COMMONWEALTH
TELECOMMUNICATIONS
ORGANISATION

GOVERNMENT
OF THE REPUBLIC
OF INDIA

सत्यमेव जयते

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

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17 MARCH 2022

TABLE OF CONTENTS

COMMONWEALTH TELECOMMUNICATIONS ORGANISATION

GOVERNMENT OF THE REPUBLIC OF INDIA

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

COMMONWEALTH TELECOMMUNICATIONS ORGANISATION

GOVERNMENT OF THE REPUBLIC OF INDIA

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

1. EXECUTIVE SUMMARY

The Commonwealth Telecommunications Organisation (CTO) convened the inaugural ***Digital Transformation Centre Stage – India*** on 17 March 2022. This was the first virtual meeting of the series and, it generated significant interest with 105 delegates, from 18 countries, participating through the Zoom Webinar online platform.

The Forum was structured around two sessions that recognised the impressive progress the Republic of India has made in implementing both the Aadhaar (unique identifier), a digital identity based on biometric and demographic data, and the Unified Payment Interface (UPI), a real-time payment system that merges banking services and payment features allowing peer-to-peer and person-to-merchant transactions, which are significant elements of the Digital India programme.

The programme considered the technological ecosystem, the design and application of a technology-driven Public-Private-Partnership, that drove collaboration between government and the private-sector to create an innovative enabling environment that ensured policies, legislation, and regulations for effective implementation of Aadhaar and UPI. The event also looked at the success factors of Aadhaar and UPI.

Participants expressed their satisfaction with the organisation and conduct of the Forum, its content and quality of presenters.

1.1INTRODUCTION

The CTO Secretariat conceptualised the Digital Transformation Centre Stage (DTCS) event series to highlight and celebrate Members' successes in effective ICT adoption and showcase them to inform and encourage other CTO members. Each edition of DTCS will put the spotlight on a specific member country and the transformative ICT solutions and innovations that have been deployed.

The DTCS series provides a platform for other CTO members, to learn about the ICT-enabled successes and to seek help from the featured member for adopting

similar programmes in their countries.

The tagline for the event series is: *Showcasing Members' Successes in Digital Transformation.*

The event is open to all Ministers of CTO member countries, senior members of ICT Regulatory Authorities, C-Suite representatives of the FinTech community and International Development Agencies.

1.2 OBJECTIVES

The objectives of this Digital Transformation Centre Stage are to:

- Present members' successes in digital transformation;
- Share insight, best practices on digital transformation; and
- Facilitate support for members from the featured country

1.3 PARTICIPANTS

There were **105** participants from **17** Commonwealth states (countries and overseas territories) and one non-Commonwealth country.

Countries represented: Bangladesh, Botswana, Cameroon, Ghana, Grenada, India, Jordan, Kenya, Lesotho, Mauritius, Nigeria, Saint Kitts and Nevis, Samoa, Sierra Leone, South Africa, Tanzania, Trinidad and Tobago, and the United Kingdom.

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

2. OPENING SESSION

Emcee Ms. Nikisha Joshi, Manager, Finance and Pension, Commonwealth Telecommunications Organisation (CTO), welcomed delegates to the inaugural **Digital Transformation Centre Stage – India** a webinar series designed to showcase member achievements in Digital Transformation.

Ms. Nikisha Joshi, Manager, Finance and Pension, Commonwealth Telecommunications Organisation (CTO)

A special welcome was extended to Honourable Akilah Byron-Nisbett, Minister of Health, ICT, Entertainment, Entrepreneurship and Talent Development, Government of the St. Kitts, and Nevis, and Honourable Toelupe Poumulinuku Onessemo, Minister for Communications and Information Technology, the Independent State of Samoa, Members of the Diplomatic Corps, other VIPs, CTO members, and other international delegates.

Ms. Joshi confirmed the inaugural DTCS we will be featuring the Republic of India, and provide insight in to the *Aadhaar*, a unique identifier and a unified Payment interface of the Republic of India.

Click HERE to view welcome.

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

2.1 WELCOME AND INTRODUCTION

Ms. Bernadette Lewis, appointed to the position of Secretary General in August 2020, is the first female Secretary-General in the 120 years history of the Commonwealth Telecommunications Organisation. A national of Trinidad and Tobago, Ms. Lewis was the first female Secretary General of the Caribbean Telecommunications Union (CTU) and is credited for making the CTU the foremost ICT intergovernmental institution in the Caribbean.

Ms Bernadette Lewis, Secretary General, Commonwealth Telecommunications Organisation

Secretary General Lewis has a wealth of experience in the public and private sectors and is knowledgeable on the ICT issues facing developing countries having worked in senior positions in national, regional, and international ICT organisations. Her pioneering work in ICTs has won her recognition and awards.

Secretary General Lewis extended a warm welcome to delegates and thanked them for attending the Commonwealth Telecommunications Organisation's (CTO) inaugural *Digital Transformation Centre Stage*. A webinar series designed to showcase and celebrate successes in ICT adoption and digital transformation in the Commonwealth.

Digital transformation integrates digital technology into all areas of a nation, changes the operation of its people and systems to deliver value. In advance of COVID-19 the evolution of the Information, Communication Technologies (ICTs) have contributed to the break-up of traditional government frameworks, the pandemic brought new challenges that make accelerated ICT adoption an imperative.

COMMONWEALTH TELECOMMUNICATIONS ORGANISATION

GOVERNMENT OF THE REPUBLIC OF INDIA

सत्यमेव जयते

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

Digital transformation must become a significant element of their developmental plans if developing nations are to reach and attain the United Nations Sustainable Development Goals.

The CTO throughout its 122-year history has been committed to the expansion of communication networks, later focusing on sustainable development through the effective use of ICT, and now in the era of the fourth industrial revolution, it is focused on supporting its members on their digital transformation journeys and having a measurable impact.

Since joining CTO, the Secretary General has met with members to hear concerns and better understand their needs. This provided insight into the challenges member countries face and revealed impressive successes in employing ICT solutions. A common thread is members expressed a desire to accelerate digital transformation.

To support members on their digital transformation programmes the CTO is charting a new course, the Secretariat is streamlining its operations and upgrading its systems and processes to assist members in the formulation, planning and implementation of digital transformation programmes.

