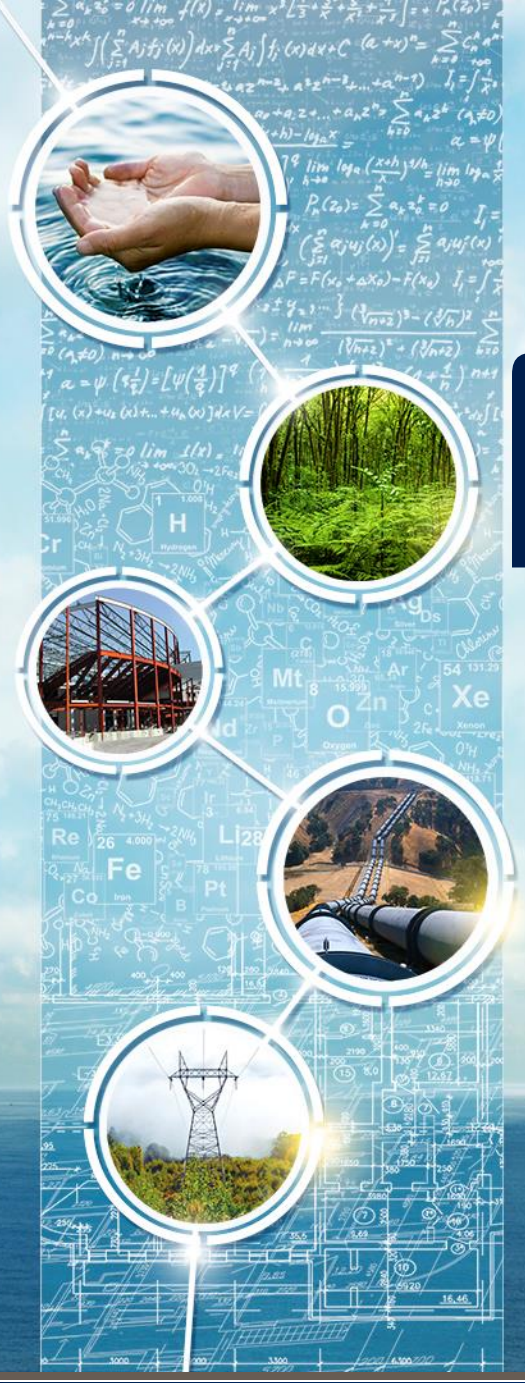

Delivery of E-Government Services

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Agenda

AGENDA

- E-Government Definitions
- E-Government History
- Mission, Goals and Objectives
- E-Government Challenges
- E-Government Benefits
- E-Government strategies
- ICT Drivers
- Digital Dividends

What is e-Government

- E-Government is the use of ICT to improve the efficiency and effectiveness of public sector service delivery.
- Or alternatively, the use by *government* of ICTs that have the ability to transform relations with citizens, businesses, and within *government*
- Promotes and improves stakeholder contributions to development, as well as to deepen the governance process

E-Government Definition

- According to the 2016 World Bank's World Development Report, E-Government:
  - Makes routine, transactions-intensive tasks significantly cheaper, faster, and more convenient.
  - Promotes efficiency
  - Increases inclusion as people get access to services that they could not have before
  - Makes Government more responsive to Citizens

What are E-Government Services

- Similarly, E-Government services refer to online or other electronic forms of Government services that had previously only been available in a manual or paper form.
- As e-Government redefines the relationship between government and citizens, government to government, government to business it enables services to be created that can accomplish these goals

E-Government Services

- E-Government in its basic form is about automating and computerizing systems and transactions which in turn leads to increased transparency, accountability, and decreases the opportunities for gratifications.
- E-Government is designed to promote and improve stakeholder contributions to development, as well as to deepen the governance process
  - It does this by increasing the quality of government service delivery, allowing for better use of government infrastructure and resources.
  - It also provides for improved governance, empowers the private sector to partner with the government to develop e-Government services, and increases transparency, and accountability.

E-Government Services

- For Government: It requires public policy makers and business leaders to collaborate together to work through these related challenges and how ICT can be used to address them.
  - It also requires Government to have the political will to make these changes.
  - A key component in the implementation is having Ministries and agencies understand their roles and responsibilities; this is imperative if the implementation and sustainability of newly initiated government systems, platforms and other initiatives are to be successful.
  - Ministry Officials need to have an awareness that e-government services and processes extend beyond the mere automation of existing procedures and that the current procedures may not necessarily be efficient or effective.

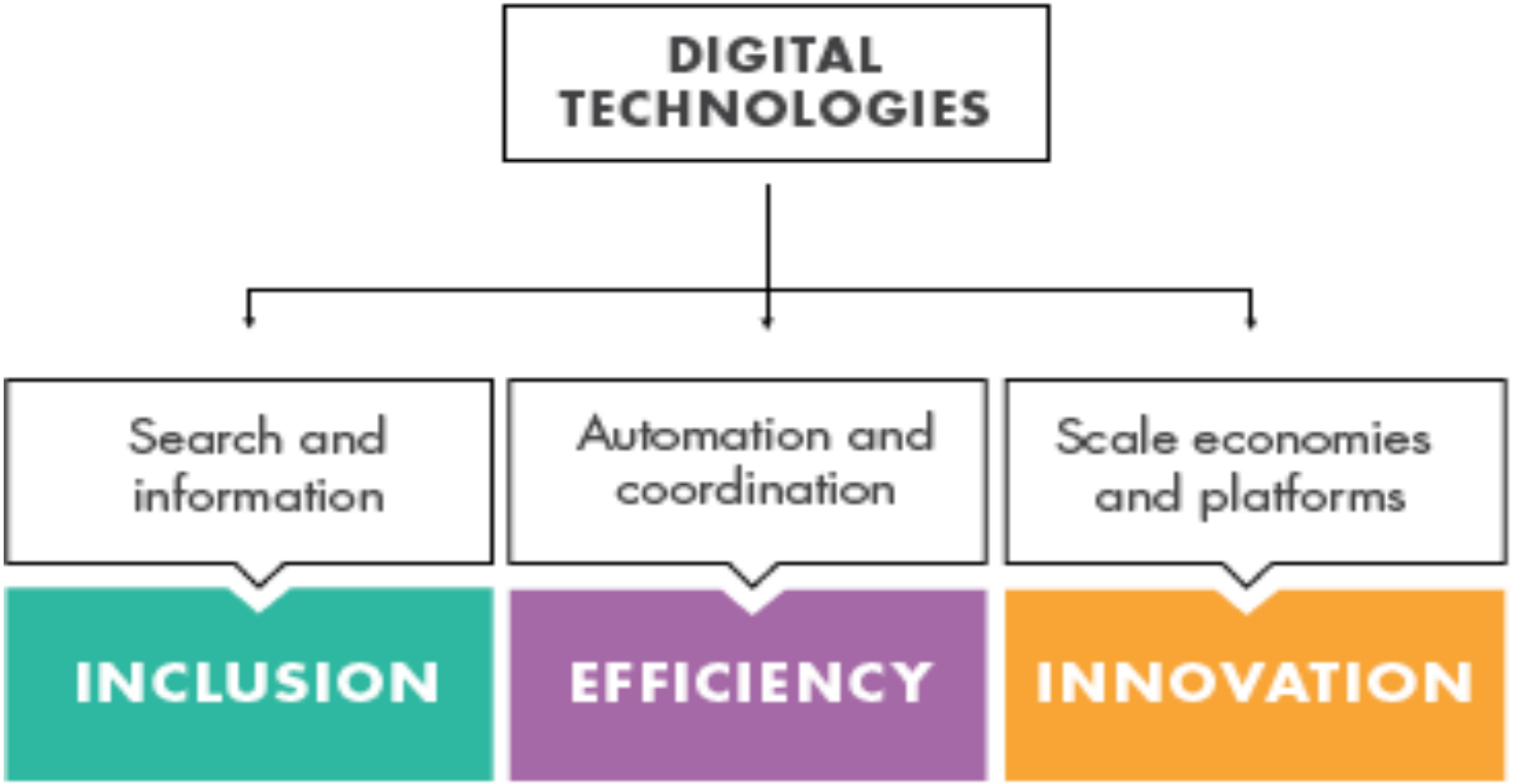
E-Government Services

- For business, this would be leveraging ICT to improve the business environment.
  - Connecting small enterprises to larger ones and the global marketplace;
  - Delivering financial and business development services; speed up the development of skills in citizens to meet this challenge.
  - Enhance the competitiveness and innovative capacities of small businesses
- For education, it means revamping the entire educational system to integrate ICT into all aspects of the curricula and making sure the students are digitally literate as well as physical literate.

