, safer and simpler transactions, with the ability to receive direct credit transfers from the government, without banks acting as intermediaries.

Blockchain-based technologies could also potentially have a number of benefits for improving and enhancing citizen participation levels and democratic activity within countries. Several states are already using Blockchain-based technologies to allow citizens to play a greater role in legislative processes and this could soon transcend to Blockchain-based electoral systems. What is certain is that whilst commercial cryptocurrencies or the metaverse may just be hype, Blockchain technologies have immense potential for governments that could result in tangible results and improved processes.

**Section 2: economy trends**

**Blockchain and New transaction technologies**

As of 2022, worldwide spending on Blockchain based solutions has reached **$11.7 billion**

By 2024, the global Blockchain market is estimated to be valued at **$20 billion**

Sources: International Data Corporation, Transparency Market Research
Section 2: Economy Trends

Blockchain and Government Services

Reinforcing trust through safer, more transparent, and faster transactions

- **Value transfer**
  Blockchain-based technologies and CBDC will enable governments to provide direct and seamless payments to their citizens. Direct credit transfers during times of crisis or government employees' bonuses will be done instantly. The removal of intermediaries will ensure transactions are transparent and that the intended value is correctly transferred.

- **New generation record-keeping**
  One of the key issues for many governments across the world is maintaining and building optimum levels of trust. Blockchain provides a new means to building trust, for example, smart contracts can be used to validate transactions and demonstrate proof of ownership of assets without the risk of foul play.

- **Digital voting**
  Blockchain-based transactions can empower voting for political or social positions. As governments globally tend to involve their citizens in more and more decisions, voting through Blockchain seems like an almost inevitable development of government–citizen cooperation, regardless of the political system.

Blockchain is more than just technology; it is an evolution in the way we store data, conduct transactions, and ensure trust. Governments at all levels can benefit from such technologies, allowing themselves to improve processes, establish best practices and ensure efficiency.

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Example: Swedish E-Krona

The e-Krona is only the second digital currency programme which is backed by a central bank. This CBDC has currently finished phase 2 of its pilot in coordination with multi-national consulting firm Accenture and many believe it is well on its way to eventual issuance.

In a country which is digitally well acclimatised, the E-Krona could well be the future. This would help Sweden further establish itself as a global leader in digital technologies and encourage countries in the region to follow suit.
In January of this year, the IMF published a report stating “elevated inflation is expected to persist for longer than expected”. These predictions were in the context of its earlier report from October of last year which had been more optimistic about global economic recovery. The crisis in Ukraine and skyrocketing energy prices has only exacerbated the situation of low growth and high inflation rates which are widely recognised as a hallmark of the post-COVID world.

It is important to understand that there are oftentimes a number of external factors which complexify a government’s ability to manage inflation rates. However, governments must strive to ensure that at times of economic uncertainty and unpredictability, the most vulnerable parts of their citizenry are well protected. There must be a willingness to go beyond the call of duty to assist and intervene through services which improve the citizens ability to understand and cope with economic uncertainty. Direct cash transfers and need-based financial aid from governments during COVID-19 was an example of the extent to which rapid and unconventional responses from government are a criticality during times of crisis.

Internally, governments must also focus on enhancing their own capacities to deal with inflation. There must be more agile and adaptable models to government procurement strategies and government contracts which are able to factor into account the ‘unforeseen’. AI and big data could greatly enhance such capabilities as well as ensure government expenditure is coherent and in sync with rapidly changing circumstances.

It is also extremely important for governments to improve the financial literacy of their citizenry. Citizens must be able to understand the complexities of the global economy and the impact external circumstances and events have on the economy of their country and consequently their lives. Such efforts could reduce polarization during times of crisis and foster relationships with citizens which are more cooperative rather than confrontational.

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Section 2: economy trends

Inflation

Inflation in the OECD countries reached 7.2% in January 2022, the highest rate since 1991.