Click HERE to view opening remarks

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

2.2 KEYNOTE ADDRESS: THE IMPORTANCE OF THE VISION AND THE NEED FOR A CHAMPION

HEADLINE: DATA FOR DEVELOPMENT

Mr Radhachran Shakya, is Deputy Director General, International Relations at the Department of Telecommunications, Ministry of Communications, Government of India. His previous roles have included Deputy Director General (Security Assurance) and Acting Chief Information Security Officer for the Telecom sector. He has responsibility for policy formulation, Security Standards Testing and Certification, and Critical Information Infrastructure of the telecommunications sector.

Mr Radhachran Shakya
Deputy Director General, International Relations Wing, Department of Telecommunications, Government of India

He is a member of the Governing Council of Telecommunications Standards Development Society of India (TSDSI). In 2019, he took secondment as Senior Adviser to ICT Authority, Government of Mauritius, subsequently he was made Acting Executive Director of the authority.

Mr Shakya extended his gratitude to CTO and Secretary General Lewis for allowing India to demonstrate the achievements of the *Digital India* project, at the inaugural *Digital Transformation Centre Stage* webinar, and thanked CTO for the event collaboration.

The vision of Honourable Prime Minister Narendra Modi and the government of India is to leverage technological solutions for the development of the nation. Ensuring connectivity to far-flung, remote, and non-accessible areas, facilitating digital inclusion and empowerment.

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

The government of India's digitalisation model demonstrates that digital inclusion can be implemented successfully. It is rooted in the belief that data should be primarily used for development rather than just for profits. Data for development has been the guiding principle to the government of India's policies, the data is managed and regulated in an adjusted ecosystem in a suitable manner, it can play an empowering role for the most vulnerable in a digital future.

Inclusive technological solutions are a core principle in India's telco operatives' digital policies and contribute significantly to socio-economic development, in this decade of action towards achieving the Sustainable Development Goals (SDGs). Digital transformation provides tools for enabling inclusive growth and stimulating national economies and the Indian economic recovery from the COVID-19 pandemic.

India's unique national identification system, Aadhaar, has approximately 1.3 billion persons registered. The Unique Payment Interface (UPI), a platform that can be utilised for transacting small to large amounts of money, on mobile phones, and other devices, is India's second success story. UPI has enabled over 4.5 billion monthly transactions amounting to approximately 1.1 billion USD last month. Aadhaar, and the Unified Payment Interface platforms can be replicated across Commonwealth countries that still require digital solutions for both 21st century governance and payment systems for digital economy development.

Information and communication technologies (ICTs) have truly emerged as a foundation for the global economy during the COVID-19 pandemic. Digitalisation and the digital economy have propelled digital inclusion, bridging the digital divide and enabling effective governance in terms of governance to business and government to customers. The continued adoption of ICTs will find solutions, approaches, and opportunities to enhance the livelihoods of citizens, creating value, and building equitable economies through ICTs and digital services.

India has a strong start-up and innovator community; the Indian government is closely collaborating with tech innovators and entrepreneurs to address technological challenges. Continued investment in mobile and 5G standards will help ensure extensive coverage including coverage in the rural areas, which the developing regions wish to expand their networks. With an aim to further boost the growth of the telecoms industry, promote competition and improve universal broadband.

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

In 2021, the government of India approved structural and procedural reform of the telecommunications sector, signaling a new era that will ensure continued investment in the industry. These reforms include permission for 100% Foreign Direct Investment (FDI) in telecom sector under automatic route and increasing spectrum tenure from twenty years to thirty years (in future auctions) and removing the Spectrum Usage Charge (SUC) for spectrum acquired in future spectrum auctions.

The government of India is also working to boost domestic manufacturing and attract large investments in the value chain. India has focused on developing its electronics manufacturing through various policies and believe it is necessary to have competitive incentive packages to establish a trusted global supply chain, which can continue uninterrupted throughout any situation.

KEY POINTS:

- India is home to approximately 1.2 billion telecom subscribers with one of the lowest internet mobile tariffs.
- The government of India is implementing one of the world's largest optical fibre network cables, to connect approximately 600,000 places with broadband through BharatNet (Bharat Broadband Network Limited).
- India's digital infrastructure proved a crucial tool in the pandemic for knowledge sharing, a platform for digital education, facilitating over four billion digital learning sessions and over fifty-five billion used minutes.
- During India's digital transformation journey over forty million unbanked persons have opened bank accounts giving a boost to India's economy.
- The launch of the national Ayushman Bharat Digital Mission (ABDM), a National Digital Health Eco-system, has led India into a new era of technology enabled healthcare delivery ensuring equitable healthcare service delivery in the country.
- A global leader in innovation, the start-up ecosystem, has over 60,000 start-ups and out of these 10,000 start-ups have registered in the last six months.
- India has the third largest number of Unicorns in the world, out of these 50% formed in the year 2021. Unicorn companies are privately held companies that reach a valuation of $1 billion without being listed on the stock market.

- India submitted three new 5G technologies for an assessment of standards to the International Telecommunication Union (ITU), through the Telecommunications Standards Society of India (TSDSI). These technologies and standards, evaluated by the ITU, were approved, including 5Gi (a Made in India 5G standard).
- In developing protocols for mobile telecommunications India worked with the 3GPP community (3rd Generation Partnership Project (3GPP)), reaching agreement that 5Gi be amalgamated with global 5G standards (5Gi and 3GPP-5G).
- A trusted partner in the global supply chain. India supplied vaccines to over one hundred countries during the COVID-19 pandemic.
- National campaign to boost production of large-scale electronics manufacturing, with investment of up to $3.94 billion.

Click HERE to view Mr. Radhachran Shakya's address

2.3 CULTURAL INTERLUDE – CELEBRATING DIGITAL INDIA

The COVID-19 crisis bestowed the Indian government more reason to focus on self-reliance. The emergence of Digitalisation has revolutionised communications technology, to the extent that it is an integral part of everyday life.

Digital India empowers the nation with open, safe, trusted, accountable internet for all. Fuelling millions of dreams, nurturing talents, and enabling inclusion through its adoption. Digital India allows citizens to work together to build cutting-edge innovation systems and develop new age technologies.

Digitalisation ensures India remains a leading global economy, developing trade and furthering industry. Creating opportunities to expand digital infrastructures, forming a conducive environment for internet governance, and empowering the lives of citizens, equipping, and strengthening all regions of India, including rural areas through the establishment of optical fibre networks allowing high tech capabilities. Village life is enriched and strengthened through data and internet. Universal connectivity allows citizens to work

and educate themselves, gain access to the latest medical information as well as support, stay connected with friends and family.

Digital India hopes to further the lives of billions of people in India's 75th year of independence. With digital payments provision simplifying trade and commerce. Digital India strives to ensure that women and children are safe from potential cyber threats. To provide a resource that removes the digital divide and ensures India progresses the lives of millions through the latest technological advancements.