Digital Literacy

- Digital literacy is critical to make effective use of access to data and technologies and also to gain employment in a new digital world.
- The networked society requires new expertise: digital and technological literacy, communication skills, problem solving, critical thinking, self-learning, teamwork, change management, creativity, and initiative.
  - Understanding this interplay at a relatively detailed level is critical to leveraging this technology for educational reforms.
  - Education systems must shift from textbook knowledge to teaching how to learn and become agile problem solvers.
  - Much of this learning must occur through networks that cut across academic, business, local, and global communities.

How ICTs Promotes Development



Source: WDR 2016

- Many electronic government (e-Government) initiatives in Sub-Saharan Africa have proven to be largely unsuccessful.
- However, the need for effective e-Government initiatives still remains obligatory.
- One of the core advantages of an integrated e-Government system is to break up silos that had characterized other evolutions of e-Government activities in the government public sectors.

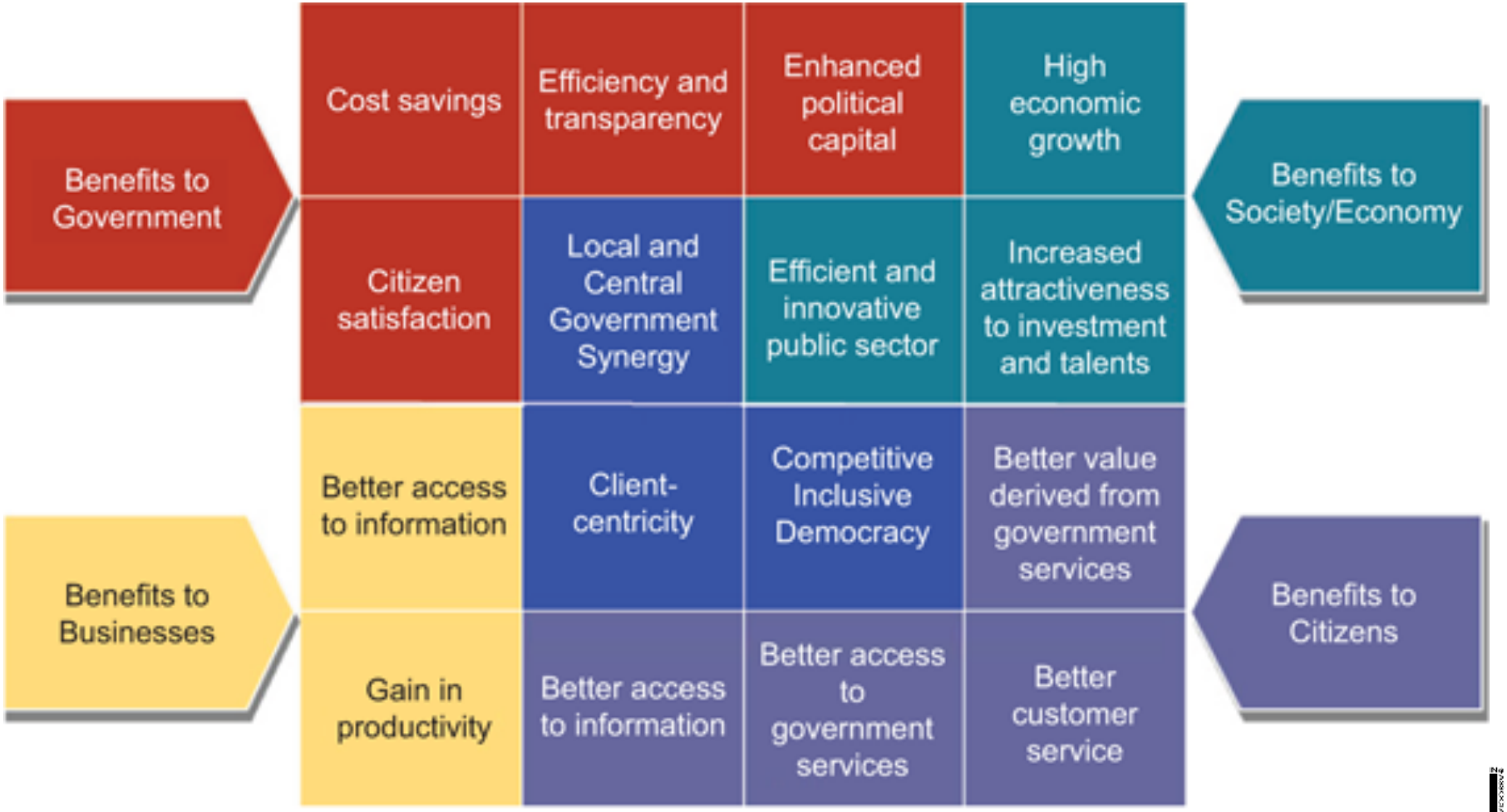
E-Government Benefits

- e-Government will contribute to economic and social development by transforming the country into a competitive, innovative knowledge-based society:
  - Increasing the quality of government service delivery,
  - Allowing for better use of government infrastructure and resources,
  - Improving governance,
  - Improving service delivery
  - Increasing efficiency and effectiveness
  - Enhancing the participation of private sector, and
  - Increasing transparency, and accountability
  - Reduce opportunities for corruption
  - Lower costs.

E-Government Benefits (continued)

- Promoting and encouraging e-government will allow the Government Ministries who support and encourage e-Government services and applications to be seen as leaders and innovators in the country.
- As more services are delivered they will be a catalyst for getting financial and other resources from potential stakeholders and partners including local and foreign investors, think tanks, mass media and civil society organizations