World Bank: Fighting inequalities brought by inflation is one of essential priorities.

Sources: United Nations
Section 2: Economy Trends

Inflation and Government Services

Governments must position themselves as accessible, adaptable and knowledgeable partners to their citizens during times of crisis

**Better processes**

**Increased economic literacy**

**Automated decision-making**

**Financial efficiency**

**Personalized aid**

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**New approaches to government procurement**

AI-based government procurement is a topic which first garnered attention at the World Economic Forum in 2020. With supply chain disruptions becoming common, government procurement strategies must be smarter and more proactive. AI-based tools offer predictability and will allow for the optimization of existing procurement strategies.

**Educational programs to build financial literacy**

Education and consequent understanding of a problem allow for the ‘depoliticization’ of existing circumstances. Building financial literacy and tailor-made support programs for specific segments of the population can help ease the immediate stress and vulnerability of crisis situations. Governments must devise programs to help citizens develop an understanding of how macroeconomic trends impact their wealth and financial well-being.

**Smart subsidies and new partnerships**

Certain economic problems must be addressed in partnership with private sector actors. The French government’s fuel subsidy in April of this year in coordination with private sector energy companies is an example of such efforts. Subsidies and spending incentive schemes can prove to be an effective tool to enhance the buying power of citizens during times of inflationary pressures.

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**Example:**

**Financial Aid Chatbots in the U.S. universities**

Attending an American university can be an expensive proposition, yet necessary to access the social elevator. Financial aid provided by universities helps students attend college and acquire skills which are critical for their professional development as well as hugely beneficial to the economy. In recent times, organizations such as the Washington Student Achievement Council, an agency of the State of Washington, have set up AI-powered chatbots which are more proactive and ensure financial aid packages are personalized to the needs of an aspiring student.

In the future, similar tools could be applied for other avenues wherein citizens require different sorts of specific financial aid. Chatbots will allow for applicants to enjoy a more personalized experience, for governments to accumulate valuable data which will help them design their aid packages and for the entire process to be better streamlined.
Interview: Glenn Kim

Mr. Kim, what do you think are the main economic trends today that impact government services?

Glenn Kim: Among the major trends out there, many are far more significant than strictly those economic related. For instance, when one looks at the potential impact of digitalization on a global basis, modern governments should increasingly consider how it is best placed to deliver governance-related services within the context of an increasingly digitised environment. Furthermore such delivery mechanisms should be able to address external shocks: for example stimulus checks in periods such as we have experienced in the likes of Covid, or public guidance on how best to position for deal with natural disasters including hurricanes, drought, or earthquakes. There is also a need to think about strategic projects based on a really long-term thinking.

And what would such strategic projects look like?

GK: It depends on the resources available at any given time. But if you are a government that has money, time, and suitable geography, you might think about investing into creating clusters, special economic zones, attracting talents, and building strong services around that. If you are a less resourceful state, then you might want to see what the more developed ones are doing, choose the ones that seem most convenient to work with for political, cultural, geographical reasons – and then try to add your wagon to their train. The current world is extremely dynamic, and if you cannot become a leader of global trends, your only real option is to join someone else's ecosystem that is being built.

Coming back to the question of government services, who are such global leaders that could drive others?

GK: It is a difficult question, because government services are always contextualized to a given economic reality and political culture. On a purely technological level, I would say Estonia remains the global benchmark, closely followed by places like Singapore, or the UAE. Where I see best potential of growth, however, is Africa and South-East Asia: first, there are a lot of people there, and second, there are very few countries that have inherited old systems. This allows them to eventually perform a sort of quantum leap into a fully digital world, skipping middle stages. And successfully digitalized countries like the ones I've mentioned could be instrumental in making that happen.

What is the role of Blockchain in the future of government services?