"I DREAM OF A DIGITAL INDIA WHERE 1.2 BILLION INDIANS DRIVE INNOVATION."

Honourable Shri Narendra Modi, Prime Minister, Republic of India.

"THIS IS OUR TIME, THIS IS THE RIGHT TIME, THIS IS BHARAT'S INVALUABLE TIME."

Honourable Shri Narendra Modi, Prime Minister, Republic of India.

Click HERE to view Digital India's promotional video.

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

3. SESSION 1: AADHAAR (UNIQUE IDENTIFIER)

HEADLINE: *DIGITAL INDIA*, A DIGITAL TRANSFORMATION SUCCESS STORY

Click HERE to view chair's message.

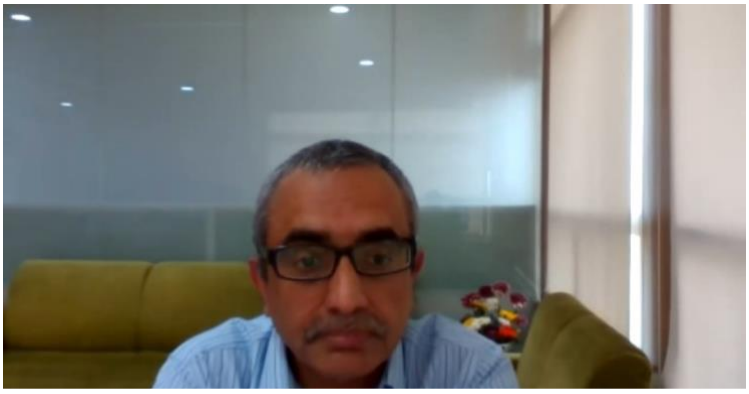
Chair: Mr Radhachran Shakya
Deputy Director General, International Relations Wing, Department of Telecommunications, Government of India

3.1 AADHAAR (UNIQUE IDENTIFIER) ID PROJECT

HEADLINE: CREATING AN ENABLING ENVIRONMENT POLICY, LEGISLATION & REGULATIONS

Mr Alok Shukla is the Deputy Director General in Unique Identification Authority of India (UIDAI). UIDAI is implementing the Digital Identity, Aadhaar project in India. Mr Shukla has been working in UIDAI, in various capacities for last 11 Years.

Prior to working in UIDAI, Mr. Shukla worked in Department of Telecommunication, Government of India and BSNL, where he was



Mr. Alok Shukla, Deputy Director General, Unique Identification Authority of India (UIDAI)

involved in planning and operation of Telecommunication Network.

Mr Shukla thanked CTO for providing India the opportunity to showcase the Aadhaar (unique identifier) ID project of the government of India.

Digital Identity and Identification was much needed in India, in a large populous country there has been a strong basis for a natural adoption and expansion of Aadhaar.

"TO EMPOWER RESIDENTS OF INDIA WITH A UNIQUE IDENTITY AND A DIGITAL PLATFORM TO AUTHENTICATE ANYTIME, ANYWHERE." **Aadhaar's vision statement.**

Aadhaar provides a robust, lifetime, reusable, nationally and online verifiable ID and Identification. It provides a system that reduces costs for delivery of services. Aadhaar allows for a targeted delivery of services, benefits, and subsidies. The Uniqueness ensures no duplicate, or fake accounts and eliminates ghosts in government welfare schemes. With countrywide portability, it is a universal system with anywhere anytime access.

Aadhaar faced implementation challenges, pre-Aadhaar people used a mix of identification from driving licenses, ration cards or passports. India is populous nation, and many were without nationally acceptable IDs. Many people used local proxy/domain IDs and faced language format and jurisdiction barriers. A widespread lack of identification led to exclusion and denial of service, identification costs were high and widespread poverty prevented registrations. There were sections of the population that would prove hard to register for instance, children, old people, migrant workers, the poor and destitute.

The Aadhaar regulatory framework supports a proactive and responsive governance. The Aadhaar ecosystem is built on a successful public-private partnership, ensuring agility, relevance, and currency. Within the Aadhaar ecosystem there are a Logistics Service Provider, Enrolment Agency, Authentication on Service Agency (ASA), Fraud team, Testing and Certification Agency. There are customer services agencies in the Aadhaar ecosystem and the traffic from these agencies come to the Central Identities Data Repository (CIDR), a government data centre, that stores and manages data for the country's Aadhaar project. There is also an SMS (Short Message Service) service provider and contact centre, a text messaging service component of telephone, Internet, and mobile device systems.

Key features of Aadhaar defines the strength as a product as well as an enabler for a host of resident services. It is a portable identity, anywhere, anytime online authentication. Uniqueness ensured, lifetime identity, inclusiveness: all residents. A random number with no intelligence and no profiling. Primacy of user consent, minimal resident data collected, security and privacy of resident data ensured.

Aadhaar generation is based on the principle of minimalism with the following attributes captured: Mandatory collection of facial photographs, demographics, fingerprints, iris scanning, with optional data collection on mobile phone and e-mail identification. The information is sent to the CIDR to match the uniqueness and once matched the transaction can proceed.

Aadhaar ID for an online world, not bound to physical boundaries. Authentication eliminates physical presence. Electronic KYP eliminates paper bases "know your customer". The system is only activated by consent and authentication, and this prevents fraud of fake paper documents. The authentication ecosystem is secure and collaborative. There are continued efforts to further simplify the authentication framework, processes, and governance.

The pricing of Aadhaar Services means there are no authentication transaction charges for government schemes as Aadhaar is designed to provide a platform for easy functioning of welfare schemes. Private commercial entities like Telecom companies, financial institutions are charged on "per transaction" basis, reasonable prices to encourage usage.

Data security and privacy are inbuilt. The Aadhaar numbering system is designed to deliver random numbers with no built-in intelligence or profiling information. With optimal ignorance the objective is to provide identity related functions (issuance and authentication) and nothing else. There is no pooling of data, Aadhaar has no linkage information to any other system. There are only yes/no answers to authentication. Explicit resident and consent e-KYC services allows resident to authorise UIDAI to share electronic version of their Aadhaar letter. There is a purpose and use limitation, UIDAI mandates that service providers using Aadhaar for establishing identity should explicitly share the purpose. Sharing limitation means service providers collecting Aadhaar cannot share identity information further without consent from the Aadhaar-holder.