What are the Benefits that e-Government can Provide

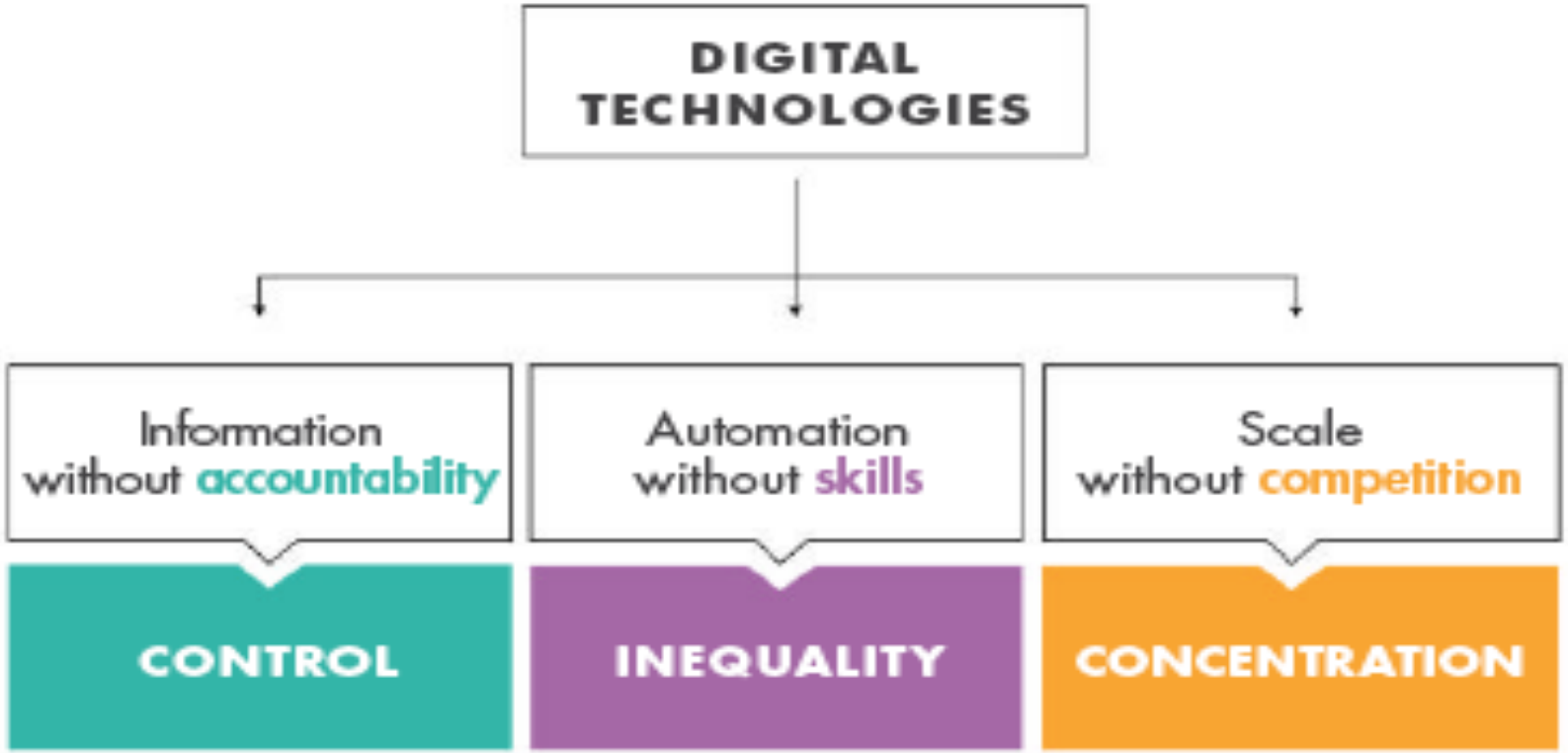


Source: Lanvin (2010)

E-Government Delivery Tracks

- E-government has been seen to have four primary delivery tracks namely:
- Government-to-Citizen or Government-to-Customer (G2C);
- Government-to-Business (G2B);
- Government-to-Government (G2G); and
- Government-to-Employee (G2E)
- All of these modules depend on the application of information technology to achieve their aims and objectives with a view to ensuring effective, efficient, transparent, accountable service delivery among others from government establishment or the public service.

Without Strong Development Components, the Opportunities of e-Government may turn into risks instead of Dividends

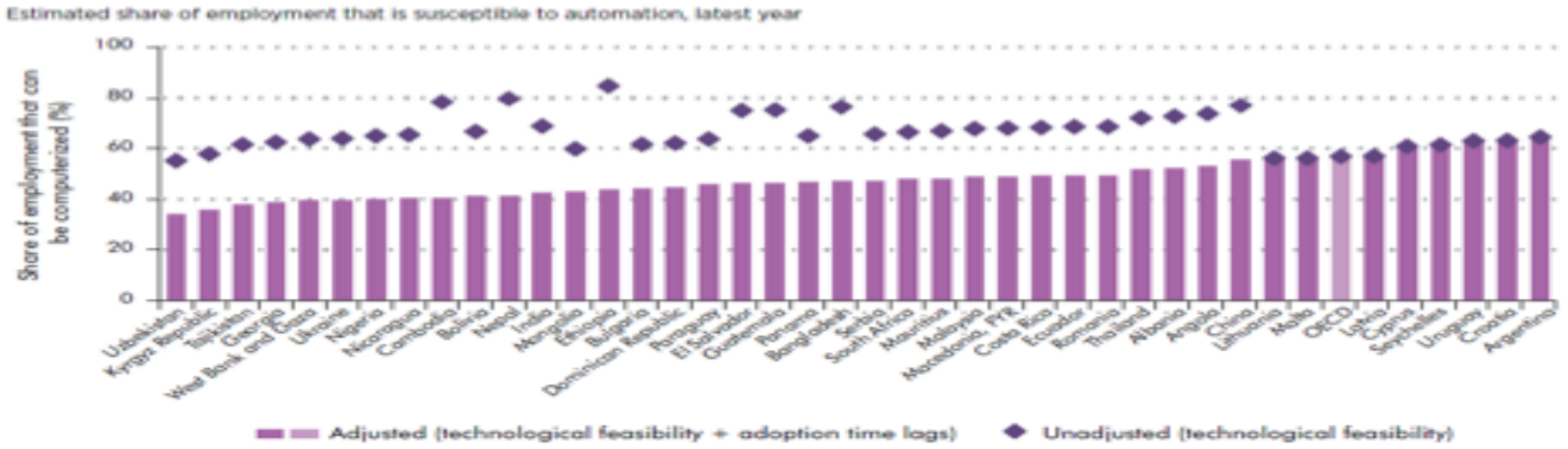


Source: WDR 2016 team.

- A better understanding of how technology interacts with other factors will allow your country to maximize the digital dividends produced and help make sure the transformation is successful.
- These components are:
  - Skills so that your citizens can take full advantage of digital opportunities
  - Accountable Institutions that enable Government to respond directly to the needs and demands of citizens
  - Regulations so that companies can leverage the Internet to compete and innovate
- When combined with digital components e-government works to strengthen and accelerate the pace of development

Automation without SKILLS

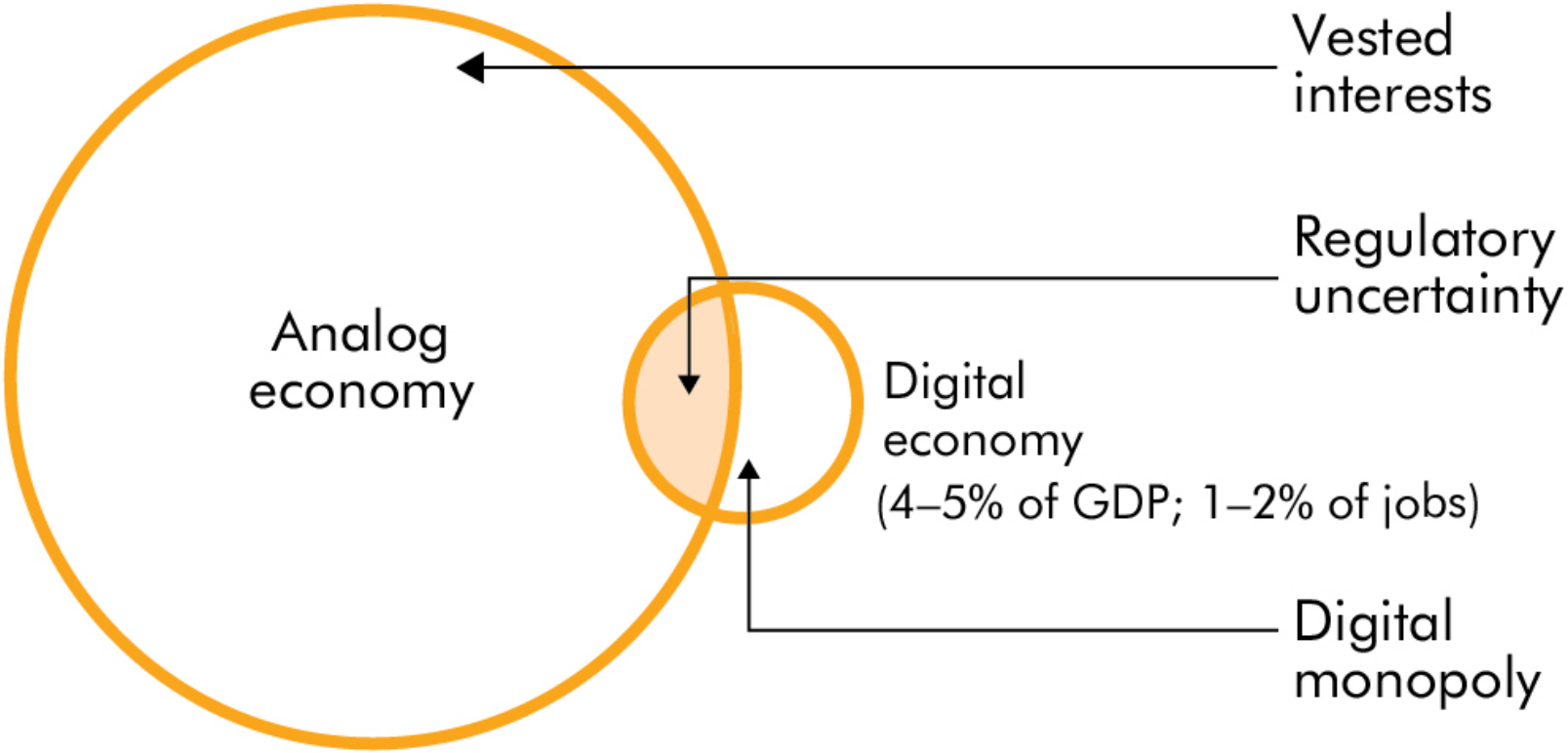
→ *polarized labor markets and greater inequality*