GK: The most interesting part of Blockchain today is in the Central Bank Digital Currency space. I am directly involved in Fluency, one of the leading cutting-edge technology companies that has developed the necessary technology to enable Central banks to offer CBDCs using Blockchain technology. I am seeing a great deal of interest in their technology. The reason they, and similar companies, have achieved enormous traction is because central banks increasingly understand the potential of Blockchain.

When suitably configured, a system based on Blockchain can enable central banks to have unprecedented oversight and transparency of the financial systems they are responsible for. Subsequent to the adoption of central bank digital money, we are likely to witness a burst of creativity and innovation in both products and services for retail and commercial entities alike as well as greater inclusion. It will enable central banks to attain new levels of speed, transparency, and efficiency which in turn will enhance their abilities to transmit monetary policies more precisely and on a more timely basis. We are very excited about these developments and look forward to global adoption of central bank digital currencies in the near future.

Economy trends

Glenn Kim is a former investment banker, currently private investor, partner with a series of financial companies, and a prominent advisor to governments. He worked on ending capital controls in Iceland, advised the Greek government during its sovereign crisis, and worked with the German government and other parties in the creation and operation of the European Financial Stability Facility and its successor, the European Stability Mechanism.
Section 3
Global Societal Trends

RECONNECTING THE WORLD:
global recovery brings new life to both real-world and virtual communication between people, companies, and states

POLARIZATION:
new alliances and de-globalization potentially lead to the creation of separate technological ecosystems

MIGRATIONS:
governments must prepare to work with tens of millions of people leaving their homes globally due to many factors

Certain events in human history possess such a level of importance that they influence most, if not every, aspects of our lives. Global societal dynamics transgress single domains such as politics, technology or economy, they shape every aspect of how governments make decisions and how populations respond to these decisions.

Government services are impacted each and every time our global societies face any kind of disruption. Peace and conflict, global health or climate related issues are all major avenues which shape a government’s ability to ensure all human beings residing on their territories have access to necessary services and are able to thrive on the day to day.

Just in the last couple of years, global societies have witnessed an unimaginable volume of disruptions. These disruptions have changed the way people communicate with each other, conduct transactions or manage their businesses. In response to these disruptions, governments reshaped the way they offered and delivered their services, for example, increased levels of digital transactions in order to combat social distancing and lockdowns. However, governments today face certain trends which are full of uncertainty and to which there is no standard response.

A recovering and increasingly reconnected world, increased levels of global polarization and mass migrations due to climate change and conflict are all societal trends which governments must prepare capacities for. In responding to these societal trends, governments must strive to understand both the emotions of their citizens as well as the key factors that affect their decision-making.
The past two years have seen our societies deal with numerous systemic changes. Amongst them, the combination of a disconnected physical world due to social distancing and travel bans coupled with never-seen-before levels of digital connectivity is the most striking. Today, the “new normal” seems to be a combination of the two: whilst physical connections and interactions are slowly easing back into existence, the digital ones are not going away and are on the contrary, increasingly resorted to.

The most advanced governments must take advantage of the convergence of these existential realities. On the one hand, governments must facilitate tourism and travel in order to ensure a constant flow of capital and the global reach of their cultures and traditions. On the other hand, governments must invest in their digital capacities to ensure that each and every citizen can be connected to the rest of the world at all times.

ACCORDING TO MCKINSEY, DURING THE PANDEMIC COMPANIES ADOPTED DIGITAL CHANGES 20 TO 25 TIMES FASTER THAN EXPECTED

GLOBAL SPENDING ON DIGITAL TRANSFORMATIONS MIGHT REACH $2.8 TRILLION BY 2025 – TWICE THE VOLUME OF SPENDING IN 2020
Section 3: global societal trends

Reconnected world and Government Services

Governments must efficiently navigate between the reemergence of travel and mobility, and the virtualization of transactions

New economy

Positive migration

Attracting digital nomads

2021 saw the birth of 35 million digital nomads. These young professionals have the potential to produce significant value to industries such as IT, consulting, marketing and art. Whilst some countries expect these digital nomads to be physically present and spend money within their jurisdictions, others are location agnostic and only want control over their legal entities and tax residency. E-residency programs are becoming increasingly common and could be a huge source of talent and revenue for countries across the globe.