Aadhaar is the "financial address" of an individual. Direct Benefit Transfer (DBT) through Aadhaar Payment Bridge (APB) launched in 2013 and Aadhaar Enabled Payment System

(AEPS) launched in 2016 for last-mile banking. Aadhar-led DBT & banking incentivised by State. The JAM (Jan-Dhan Aadhaar Mobile) initiative linked Jan Dhan accounts, mobile numbers and Aadhaar cards and plugged with the leakages of government subsidies, combined with the power of DBT brought marginalised sections of the society into formal financial systems.

Aadhaar supports additional financial transactions including the Aadhaar-enabled DBT-APB, via Aadhaar Payment Bridge (APB) with G2C (Government to Citizen) and B2C (Business to Citizen) transactions. A payment can be made to a person's bank account via his/her Aadhar number, provided it is linked to Aadhaar number. Government of India transfers benefits and subsidies directly to the beneficiaries' bank account through APB. More than $79 billion USD paid in beneficiary accounts via APB. During the COVID-19 pandemic there has been a 100% increase through the Aadhaar payment Bridge. This has resulted in significant savings across government ministries and departments with greater efficiencies in administering government subsidies.

Aadhaar and last mile delivery of benefits through the Aadhaar Enabled Payment System (AEPS): B2C (Business/banks to consumer). AEPS is the platform in which a person can do basic banking transactions including withdrawal, deposit cash, fund transfer etc from his/her bank account at Micro-ATMs using biometric authentication. Over 12.75 billion successful transactions done on this platform across nearly 5.5 million micro-ATMs. Every month 400 million successful transactions. Power of doorstep banking led by Aadhaar came to the fore during COVID-19.

Focus is on the user for continued patronage and continued focus is on the scope, quality, and convenience of services. There is extensive use of digital services: mAadhaar App, Secure QR code, Virtual ID, Aadhaar Lock, Biometric Lock, robust omni-channel grievance and feedback management system, online unassisted services, Integration with Digilocker for auto-fetching of resident documents.

The year 2018 saw the Supreme Court judgement what acknowledged Aadhaar as an important tool of social welfare delivery by state. While it provided constitutional validity to Aadhaar, it limited the scope of the biometric identity project. The ruling disallowed unhindered use of Aadhaar by private entities but allowed voluntary use of Aadhaar for purposes backed by law. In 2019, there were regulatory amendments post Supreme Court

judgement. To allow Financial Entities and Telco Firms in Aadhaar Ecosystem. In the year 2021 saw the move to a greater Aadhaar usage. Changes to regulation saw e-KYC (electronic-Know Your Customer) prices reduced for industry to ensure the adoption of Aadhaar increased.

KEY POINTS:

- The Indian government constituted for the creation of the unique ID system (the Aadhaar) from between 2005-08.
- From 2009-14, the Unique Identification Authority of India (UIDAI) was established by an executive order.
- The first Unique Identifier (UID) was generated in 2010 and the Direct Benefit Transfer (DBT) scheme launched in 2012.
- From 2015-17, the Aadhaar Act was passed in 2016 and the UIDAI became a statutory authority mandated to issue 12-digit random numbers as Unique Identifier (UID) to all Residents of India.
- There are 1.36 billion people in India with 1.2 billion live Aadhaar subscribers. India has 1.2 billion mobile subscribers, and 792 million internet users.
- There are 1.4 billion bank accounts and 70 million are ready to receive payment through Aadhaar payment.
- India is a welfare state in accordance with Article 38, of the Constitution of India and the government of India pays $50 billion (2.5% of GDP) in subsidies annually to the target population.
- In 2020, the Aadhaar Authentication for Good Governance (Social Welfare, Innovation, Knowledge) Rules were established, this allowed the voluntary use of Aadhaar for bringing in efficiency in governance.
- There are 169 Authentication User Agencies (Authentication User Agency (AUA)/sub-AUA), 160 KYC user agencies (Know your Customer User Agency (KUA)/sub-KUA), and 22 Authentication Service Agencies all trusted partners.
- The Indian government has Business Process Outsourcing (BPO) provided by KPMG that assesses the Governments Risk Compliance and governance Performance (GRCP) monitoring agency.
- Enrolments for Aadhaar peaked in the year 2013-14 with 298.3 million registrations. These figures contrasts from the first year it came into existence in 2010-11, with as

few as 4.2 million registrations. In the year 2020-21 there were 32.2 million registrations.

- Aadhaar saturation shows almost every adult holds Aadhaar with 99.89% of nationals aged 18 or above registered. Children aged from 5 to 18 years have a saturation of 95.87%. Children aged from 0-5% have the lowest saturation point with only 32.56% holding Aadhaar identification.
- There have been 68 billion authentications and 11+ billion e-KYC transactions since it's conception. In 2020-21 there were 14.13 billion authentications and 1.11 billion e-KYC transactions in one year.
- Direct Benefit Transfer (DBT) through Aadhaar Payment Bridge (APB) launched in 2013: Aadhaar Enabled Payment System (AEPS) launched in 2016 for last-mile banking.
- 720 million (90%) of residents have linked Aadhaar with their ration card to obtain their hand-out.
- 275 million (92%) residents linked Aadhaar with cooking gas connection for LPG subsidy.
- 119 million farmers (100%) have given Aadhaar for receiving benefits.
- 8.8 billion APB (first mile) and 12.8 billion AEPS (last mile) transactions.
- The efficiency saving to the Public Exchequer because of the Aadhaar-led Direct Benefit Transfer (DBT) amounts to $29.7 billion.
- 314 schemes of 48 Central Ministries/Departments use Aadhaar and over 420 state schemes have also been notified for delivery of social welfare benefits
- 71 proposals of Central and State government approved for voluntary use of Aadhaar for good governance, promoting ease of living and enabling better access of services.
- About 10,000 Common Service Centres (CSCs) operate as Banking Correspondents (BCs) on-boarded for providing Aadhaar update services to users in the hinterland.
- Introduction of smart-phone based un-assisted Face-authentication based public services.

Click HERE to view Mr. Alok Shukla's presentation.

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

4. SESSION 2: UNIFIED PAYMENT INTERFACE (UPI)

HEADLINE: CREATING AN ENABLING ENVIRONMENT - POLICY, LEGISLATION & REGULATIONS

Click HERE to view chair's message.