SOURCE: World Bank. Data at http://bit.do/WDR2016-Map0_1.

Scale without COMPETITION

→ *lower digital adoption and growing divergence*



SOURCE: *Eurostat, circa 2014,.WDR 2016 Team*

- A citizen centric government requires an understanding of the needs of all citizens or people who use and interact with the system.
- E-Government is about empowering and motivating civil servants to engage in major change and innovation
  - Encouraging them to make suggestions about changes or improvements to processes, systems, or programs.
- It is also about empowering the private sector so that they can start creating e-Government services and applications that can reduce transactions costs and provide significant savings in performance and in money.

E-Government Strategy

- For the e-Government strategy to transform the Government and lead to significant improvements in efficiency, accountability, and performance it also needs to focus on making sure the other development components are in place
- These components are: skills, accountable institutions, and regulations
  - E-Government systems automate many tasks but if workers do not have the necessary skills to have these jobs the efficiency gains may not materialize and instead there could be greater inequality
  - E-Government systems helps all stakeholders overcome information barriers that are impeding service delivery, but if these systems are not implemented correctly, governments remain unaccountable
    - The empowerment and inclusion gains expected may not come and the result could be government systems that are less accountable.
- Excessive concentration of market power by one or two companies leads to monopolies and inhibits future innovation.

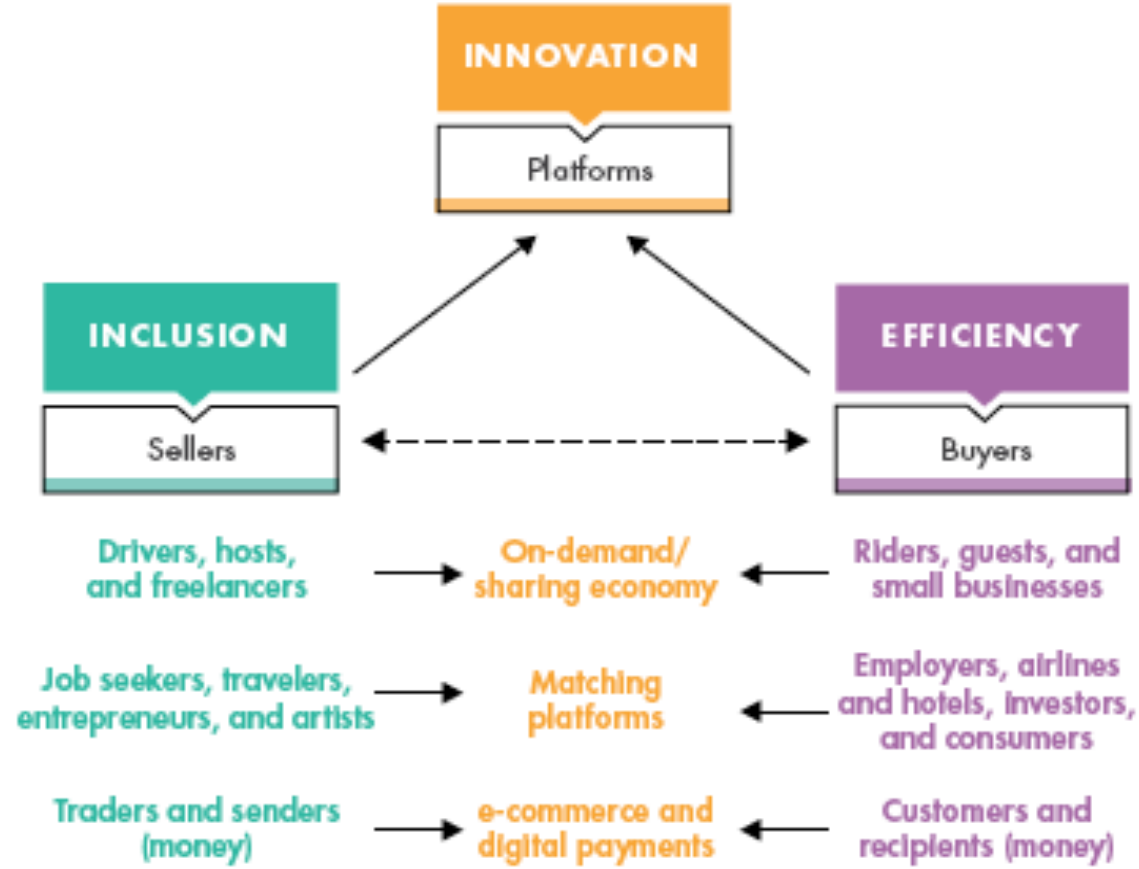
E-Government

- e-Government will contribute to economic and social development by transforming your country into a competitive, innovative knowledge-based society.
  - Increasing the quality of government service delivery,
  - Allowing for better use of government infrastructure and resources,
  - Improving governance,
  - Empowering the private sector to partner with the government to develop e-Government services, and
  - Increasing transparency, and accountability

Vision for E-Government

- The vision is to harness the potential of ICT to bring the government closer to the people through effective governance, improved service delivery and socio-economic growth become a smart and networked society.
  - Promotes collaboration, interaction, and participation
  - Innovation and learning,
  - Open and transparent government,
  - Client-centered services,
  - Knowledge based industries
- This vision is one where all citizens are empowered and can interact and collaborate with Government

E-Government use of Digital Technologies to Create a Market that Promotes Innovation



Source: WDR 2016 team.

Key ICT Drivers

- ICT has been recognized as crossing across all sectors of the economy
- ICT is a key driver and enabler of enhanced efficiency, effectiveness, and transparency in public service delivery
- The Sustainable Development Agenda was adopted by the UN in September 2015 and has 17 Sustainable Development Goals (SDG)
- Expansion of e-Government services is a driver of demand for ICT and provider of affordable access directly or indirectly.
- As stated in Goal 16 of the SDGs, e-Government applications and services ensure responsive, inclusive, participatory and representative decision making at all levels
- The e-Government strategy, by taking a whole of Government approach, by integrating ICT applications, systems, and services through out the Government will allow your country to reach these goals and achieve its objective of becoming a smart and networked society.

E-Government

- E-Government—is a major transformational leadership and change management exercise.
  - Transformation is far more than simply tinkering around the margins. It involves more fundamental, enterprise (or organization-wide) change in program design, business processes, and program operations to significantly improve performance and reduce costs.
  - An e-Government strategy will help transform ICT policy into action, and enable the Government to leapfrog other nations and grow its economy.
  - An e-Gov strategy will help achieve its goals and vision for itself and thus allow the country to harness the potential of ICT to bring the government closer to the people through effective governance, improved service delivery and socio-economic growth

E-Government (continued)

- A citizen centric government requires an understanding of the needs of all citizens or people who use and interact with the system.
- E-Government is about empowering and motivating civil servants to engage in major change and innovation
  - Encouraging them to make suggestions about changes or improvements to processes, systems, or programs.
- It is also about empowering the private sector so that they can start creating e-Government services and applications that can reduce transactions costs and provide significant savings in performance and in money.