Personalized services

Human connection

The human touch to government services

Banking is one particular avenue wherein we are seeing reduced human contact between bankers and clients. Digital account management and automated chatbots all make communication instant and available 24/7. However, decreasing levels of face-to-face contact can make the entire experience less enjoyable and very robotic. Whilst digital platforms can be extremely effective, it is important to balance it with personalised services in order to ensure the overall experience is user-friendly and human at its core.

Global local services

Inclusive services

Augmented Reality projects and services

Augmented Reality (AR) projects allow for the convergence of both the real and the virtual world. Governments will be able to provide advice and services through AR experiences, regardless of where their citizens are located. Furthermore, such provisions could enhance the user experience of citizens with medical or physical disabilities who are unable to physically travel to government offices.

Example: The 90-Days Finn program - Finland

90 Day Finn is a programme designed and run by Helsinki Partners, a city-owned non-profit supporting international businesses. The programme gives entrepreneurs from around the world the opportunity to “become a Finn” for 3 months, discover the thriving business and start-up ecosystem in Helsinki. They are able to experience Finnish culture as well as to explore potential business opportunities, all whilst staying in Helsinki. The program is a great initiative to attract the smartest and most innovative minds from around the world to come and experience Finland, all whilst creating value for themselves and the economy.

Full relocation package for 90 days and guidance for residency

A whole range of tailored services for business growth
Section 3: global societal trends

Polarization

Historically, the past several decades has seen the world constantly being divided into different camps. Such classifications have led to unforeseen levels of polarization between countries and their societies. This trend has grown in significance over the past two years and will certainly have an impact on numerous socio-economic domains.

At the highest level, governments today are faced with the biggest challenge of having to choose between one camp or another, staying neutral is a monumental task. Such choices impact a country’s access to goods, services, intellectual property and capital, thereby shaping its ability to remain competitive and secure the future of its people. With technological development being a focal point for all governments and societies, polarization also risks the creation of vastly different tech ecosystems. The creation of such separate, potentially isolated frameworks could mean completely different regulatory environments and competitive practices, something governments must prepare their businesses and citizens for.

Government services must strive to ensure that in an increasingly polarized global ecosystem, internal stability and coherence is maintained. In doing so, it must understand the emotions of its citizens, understand their moral and ethical dilemmas and respond accordingly.

IN 2022, DIFFERENT GLOBAL ACTORS TALK ABOUT THE “NEW WORLD ORDER”

TELECOM IS ONE THE AREAS WHEREIN DISTINCT TECH ECOSYSTEMS MIGHT EMERGE
Section 3: global societal trends

Polarization and Government Services

The best governments will strive to bridge the gap between different global ecosystems and ensure their citizens have the best from both worlds

New use for old technology
From payments to government transactions

**Generalization of the QR-code**

The pandemic introduced us to the functionality of QR codes. More than anything, they serve as an effective tool for immediate transactions and unique identifications. Countries in the global South have been using QR codes for payments for the past few years and such habits are becoming increasingly common around the world. Government services could make use of QR codes for services which necessitate unique identification, thereby reducing excessive use of physical identifications for different needs.

**International cooperation hubs**

In a world which is growing to be increasingly polarized, there must be an absolute commitment for creating spaces which allow for cooperation and joint innovation. International cooperation hubs could serve as a safe and secure environment wherein innovators and conventional competitors can come together to share ideas and best practices, all towards creating a more humane and developed world.

Whilst it may appear that the creation of two or more global technological and economic ecosystems may be counterproductive, market based models suggest that with competition comes improved productivity, quality of service and innovation. There will be some countries which are able to maneuver the complexities of geopolitical alliances and assert themselves as neutral players. These countries must position themselves as hubs for international cooperation and dialogue, bridging the gap between one camp and another.