Chair: **Ms. Bernadette Lewis**, Secretary-General, Commonwealth Telecommunications Organisation

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

4.1 UNIFIED PAYMENT INTERFACE (UPI): DEVELOPING A SCALABLE DIGITAL PAYMENT SYSTEM FOR A NATION

HEADLINE: CREATING AN ENABLING ENVIRONMENT - POLICY, LEGISLATION & REGULATIONS

Mr Kalawatia leads the product function at NPCI, responsible for Products; Aadhar Based Payments, BHIM, RuPay, NETC, NFS and UPI He has 20 years of business experience across payments, telecom, credit cards, retail, and advertising agency.

He is marketer by profession and a trained life coach at heart. He has business exposure across the leading brands in Telecom - Bharti Airtel, Vodafone and in credit cards – ICICI bank, Kotak Mahindra Bank.

Mr. Kunal Kalawatia, Chief of Products, NPCI International Payments Ltd, India

The National Payments Corporation of India (NPCI) International Payments Ltd vision is building a robust scalable and affordable payments infrastructure for India. To be the best payments network globally, bridging two ends of the spectrum to help solve human problems using technological solutions. Providing technological solutions to deliver digital payments means there is a huge amount of human insight to understand the needs of consumers, the challenges and solving these challenges, a balanced approach is needed.

"DRIVEN BY TWO PASSIONS: PAYMENTS AND PEOPLE" NPCI International Payments Ltd

Unified Payments Interface (UPI) is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments under one cover. It caters for the “Peer to Peer” collection request which can be scheduled and paid as per requirement and convenience.

NPCI mission is to touch every Indian with one Payment Services, NPCI is nearing the target with approximately 500 million Indians using the product, currently at the half-way point with another 500 million to still in engage.

To understand NPCI’s approach to delivering digital payment systems it is important to understand and review wealth distribution in India. 35 million households have $40,000+ USD annual income, 5 million households have income above $40,000 USD. Twenty-five million have an income above $4,000 USD and 30 million households have income above $3,000 USD, whereas 160 million households have annual income lower than $2,000 USD.

For each social class NPCI have developed suitable products to the target population. The poorest social class, people who do not have a mobile phone and depend on DBT will have different NPCI products than the middle and upper social classes. They will have identity cards with a QR code. The middle class have feature phones (with access to the internet and some additional features but not the same outputs as a Smart phone) and will be able to access NPCI products such as SMS services using their mobile phone. The top class have smart phones and will be able to access NPCI products through downloadable applications to their mobile device.

Literacy levels are a challenge to implement and customer engagement, however, illiterate people understand signs and numbers and the lowest class have products that are easy to acquire products. The middle class have options that are linked to payment gateways such as RuPay, Bharat BillPay, *99# and National Automated Clearing House (NACH). The top class have more evolved solutions linked to payment gateways such as RuPay, Bharat BillPay, Unified Payments Interface, National Electronic Toll Collection (NETC) programme, Immediate Payment Service (IMPS) and BharatQR.

NPCI have made progress with India’s journey on financial inclusion because of collaboration with the full ecosystem. Working with banks, app developers, technology

service providers, and the regulatory, industry bodies and consumers groups. This is a key reason for the digital success story of India.

UPI processed 4.52 billion financial transactions in February 2022. UPI is democratising payments providing multilingual capabilities, supporting feature and smart phones equally. The seven pillars of the UPI are that it is an interoperable platform, runs on aliases, real-time payments, integrated with multiple servicing channels (Mobile app, Internet banking, Independent UPI app, Branch, USSD and ATM), collaborative engagement model, open banking, and application programming interface (API) driven.

The UPI technology includes service features, instruments, and channels. Ecosystem partners are offered the ability to innovate on top of the UPI API layer to better provide services and user experiences to their customers. Platform Capabilities include Fully Open Source, all types of retail payments including merchant payments, international cross-border transactions and remittance support, exhaustive funding sources including Indian Central Bank Digital Currency (CBDC) - Digital Rupee, Stablecoin, and Direct currency conversion.

UPI benefits all Stakeholders the instant real-time payment system offers integrated, open layered and interoperable digital payment services. With a variety of payment modes including Push and Pull payments, Signed Intent/QR, One time mandate, Recurring payments, and Invoice in the Inbox.

UPI Governance Models are transparent and collaborative, there was continuous engagements. There were multiple meetings with participants (10-12 months) prior to the launch. Incorporating all inputs and taking the initial buy-in. They work with working groups at least once a quarter on key business, technical, operational, and commercial aspects. With Innovation committee once a quarter to understand the evolution needs and specific requirements. The ecosystem consists of the Reserve Bank of India (regulator), the NPCI Board (internal governance), Steering Committee, Banks, and Non-Banks, (product governance), Working Groups/Task Force, Sub-committees for Focused deliberations, Innovation Committee, to encourage new developments.

With regards to governance the National Payments Corporation of India is the governing body for Unified Payments Interface (UPI). UPI payments in India is primarily governed by UPI Procedural Guidelines and Circulars issued by NPCI. Under the current framework only Banks can directly integrate with NPCI to provide UPI services. However, banks are

permitted to engage with Technology providers to provide superior customer, subject to compliance, and prudential norms by NPCI, RBI and Government of India.

The Board for Regulation and Supervision of Payment and Settlement Systems (BPSS), a sub-committee of the Central Board of the Reserve Bank of India is the highest policy making body on payment systems in the country. The BPSS is empowered for authorising, prescribing policies, and setting standards for regulating and supervising all the payment and settlement systems in the country.

KEY POINTS:

- In 2016, United Payments Interface (UPI) launched, a significant development in the evolution of digital payments.
- In 2017, UPI processed 1.68 million transactions a day and processed one hundred million transactions a month.
- During 2018, UPI 2.0 launched offering new services, such as one-time mandate, and overdraft facilities.
- In 2019, UPI crossed one billion transactions.
- In 2020 UPI AutoPay, UPI cross-border launched.
- In 2021, UPI crosses four billion transaction and e-Rupi launched.
- In 2022, UPI crosses 4.52 billion transactions and UPI 123 Pay launched for feature phone users. With 39 billion transactions in 2021, India has established itself as a global leader on digital payments.
- India is a diverse country with many states, every 100-150 kilometres there is a certain nuanced change in the culture whether that be language, clothing, food, there are 22 official languages of India with 720 dialects. Communication alone is a big challenge.
- Rapid urbanisation from the explosion of the 1990s, 40.76% of country's population is expected to reside in urban areas by 2030. This brings in a separate challenge, the spread of the population between urban and rural areas.
- Rapid urbanisation is an enabler, but it brings the challenge of reaching out to consumers and citizens. The aspirations of the consumers are changing because of this urbanisation.