Mission and Vision of e-Government

- Mission and Vision of e-Government
  - To implement eGovernment at multiple levels in such a way as to promote transparency, efficient delivery of services with increasing Citizens-Government interaction while at the same time tapping into the economic viability of the venture.
  - To build national infrastructure to facilitate eGovernment and other relevant activities which provide ICT facilitated deliveries for the benefit of the citizens.
- Goals and Objectives.
  - Goal 1: To develop models, programs and projects for eGovernment:
  - **Objectives**

    I. develop sustainable models for development and funding of eGovernment;
    II. develop eGovernment programs and projects that meet international best practice and impact on the lives of the citizenry;
    III. build capacity within government for productivity and efficiency;
    IV. align government programs and projects with eGovernment.

Mission and Vision of e-Government

- Goal 2: To develop benchmarks, standards, guidelines and framework of interoperability for eGovernment applications, systems, processes and organizations:
  - **Objectives**

    I. ensure that all applications deployed by government agencies are interoperable for seamless data exchange and integrity;
    II. provide standards and guidelines for ICT use and applications in government;
    III. provide guidelines for Business Process Reengineering and Change Management in the public sector;
    IV. guide government in the use and applications of ICT within itself;
    V. provide benchmarks for projects and programs for effectiveness;
    VI. partner with the Industry to provide technical leadership for the nation's standards and technological infrastructure;
    VII. promote free enterprise and open source standards.

Mission and Vision of e-Government

- Goal 3: To develop, operate and maintain a national eGovernment platform for integration, shared services, and authentication.
  - **Objectives**

    I. provide a one-stop gateway for 24/7 access to government services;
    II. provide a national platform for common shared services amongst government agencies;
    III. ensure that all non-classified forms of government are online for easy access;
    IV. provide standards for agency website;
    V. ensure that government agencies are able to share and reuse resources for efficiency and productivity to reduce cost and avoid waste;
    VI. promote entrepreneurship
    VII. encourage private sector participation in delivery of government services.

E-Government's Vision

- An e-government vision based on the following three main goals which have nine key elements which are at the heart and center of it.
  - Citizen Centered
    - Most commonly used Online e-Government services
    - Focused on service and citizen services
    - Many Channels and many platforms to get these services
  - Efficiency
    - Connected Government
    - Common applications, standards, and policies where all systems are interoperable so that they can talk and communicate with each other and allow for shared services and processes
    - Increased collaboration and coordination with other Agencies

Mission and Vision of e-Government

- Productivity
  - Strengthen ICT in Education
  - Increase Private sector participation in E-Government whether it is through outsourcing or through creation of e-Government services or applications
- Infrastructure
  - Expand nationwide ICT Infrastructure
  - Digitalized Community, creating and improving digital literacy
  - Increasing awareness of e-Government services and applications
- Governance
  - Establish Governance Structure
  - Oversight, monitoring and evaluations
  - Cross agency initiatives across the whole of Government
  - Governments can build a solid e-government foundation and a complete service network, but citizens still will not use online services if they do not know how to access them or are unaware of their existence.

Mission and Vision of e-Government

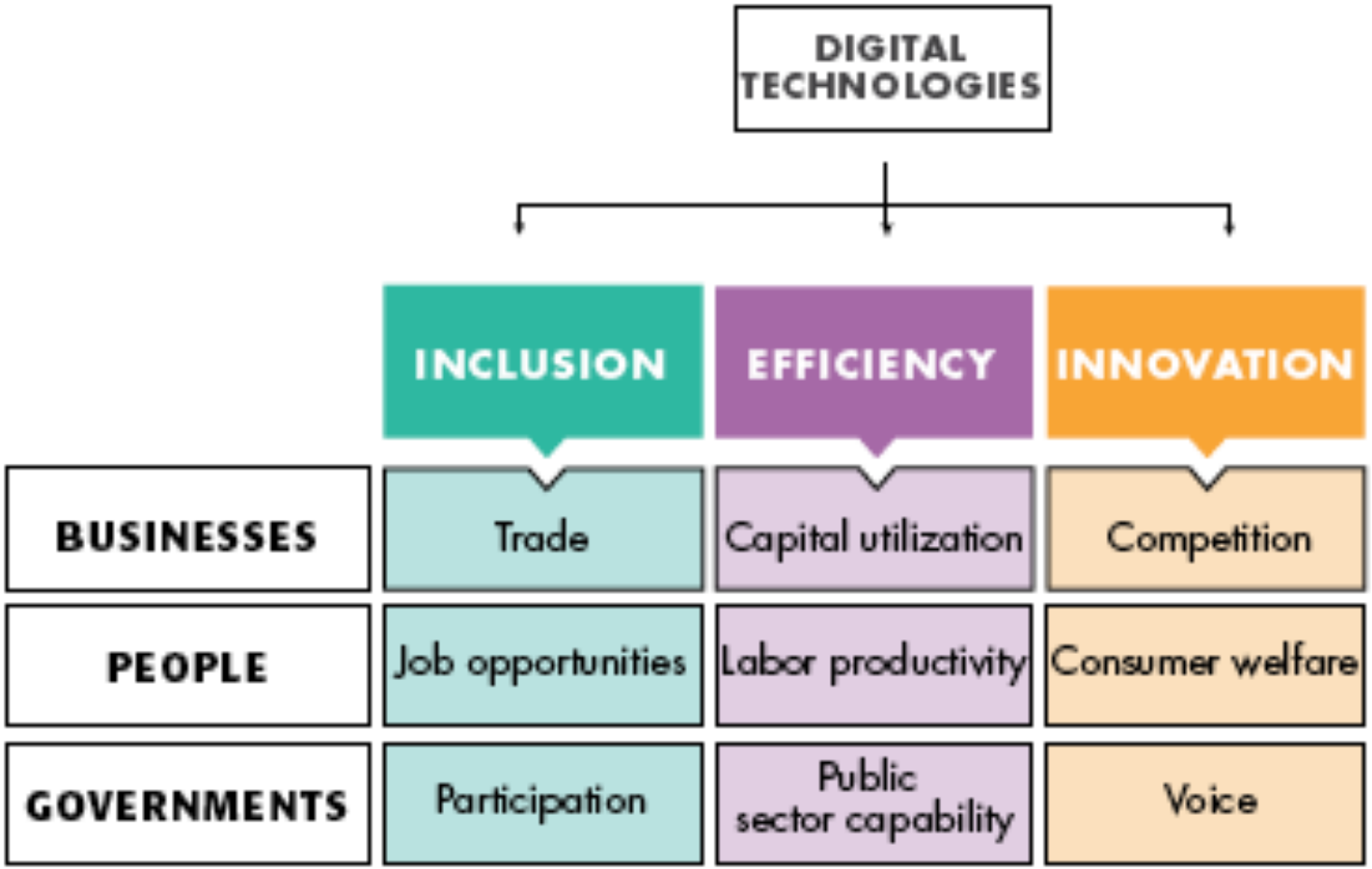
- **Reducing Costs:**
  - Putting services online substantially decreases the processing costs of many activities compared with the manual way of handling operations.
  - Efficiency is attained by streamlining internal processes, eliminating the need for customers to write the same information on each form, thereby enabling faster and more informed decision-making.
- **Promoting economic development:**
  - Technology enables governments to create positive business climates by simplifying relationships with businesses and reducing the administrative steps needed to comply with regulatory obligations.
  - There is a direct impact on the economy, as in the case of e-Procurement, which creates wider competition and more participants in the public sector marketplace.

Mission and Vision of e-Government

- **Increasing transparency and accountability:**
  - e-Government helps to increase the transparency of decision-making processes by making information available and accessible to all citizens.
  - By publishing this information it holds government accountable for its actions, such as budgets and expenditure statements, salaries of officials, meeting with Ministers, outcomes and rationales for key decisions, and in some cases, allowing the on-line tracking of applications on the web by the public and press.
- **Improving service delivery:**
  - Making Government citizen centered, by streamlining delivery of government service delivery.
  - Valuing the customer's time by giving them the information at times that work for them and in a manner that is easier for them.
  - By putting government services online, e-Government reduces bureaucracy and enhances the quality of services in terms of time, content and accessibility.