Example:

Sentiment and Opinion Mining/Emotion AI – Natural Language processing (NLP)

In times of this important and growing polarization during crises and instability, governments must be able to understand the emotions of their citizenry in order to respond effectively and with the appropriate services. Interactions on public platforms and chatbots are oftentimes extremely unstructured and data-heavy, making it impossible for governments to implement appropriate responses.

NLP and its sub-field, Sentiment Analysis or emotion AI, is a solution to such hurdles being faced by governments. The ability to enable machines to understand human language and further enhance its ability to identify underlying emotions through opinion mining capabilities is a major breakthrough for governments. Such capabilities will allow governments to design services which are tailor-made to different situations and an ability to evolve based on changing citizen requirements and preferences.
According to the World Bank’s Groundswell report, 216 million people will be displaced from their homes by 2050 and forced to move to different regions within their country. Whilst these estimates are purely based on the projected impact of climate change across the world, conflict only exacerbates the impact of this eventual scenario. In March alone, more than 10 million Ukrainians were displaced from their homes and up to 2 million of them had crossed the country’s border into the European Union. Internal displacement due to climate change is an easier proposition for governments to manage, however, forced displacement due to conflict puts the onus on international cooperation and solidarity, a whole other beast altogether.

One of the key challenges for governments will be their ability to balance migration inflows between those who can be easily integrated and are beneficial to the socio-economic system and others who must be prioritised due to humanitarian disasters.

There must be a willingness to design programs which provide for easier facilitation of migrants, enhanced understanding by domestic populations of the situations and streamlining of information so as to avoid systemic overloads. A large influx of migrants can oftentimes be a challenge to internal stability. It is critical for citizens to be able to play a participatory role in designing strategies and in creating frameworks for migrant integration, be that due to climate change or on humanitarian grounds.
Section 3: global societal trends

Migrations and Government Services

While large migratory dynamics globally are inevitable, governments must prepare and adapt their services to both citizens and newcomers, including offshore.

Distance services to non-citizens

States that have global or regional strategic influence might want to design and implement, through apps, web portals, or the Metaverse, solutions to communicate with migrants globally, providing help (for example in the form of knowledge, access to distance learning, or targeted financial aid) and analyzing data, thus identifying the most promising candidates to attract. Such services can also be delivered by states to people across the world connected to the given government by ethnical, cultural, or religious ties.

Special superapps for migrants

A special section of digital government services can be developed for people who are in the country as asylum seekers, war or climate refugees. Such services might include providing terminals such as smartphones and tablets with pre-installed government superapps, both collecting data and providing high-quality focused services, such as CBDC-based targeted aid allocation, or fully controllable digital identity documents.

Interstate migration clusters

In preparation for systemic migrations, for example caused by climate change in regions where it would move tens of millions of people abroad, governments might want to cooperate to create special co-managed zones to pool in resources and technologies. Such “local confederations” would also see specific intergovernmental services applied to the new residents, somewhat similar to how the EU has created a health passport that worked across its 27 members states and beyond.

Example:
Citizen Initiative Portal - Estonia

Governments are growing increasingly cognizant of the importance of involving their citizenry in legislation framing, and increasing their participation in democratic processes. This is especially important during periods of instability, when governments take decisions impacting most of their subordinates. Thus, the Citizen Initiative Portal in Estonia empowers citizens with the ability to send collective initiatives to the Estonian Parliament, allowing each and every citizen to actively partake in designing the future of their country and shaping change. Such tools could prove to be extremely useful during periods of large-scale migration. Citizens will be able to play a greater role in designing strategies for the integration of incoming migrants and facilitating their arrival.

As governments across the globe strive to make their citizens and residents happier and more proactive, it is critical for them to create environments which enable greater levels of engagement and to pay heed to their sentiments during times of instability.