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

- UPI Consumers receive round-the-clock availability, no sharing of sensitive data, multiple apps - Bank and third parties, convenient and secure single-click two-factor authentication, and simple user interface including ease of raising complaints.
- Merchants using UPI benefit from the functionality, In-app payments, data security, no additional infrastructure required, suitable for both online and offline merchants and integration into real time payments (unorganized merchants' sector)
- For Banks using UPI it enables them to connect to feature phone users, facilitates P2P, P2M and QR scan to pay, supports bill payments including key categories like electricity, water, and gas for billers across the country, helps users in locating neighborhood stores for essential commodities, donations and Merchant offers and an asset lite acquiring model.
- For Fintech companies they can leverage UPI platform to drive innovation in digital payments, build business models to scale and monetize, participate in open real time payment rails to drive inclusion, expand payment ecosystem beyond traditional (served by banks) and evolve new use cases to drive customer convenience with trust.

Click HERE to view Mr. Kunal Kalawatia's presentation.

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

4.2 UNIFIED PAYMENT INTERFACE (UPI): CREATING A BALANCED SYNERGY WITH AADHAAR

HEADLINE: BUILDING AN INCLUSIVE AND FLEXIBLE DIGITAL PAYMENT SYSTEM

Mr. Arif Khan, Chief Digital Officer, NPCI International Payments Ltd, India

Mr. Arif Khan as Chief Digital Officer at NPCI, leading strategic planning for digital transformation. Mr. Khan is responsible for driving innovation, analytics, and technology.

A post-graduate in Business Management from XLRI – Jamshedpur, Mr. Khan was earlier associated with RazorPay (one of the fastest growing payment gateways) as the Chief Innovation Officer. During his stint at HDFC Bank of over a period of 15 years, he was instrumental in driving strategic initiatives in payments, digital banking, and financial inclusion. Arif has been instrumental in influencing diverse groups to deliver innovative business and new age disruptive solutions.

The UPI customer registration process is robust, with two factor authentication, which is common across the world now, there is a unique binding mobile data process. When a customer is added to UPI, a debit payment card was needed, but now customers can use their Aadhaar identification, this adds to the security.

One way to empower women is enabling women to access UPI services through Aadhaar, because many women may not have debit cards or access to debit cards, but through Aadhaar they are able to use the services.

In addition to the marketing and communication that has taken place to promote and educate the population, the regulator has introduced online payment distribution, payment can be made anywhere in the world, and a request to query a payment transaction can also be made. UPI attempts to resolve payment disputes within 30 minutes from the time the query is raised.

UPI has recently launched enabling customers to register for UPI through Aadhaar. This is the next way to making the system more secure and increasing the number of users.

Mr Khan said he believes the central bank digital currency is something that will be the first to take off, over other digital currencies and that the UPI protocol is ready to plan for the inclusion of digital currencies should central government sanction such a move.

KEY POINT:

- UPI wanted to ensure that the protocol is ready for digital currencies, the protocol could support digital currencies should regulator and central government support a move to allow digital currencies into the UPI ecosystem.

Click HERE to view Mr. Arif Khan's presentation.

5. CLOSING SESSION

5.1 CLOSING REMARKS: GOVERNMENT OF INDIA

HEADLINE: DATA FOR DEVELOPMENT TO ATTAIN THE SUSTAINABLE DEVELOPMENT GOALS (SDGS)

Mr Radhachran Shakya
Deputy Director General, International Relations Wing, Department of Telecommunications, Government of India

Mr Shakya thanked the speakers for sharing their insights and extended his appreciation to the attendees.

Mr Shakya said that the vision of the Prime Minister Modi is to use data for development, efforts have been made to progress the digital identity and the Unified Payment Interfaces. To incorporate the various language requirements in the mobile applications developed, and to reach even the most remote regions of India with technology.

He said that it was an honour to share the Government of India's experiences with CTO member countries, he would be pleased to share further knowledge and technological details with any aspiring country. India would facilitate any mission to India at bilateral and multilateral level, to further discussion on the UPI and Aadhaar ecosystems. The Republic of India wish to help CTO member states in their digital transformation journey.

Mr Shakya extended his appreciation to Secretary General Lewis and the staff of Commonwealth Telecommunications Organisation and especially to the Ministers and members of the CTO for joining the event.

Mr Shakya wished the audience a Happy Holi 2022, a Hindu festival that marks the beginning of spring and celebrates new beginnings.

Click HERE to view closing remarks

DIGITAL TRANSFORMATION CENTRE STAGE INDIA

17 MARCH 2022

5.2 CLOSING REMARKS: CTO

HEADLINE: CELEBRATING INDIA'S ACHIEVEMENTS

Digital transformation begins with a vision, it puts the citizen first and strives to build an inclusive society. Digital transformation requires data, data for development not profit, to embrace 21st century thinking to realise the digital future.

Ms. Bernadette Lewis, Secretary-General, Commonwealth Telecommunications Organisation

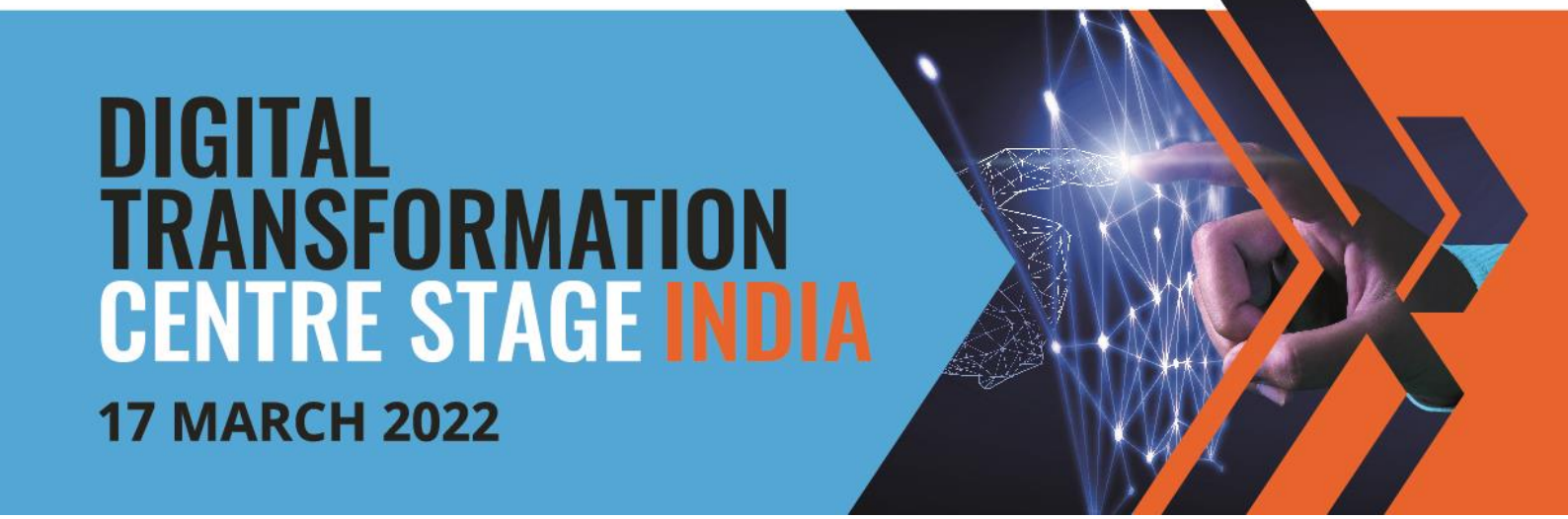
Secretary General Lewis on behalf of the Commonwealth Telecommunications Organisation thanked the government of India for presenting their digital identity and Unified Payment Interface systems to the Commonwealth. She took the opportunity to congratulate India on the progress they have made in a short period of time and for being an inspirational example to CTO members.