E-Government Challenges

- The lack of government regulatory policy is a major issue that needs to be addressed if e-governance is to be a reality in government organizations.
- Effective and successful implementation of e-governance requires experts to coordinate and operate the ICT-related infrastructures, because where there are no competent personnel to handle it infrastructure, it will be useless to procure the infrastructures
- Another challenge has to do with the power supply.
  - An adequate power supply is an important element to be considered for the successful implementation of e-governance in the country's public sector



Source: WDR 2016 team.

- As the World Bank stated in the 2016 World Development Report
  - e-Government can make routine, transactions-intensive tasks significantly cheaper, faster, and more convenient.
  - activities and services become cheaper, quicker, or more convenient
  - Increase inclusion as people get access to services that they could not have before
  - It makes Governments more responsive to its customers

- Digital technologies can help improve government capability and citizen participation by:
  - *Informing citizens* so that these people can make better decisions and can access a variety of government and other services;
  - *Streamlining processes* by reducing opportunities for gratifications, ensuring that public resources are collected and spent efficiently, without leakage;
  - *Receiving feedback* to track satisfaction, identify problems, and improve service quality;
  - *Improving service provider management through better monitoring*

E-Government Services

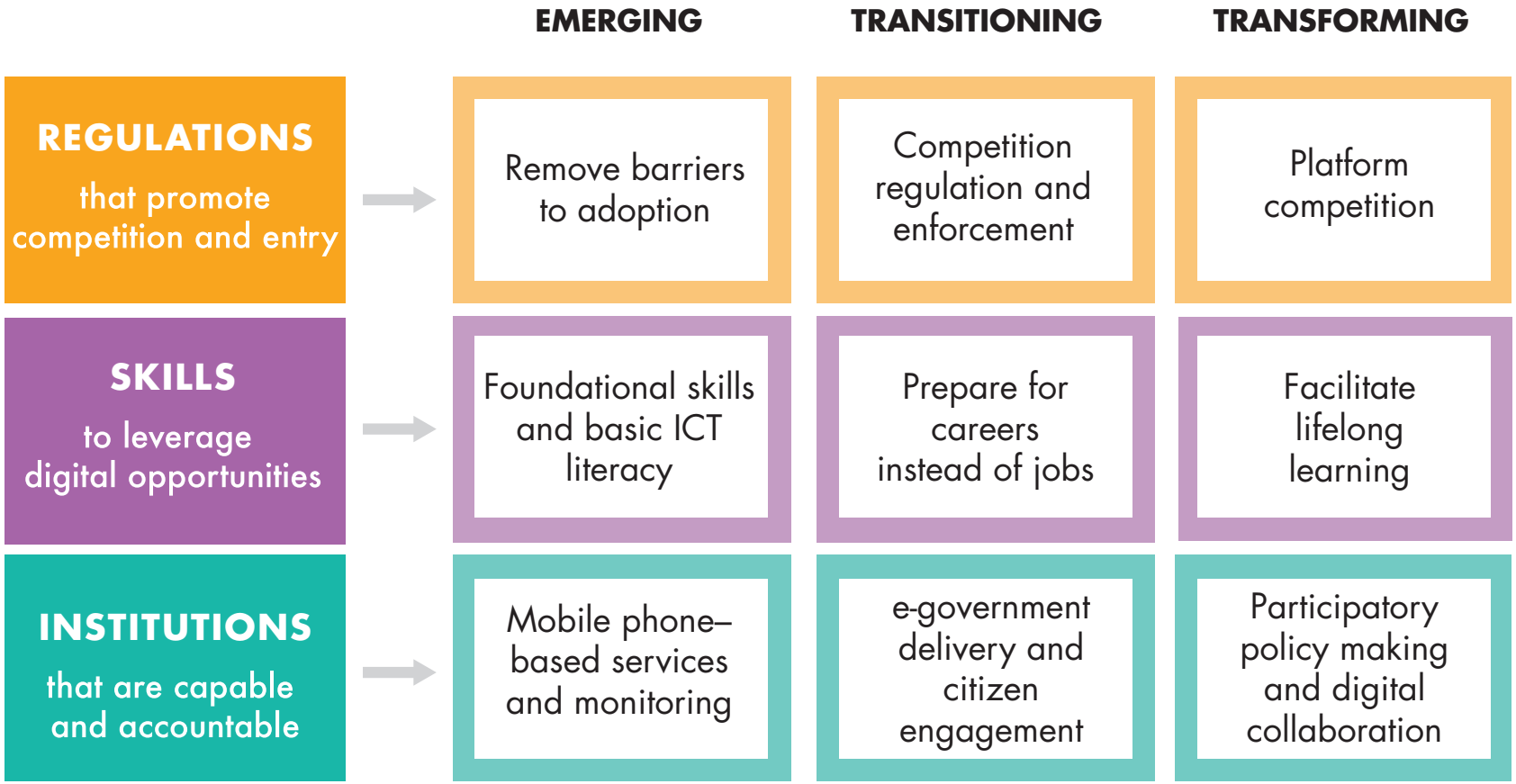
- E-Government will not achieve its full potential unless ICT is widely adopted, made affordable, and accessible to all.
- Government agencies must act not only. as facilitators but also, as users of ICT, in close collaboration with other major stakeholders in private sector and civil society.
- Stakeholders are not just the various government agencies but also private sector, technical community, academia, NGOs and Civil Society, ordinary citizens.

E-Government Services (continued)

- E-Government works best when all channels of communications are open.
- Collaboration and communications must be at the front and center for the strategy to succeed.
- Governments should be collaborating and partnering with each other and with businesses.
- Governments should work closely and listen to feedback from citizens on what type of services they want most.
- Governments should empower workers and listen to their ideas and implement the ones that are good.
- Government should energize students and young entrepreneurs to partner with government agencies and create online services and applications to improve public service delivery.

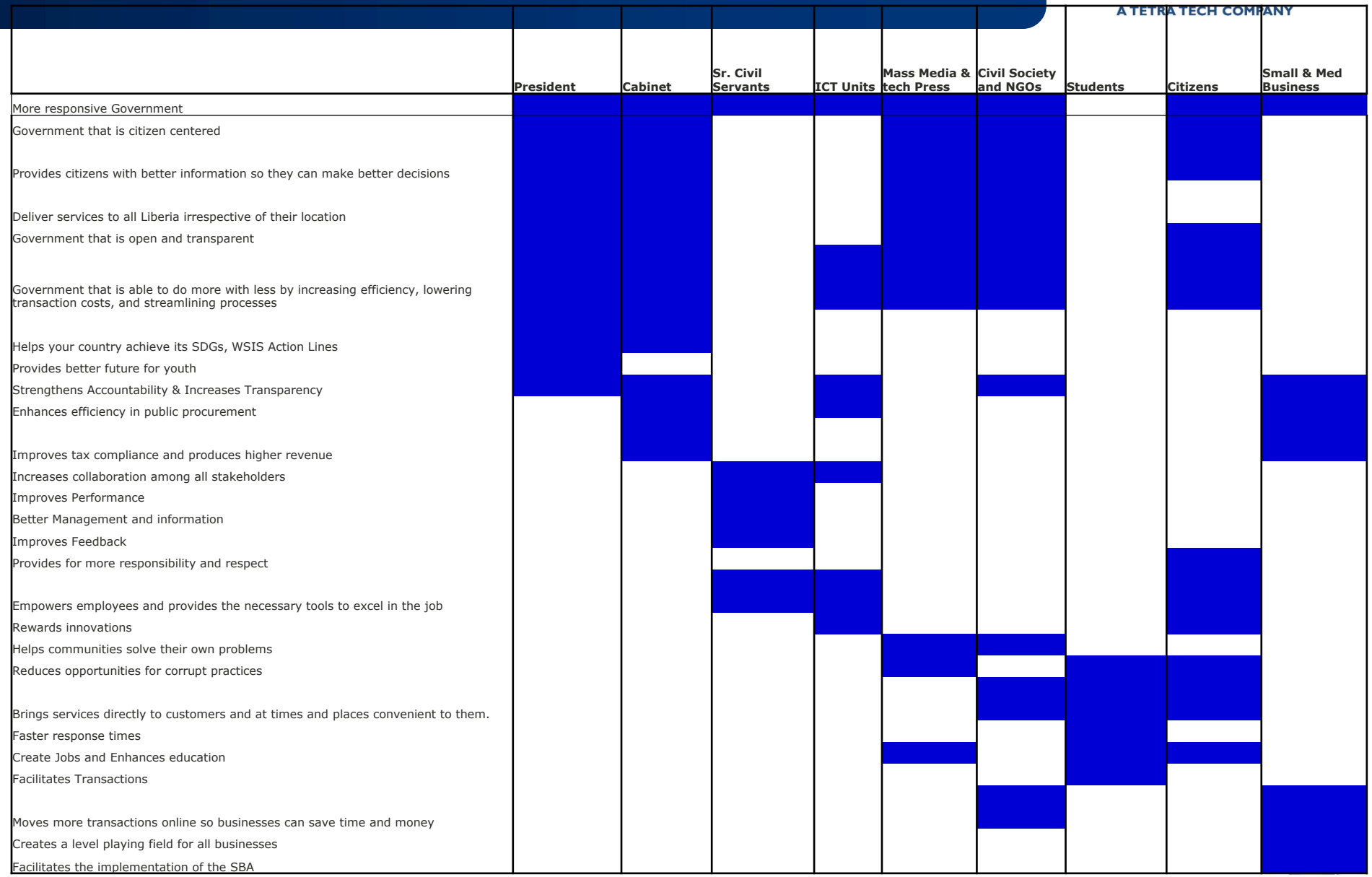
NATIONAL PRIORITIES

Development foundations for a digital economy



SOURCE: *WDR 2016 team.*

Stakeholders to E-Government



E- Government Successes

- E-Government works best when all channels of communications are open.
- Collaboration and communications must be at the front and center for the strategy to succeed
- Governments collaborating and partnering with each other and with businesses
- Governments working closely and listening to feedback from citizens on what type of services they want most
- Governments empowering workers and listening to their ideas and implementing the ones that are good
- Government energizing the students and young entrepreneurs to partner with it and create online services and applications to improve public service delivery.

E-Education Definitions

e-Education

- The delivery of a learning, training or education program by electronic means. E-learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material.

E-learning

- can involve a greater variety of equipment than online training or education, for as the name implies, "online" involves using the Internet or an Intranet. CD-ROM and DVD can be used to provide learning materials.

mLearning

- the ability to access educational resources, tools and materials at anytime from anywhere, using a mobile device.

Example: Using Technology In the Classroom

- Technology in itself does not add value to education.
- Purchasing hardware and software and putting them in classrooms has little impact.
- The most effective use of technology is driven by learning and teaching goals, rather than by specific technologies driving learning outcomes.
- Technology is subordinate to good teaching, and supplements or enhances other teaching (as opposed to replacing more traditional approaches).
- According to this research, introducing new technology on its own does not translate into more effective learning, particularly if the use of the technology and the learning outcomes are not closely aligned.

Technology (continued)

- Having access to broadband will not mean that students will have better quality of education or even score higher on standardized tests.
- The only thing that can increase the quality of the education are better teachers
  - teachers who have better training on all subjects
  - including how to best use technology in the classroom and integrate it into curriculum.

Best Practices in M-Health

- The WHO National e-Health Toolkit lists a series of e-health applications and services that are geared to encourage the development and use of broadband towards e-Health issues.
- The WSIS stocktaking tool also has a number of best practices for integrating broadband into health initiatives.
- WSIS highlighted a best practice from Italy called Open Hospital that has been deployed in Africa and in other countries.
  - This software is currently installed and used in hospitals in Africa and the Middle East. Moreover, a new collaboration agreement between ISF and several major NGOs is expected to promote the diffusion of the software in many other African hospitals. https://www.itu.int/net4/wsis/stocktaking/projects/Project/Details?projectId=1420309060
  - The Open Hospital project aims to provide access to quality essential health care services, essential medicines, and vaccines.
  - This software demonstrates how ICTs can contribute towards achieving better patient management in places where it can be difficult to manage personal data, or retrieve patient data as well as allowing medical specialists to follow patients' medical history, and to recommend appropriate courses of treatment.

Best Practices

- The GSM Association Mobile for Development Programme tracks over 1,200 mobile health (or m-Health) products and services and connects the mobile and health industries to develop commercially sustainable m-Health services that meet public health needs.
- The Broadband Commission showcased the benefits of a mobile application designed by a local start-up for improving maternal healthcare in Myanmar.
  - "MedAfrica", a mobile phone application that allows consumers to access medical information and locate reputable doctors and hospitals, has an average of 1,000 downloads per day and is used in Kenya and Uganda.
  - E-Health Africa's electronic health solutions can be rapidly deployed to manage patient information, streamline clinical procedures, and provide data and analysis on health program outcomes.
  - E-Health's technology is designed specifically for hot, humid, and dusty environments with little to no electricity access.
  - Interfaces are designed to be user friendly for healthcare workers with limited technical knowledge.
  - The use of the mobile phone (in combination with a web-based interface) in health care results in an increase in convenience and efficiency of data collection, transfer, storage and analysis management of data as compared with paper-based systems.

Conclusions

- Definitions for e-Government and e-Government Services—
  - Makes routine, transactions-intensive tasks significantly cheaper, faster, and more convenient; Increases efficiency; Increases inclusion; and makes Government more responsive to Citizens
- Importance of Digital Literacy
- The various challenges organizations face when deploying e-Government services and the benefits that these services can provide, such as the contribution to economic and social development and the ability to transform the country
- The drivers of ICT and e-Government services
- Ramifications to the country's growth and development without Strong Development Components, the Opportunities of e-Government may turn into risks instead of Dividends
- The lack of government regulatory policy is a major issue that needs to be addressed if e-governance is to be a reality in government organizations.

Thanks
Questions, Comments, Suggestions

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Extra Slides: Examples – Education and Health

Create an Education MIS

- The goal is to identify, collect and process all statistical data to calculate and monitor indicators
  - Account of the evolution of the education system to the defined objectives.
  - Collecting statistical data on education will also contribute to the establishment of the card.
- Creating a school identity card will facilitate tracking students throughout the school career and educational and academic orientation,
  - creation of a codified and assigned unique identification number by the file the central Ministry for National Education.
  - The Student ID card can contain all the history of the student from his/her entire school career.
- Provide Professional Development statistics for each teacher in the school
  - Classes taken
  - Skills gained
  - Use of technology
  - Proof of certifications and from which institution

Benefits of an MIS

- MIS can track key Student and Teacher performance and other vital information or statistics
  - Track attendance
  - Provide Proof of enrollment
  - Allow for the ease of changing schools
  - No need to physically go to one school to get records and then hand deliver them to the other school
- Track the Curriculum offered in each school
  - Teacher Lesson plans
  - Tracking and listing of all Homework assigned to each student and to each class
  - Tests given to each student
  - Scores on standardized tests across regions, states, counties

Benefits of an MIS

- An MIS will help the government better provide education services to students across the country
  - Allows the Ministry to better know class sizes and where more teachers are needed
  - Also allow for standardization of lesson plans
  - Improve teaching standards by providing on-line access to latest teaching aids, material, techniques
  - Improve Government administration and supervision of the education sector by using ICT
  - Improve overall quality of education in the country through distance
  - learning, E-learning, computer based training (CBT)
  - Integrating computer use into the classrooms teaching about online safety

Benefits (continued)