Secretary General thanked the speakers for their informative contributions and for making the inaugural Digital Transformation Centre Stage a resounding success.

Click HERE to view closing remarks

6. NEXT STEPS

The CTO continues to build momentum in helping CTO members achieve their digital transformation vision. CTO will ensure that members can access learning content easily and will continue to work with member states through continued consultations to ensure all Commonwealth nations have the necessary support to realise their ambitious Digital Transformation plans.



The Digital Transformation Centre Stage webinar series is set to continue in 2022, with the United Kingdom, Mozambique, Mauritius, and Samoa expressing interest to report on their progress in delivering Digital Transformation.

7. CONCLUSION

Aadhaar and the UPI has been successful ICTs for Development projects in the country of India. They have extended numerous benefits during the COVID-19 pandemic, when vulnerable groups within society needed support, it allowed a payment method that was more efficient than previous systems. The entire subsidy channel has been facilitated through the direct benefit of the Aadhaar digital transfers. Subsidies have been sent to farmers and the system has been delivered without any fallout, or delay in reaching the customers. Government Ministries/Departments and other entities such as banks, mobile operators, rely upon Aadhaar for proof of identity. Aadhaar's value is a steppingstone to economic empowerment. Whilst the Unified Payments Interface (UPI) has also helped reduce India's socio-economic digital divide. The facility has been a game-changing innovation in the digital payments sector.

There have been some challenges, with both security and data privacy concerns. A 2022 report by the Comptroller and Auditor General of India (C&AG) confirmed that there had been gaps in maintaining the uniqueness of the Aadhaar. The database had experienced unmatched and mismatched biometrics data on its system, and that a data archiving policy must be established, with inherent accountability on data management and protection. As further measures are taken to resolve these issues, the reach and influence of the digital identity will gain further promise.

Unquestionably, the progress reported by the Government of India during the DTCS - India webinar has impacted millions of lives for the better, with continued measures taken to ensure protection and accountability this project garners universal acclaim. Digital India's vision to transform India into a digitally empowered society and knowledge economy is an achievable vision.

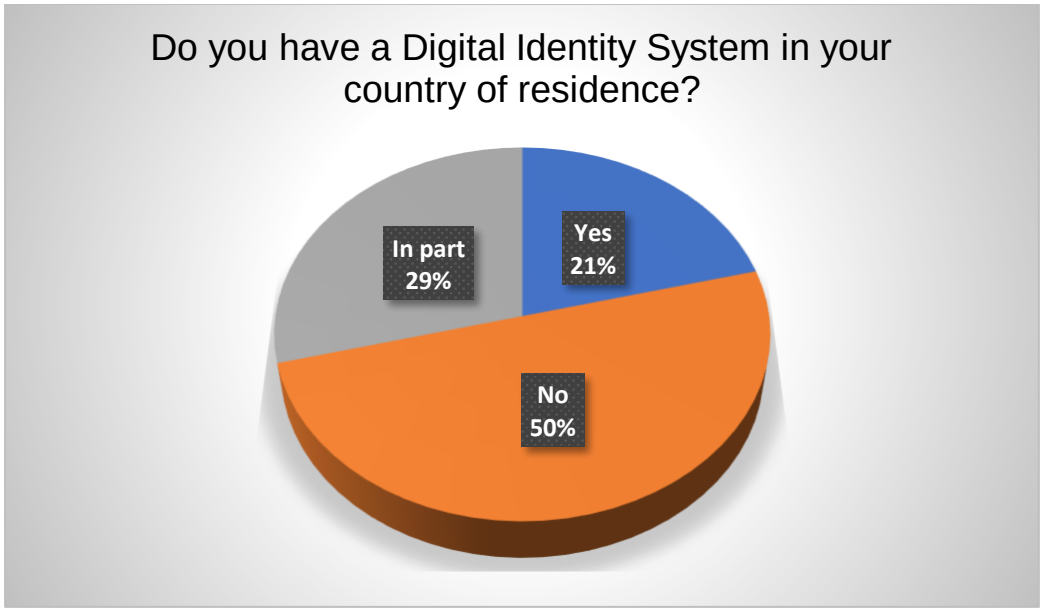
This Forum informed ICT practitioners on how to develop a Digital Transformation implementation framework, providing insights into the environment needed, how the

innovation was deployed, and the impact on national development. It is anticipated participants learnt much that can be transferred and applied to their own nation's digital transformation journey.

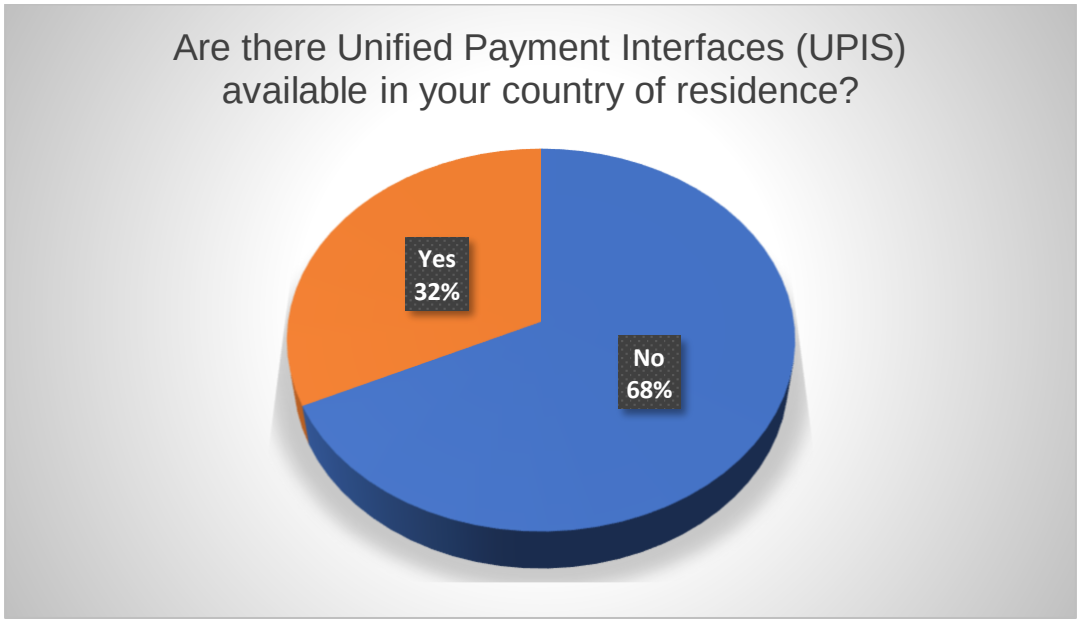
8. SURVEY Q&A RESULTS

During the forum delegates were invited to complete a short poll, the results of which are presented below. What participants said survey answers:

8.1 Appendix 1: Survey Q&A results: Digital Identity System



8.2 Appendix 2: Survey Q&A results: Unified Payment Interfaces (UPIs)



8.3 Appendix 3: Survey Q&A results: Digital Identity System and UPI systems information request

What are your thoughts on both the Digital ID and UPI Systems? Would you like more information on the products that have been presented today during the DTCS - India Webinar?

- Yes. They were quite informative and clearly presented. I like the low cost of implementation and the collaboration amongst the banks and other service providers to make payments easier for consumers.
- Trinidad and Tobago are working to develop its own Digital ID and payment systems. The solutions developed by India are of great interest to us, and we would like to learn more.

- Both Digital ID and UPI systems are very useful and helpful. In Samoa, we need enough resources and people with digital skills for these Digital ID and UPI systems to be well implemented and effective.
- They are very useful system and for Samoa alone there is a need to develop digital skills and more trainings in having knowledge of these systems. Yes
- The initiative is very useful, and Samoa will support adopting it however first we need very skilful people for this implementation going forward. Yes please.
- Digital ID and UPI systems are fantastic tools for digitalisation in mass. Yes, I would like to have more information on the products presented today.
- We'll like to have more information about the products presented today.
- There is need to strengthen security to Digital ID and UPI systems to minimise any possible hacking
- Very important since they promote digital inclusion and simplify payments across different platforms. I would be happy to get more information on the products that have been presented today. Thanks
- Excellent initiatives to support digital inclusion. Would want to receive more information
- Yes, we would like more information on the products that have been presented today.
- I would like some more information. I believe that it is a great citizen centric initiative that can benefit countries digital transformation agenda.
- My only concerns with Digital ID that's used for everything from education, health to finance is that if hacked it will cause chaos and fraud may also be easier to do as it is easy to replicate fingerprints etc.
- Samoa is at its early stages of developing its E-commerce Strategy and this presentation really would assist us. Appreciate if you could share your presentations.
- Would like to hear more on UPIs mostly.
- Yes, I would like to see the presentations so that I inform myself more
- Yes, I am very much interested. Can we start a discussion on it as soon as possible?
- Yes, I would like to get more detail information.
- Very interesting and would love to know more.
- I would need more information.
- Very interesting. I would like more information
- It was sufficient but would appreciate to have the copy

9. APPENDIX 4: FINAL WORDS FROM PARTICIPANTS

- Many thanks to CTO, the Secretary General, and all who organised this Webinar and to the participants.
- Wonderful presentations. Being an Indian citizen myself, I have seen and experienced how the digital transformation changes lives of all the citizens. Fantastic and would be worthwhile sharing these experiences with other Commonwealth members.
- It's a good webinar.
- Congratulations to Mr. Alok Shukla for a successful delivery of the Webinar, special thanks to Mr. Shakya.
- Thank you for the informative presentations.
- Very innovative, but not enough time for the questions/answers' session.

10. APPENDIX 5: LISTING PARTICIPANT ORGANISATIONS

Country	Organisation
Bangladesh	• BRAC International
Botswana	• Botswana Communications Regulatory Authority (BOCRA)
Cameroon	• Ministry of External Relations, Government of Cameroon • Ministry of Posts and Telecommunications, Government of Cameroon • Telecommunications Regulatory Board (TRB)
Ghana	• Airtel Ghana Ltd • Ghana Investment Fund for Electronic Communications (GIFEC) • Ministry of Communications and Digitalisation, Government of Ghana • Vodafone Ghana
Grenada	• Government of Grenada
India	• Commonwealth Local Government Forum • Department of Telecommunications, Government of India • Dr. B.R. Ambedkar University Delhi • Telecom Equipment Manufacturers Association of India

Jordan	• Better Than Cash Alliance
Kenya	• Communications Authority (CA)
Lesotho	• Lesotho Communications Authority
Mauritius	• Ministry of IT, Communication and Innovation, Government of Mauritius • Rodrigues Educational Development Company Limited (REDCO)
Nigeria	• Digital Bridge Institute • Federal Ministry of Transportation, Government of Nigeria • Lumilab • State Secondary Education Board • VASCOM
Saint Kitts and Nevis	• Department of Technology
Samoa	• Ministry of Communications and Information Technology, Government of Samoa • Office of the Regulator
Sierra Leone	• National Telecommunications Commission (NATCOM)
South Africa	• Independent Communications Authority of South Africa (ICASA)
Tanzania	• COSTECH • Tanzania Communications Regulatory Authority (TCRA) • Technovate Advisory Services • Universal Communications Service Access Fund (UCSAF)
Trinidad and Tobago	• Ministry of Digital Transformation, Government of Trinidad and Tobago • Telecommunication Services of Trinidad and Tobago
International Organisations	• Caribbean Telecommunications Union (CTU) • Commonwealth Secretariat (COMSEC) • Commonwealth Telecommunications Organisation (CTO) • International Mobile Satellite Organisation (IMSO) • International Sugar Organization (ISO)