- The adoption of an EMIS will allow for many different types of e-government services to be offered to both students and teachers
  - System will also allow for easy access to curricula and lesson plans
  - Review and evaluation of lesson plans and allow for improvement to these plans if needed
- Broadband infrastructure in schools will also allow teachers to integrate e-learning opportunities in the classroom provide that the teachers are provided with the professional development skills of how best to integrate technology into their lesson plans
  - Examples are e-learning programs like the Khan academy
- Additional E-learning opportunities for students and/or schools in rural or remote areas
- Creating partnerships with other schools in Africa or in France and introducing monthly or weekly video conferences

Typical E-Government Services

- Easy registration for student to attend schools
- Easy transfer of student information from one school to another.
- No need to physically go to one school to collect records and bring it to another school. A parent can ask for this to be done electronically through the e-government portal
- Parents can request the performance history of their children so as to better track their performance
- Easy transfer of classes and type of classes to enable children to be eligible for different university of other education programs
- Allows the Government to be more responsive to citizen needs
  - Provides citizens with better information so they can make better decisions
  - Government that is able to do more with less by increasing efficiency, lowering transaction costs, and streamlining processes

Second Example: E-Health

- **e-health** encompasses the full range of uses of information and communication technologies (ICTs)—from traditional administrative reporting systems to broader Health Management Information Systems (HMIS) to telemedicine, electronic medical records, clinical decision support, and patient portals—and a full range of technologies, including internet and mobile applications.
- **m-Health (mobile health)** is a general term for the use of mobile phones and other wireless technology in medical care.
  - The most common application of m-Health is the use of mobile phones, tablets, and other communication devices to educate consumers about preventive health care services, to provide health services and information, but also to affect emotional states.
  - M-Health applications include the use of mobile devices in collecting community and clinical health data, delivery of healthcare information to practitioners, researchers, and patients, real-time monitoring of patient vital signs, and direct provision of care (via mobile telemedicine).

Creating an e-Health Vision

- create a national e-Health vision and get buy in on this vision for all stakeholders, both in the public and in the private sector.
- engage with stakeholders to create this vision and to identify the required components to be in this vision.
- gather information on the e-Health environment within the country, assess the opportunities and gaps.
- Refine the vision based on the opportunities, gaps, risks and barriers, and develops strategic recommendations.

E- Health Definitions (continued)

- Mobile phones allow community health workers to learn and prepare for disease outbreaks, identify patient symptoms, follow established treatment protocols, perform remote diagnostics, access expert support, refer patients to clinics, send patient reminders, record delivery of health services, and receive mobile payments for those services.
- Social media also helps by providing advice and support in the form of shared best practices, and to obtain important information about disease outbreaks and the availability of health services.

E-Health Solutions

- Data from the World Development report stated that e-health solutions, while costly to implement, could bring significant cost savings.
- This is because the implementation of human resources information systems, logistics management information systems, clinical decision support tools, digital payments, financial management information systems, and SMS reminder systems can address a variety of health system problems, including system inefficiencies, overuse of procedures, inappropriate hospital admissions, corruption and fraud, and missed appointments.

Making the case for e-Health

- Creating awareness and establishing a foundation for investment, workforce education and adoption of e-Health in priority systems and services.
  - There is a common misconception that countries can "leapfrog" to more advanced e-Health systems.
- Without a parallel focus on creating the enabling environment, innovations in ICT will stay isolated and have only a limited impact on health.

Creating a Health MIS

- An Integrated Health MIS systems need to be created and need to be able to talk to other systems in the government and be able to pull data from them.
  - This system could be composed of smaller systems such as
  - birth registration system,
  - Vaccinations,
  - patient's medical record,
  - medicines dispensed,
  - nutrition services,
  - maternal care, and
  - a host of other services, including social services.

high-priority e-health services

- Encourage the development and use of high-priority eHealth services and applications to improve the efficiency and effectiveness of health-care management and delivery.
- Establish a national eHealth solutions investment fund
  - Design and establish an investment funding programme to encourage the development and implementation of high-priority eHealth solutions that support national standards and that can be effectively scaled and leveraged across the country's health sector
- Foster development of high priority eHealth solutions
  - Engage with the health ICT industry and the broader health sector to build awareness and understanding of available investment funds and encourage the development of high priority eHealth solutions
- Operate certification process
  - Perform ongoing certification of eHealth services and applications as they emerge from the health ICT and broader health sector.

high-priority e-health services (continued)

- Develop and publish certification and compliance criteria
  - Develop and publish criteria that guide health-care organizations and vendors in determining what is required to certify their eHealth and other health ICT solutions as compliant with national eHealth standards.
- Develop high-level requirement and design for priority national eHealth services and applications
  - The national eHealth vision may have identified a number of priority eHealth services or applications that should be developed and deployed on a national scale.
  - This activity defines the high-level requirements and designs for these priority services or applications.
    - Examples may include national electronic health record systems, health information exchange, health information portals, national prescription services, and health information datasets.

High Priority services

- Select implementation partner to perform detailed design and build of national eHealth service or application
  - This involves identifying, evaluating and selection an implementation partner or partners to undertake the detailed design and implementation of a national eHealth service or application that adheres to the high-level requirements and design.
- Deploy and operate national eHealth service or applications
  - Once developed the national eHealth service or application will need to be deployed and operated reliably so that it can be accessed and used by the intended users (e.g. individuals, health-care organizations and providers, health-care managers and administrators).

E- Health MIS (continued)

- Other parts to the system are:
  - Provisioning of major informational and transactional services related to Health through electronic channels thereby improving the service delivery's quality and efficiency.
  - Convenience to the general public, healthcare institutions (hospitals and pharmacies) for informational and transactional services (prescriptions, referrals)
  - Improvement in the service levels of health ministry's services leading to timely medical aid to the citizens thereby improving the overall health scenario in the country
  - Disease surveillance, remote data collection, and epidemic outbreak tracking
  - Tracking of the status of training and medical education for health workers.
  - Timely public health information so citizens can protect themselves
  - Improved ability to diagnose and track diseases
  - Track the Build out of mobile clinics to halt spreading of diseases

Health MIS (continued)

- Education and awareness programs using low technology like SMS to other types of technology to make citizens aware.
- Uniform and transparent licensing process leading to efficient health care service delivery
- Convenient and accurate monitoring of certification and license status of health care institutions
- Registrations of birth which enable proof of identity for schools, healthcare, jobs, etc

Benefits of E-Health

- The new system will improve the quality of health care by providing physicians, nurses, and other health workers with the information needed to perform better diagnoses and treatment.
  - It will also promote knowledge exchanges, as information will be able to be shared more easily with other health professionals, contributing to improved continuity, efficiency, and timeliness
- All of these are essential for a variety of e-health and m-health projects envisioned to become citizen centered and become a true digital society.
- Once this system is in place it will be easier to create a variety of e-health and m-health applications that can help:
  - diagnose illnesses,
  - easily track and monitor citizen health especially those in rural areas,
  - dispense treatment,
  - schedule times for people to come to a clinic to be seen.

Benefits of M-Health

- Within the m-Health space, projects operate with a variety of objectives:
  - increased access to healthcare and health-related information (particularly for hard-to-reach populations);
  - improved ability to diagnose and track diseases;
  - timelier, more actionable public health information; and
  - expanded access to ongoing medical education and training for health workers.
  - Connecting healthcare workers to other healthcare workers, medical institutions, ministries of health, or other houses of medical information.
  - Improved communication projects attempt to increase knowledge transfer amongst healthcare workers and improve patient outcomes

Benefits of an MIS

- Education and awareness programs within the m-Health field are largely about the spreading of mass information from source to recipient through short message services (SMS).
  - In education and awareness applications, SMS messages are sent directly to users' phones to offer information about various subjects, including testing and treatment methods, availability of health services, and disease management.
  - SMSs provide an advantage of being relatively unobtrusive, offering patients confidentiality in environments where disease (especially HIV/AIDS) is often taboo.
  - Additionally, SMSs provide an avenue to reach far-reaching areas—such as rural areas—which may have limited access to public health information and education, health clinics, and a deficit of healthcare workers