



E-governance Policy of India: A Step Towards Sustainable Development Goals (SDGs)

Rakesh Gulati¹ and P. K. Suri²

Abstract

The adoption of the 2030 Agenda for Sustainable Development Goals (SDGs) in 2015 - addressing the social, economical and environment aspects by the General Assembly of United Nation - with people in the centre stage to eradicate poverty and prosperity for all on a safe planet, is an unprecedented endeavour for transformation of the world. The agenda includes 17 SDGs: No poverty, Zero hunger, Good health and well being, Quality education, Gender equality, Clean water and sanitation, Affordable and clean energy, Decent work and economic growth, Industry, innovation and infrastructure, Reduced inequality, Sustainable cities and communities, Responsible consumption and production, Climate action, Life below water, Life on land, Peace justice and strong institutions and Partnership for goals, which are further refined to 169 targets (UN, 2017). It seems to be a utopian task to achieve the goals of no poverty, health and education, safe drinking water, affordable and clean energy, etc. for all by the target year 2030. The challenge of achieving universal goals requires deeper and faster transformation of societies. Business-As-Usual (BAU) approach simply cannot deliver. Government needs to harness all the tools at their disposal - technology, finance, policy and partnership - as means of delivery. The role of effective, accountable, transparent and inclusive public institutions is vital to build peaceful, just and inclusive societies. Public institutions need to mobilize private institutions and communities to achieve SDGs. The capacities and innovations in public institutions are to be enhanced for equitable and effective service delivery for all, particularly for the vulnerable groups and poorest. Information and communication technologies (ICT), particularly broadband connectivity can be the game changer to get us off the BAU path for achieving SDGs.

The purpose of this paper is to understand the e-Governance policy framework adopted by Government of India for building accountable, transparent and inclusive service delivery institutions, development of digital infrastructure and empowerment of people, which contributes towards sustainable development.

Keywords: Digital India, e-Governance, e-Government, Empowerment, Sustainable Development Goal.

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1. Assistant Professor
Haryana Institute of Public Administration, Gurugram
& Research Scholar
Delhi school of Management
Delhi Technology University (DTU), Delhi
Email: rakeshkumargulati@gmail.com
 2. Professor
Delhi School of Management
Delhi Technology University (DTU), Delhi
Email: pksuri@dtu.ac.in

Introduction

The primary role of public administration institutions is the delivery of public services to the citizens as per the current and future aspirations of the citizens, but some time these needs are fulfilled initially and fail subsequently (Kumar and Best, 2006).

Traditional approach of governance, had several inhibiting factors such as demographics, language, caste, gender, mind set of people etc. to meet the aspirations of people of a large and diverse country like India having a large youth population. A new way of Governance, which is Strategic, Measurable, Achievable, Responsive and Transparent (SMART) is required to meet the challenge of dynamic aspirations of people (Graham, J., Amos, B. and Pulmptra, T., 2003). The role of effective, accountable, transparent and inclusive institutions is vital to achieve SMART governance and Information and Communication Technologies can play a catalyst role in SMART governance.

The United Nations General Assembly has recognised the role of information and communication technologies (ICTs) on several occasions in promoting sustainable development, supporting public policies and service delivery (UN, 2016). It has underscored that ICT has enabled breakthroughs “in Government and the provision of public services, education, healthcare and employment, as well as in business, agriculture and science, with greater numbers of people having access to services and data that might previously been out of reach or unaffordable” (UN, 2016). The General Assembly has also specifically affirmed the “potential of e-government in promoting transparency, accountability, efficiency and citizen engagement in public service delivery” (UN, 2016).

The world summit on Information Society (WSIS) in year 2003 and 2005 was devoted towards the potential of ICT and “people centric, inclusive and development oriented Information Society” where everyone can access & share information. The digital divide is to be bridged for people who are not able to access the potential of ICT through development of localized contents (WSIS, 2017). In year 2005, a working group of technical committee of International Federation for Information Processing (IFIP) has set up platform for the discussion and research on “ICT and Sustainable Development” (Toja, A. and Toja, S., 2016).

ICT has potential to speed and scale up wide range of technologies for nations to leapfrog to achieve key development milestone for the economy development through reducing the service delivery cost. It requires paradigm shift in policy to ensure that ICT is included as infrastructure for public service delivery such as health, education and energy. Ubiquitous access to broadband network will foster innovation, productivity, efficiency across the sectors and growth of internet economy and economy in general. It can help in overcoming the social and economic exclusion; can reduce the cost of services in the area healthcare, education, online banking services for financial inclusion (ICT & SDG, 2015).

Apart from innovations in technologies, the awareness about the availability and usability of technologies to people is foremost for the acceptance of technology. In past, information about the innovation spread through word of mouth, local demonstration and the scale up was gradual. The growth in awareness can be spread exponentially through internet, social media and other e-channel, making it easier to reach the people. People connected through national and global networks enable rapid innovation and up-gradation of the technologies. The emphasis is given to develop new technologies with open source - which enables the gain achieved in one part of globe can be adopted in other part of globe to help in up-gradation of technologies. It reduces the technology generation cycle, meaning the progress can be faster (ICT & SDG, 2015).

An integrated, economical and agile ICT approach is required for diffusion of technology for transformation of societies. It requires rapid expansion and upgrading of wireless broadband

infrastructure, paradigm shift in thinking of policy maker actors and institution, skill up-gradation of human capital and ICT Industry innovations for locally appropriate services.

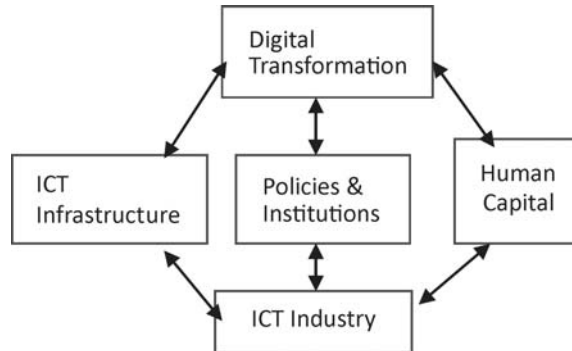


Figure 1: Public, Private Sectors and Government, Transforming to Network Society, Guide to policy makers, (ICT & SDGs, 2015)

In 1998, a task force was setup in India with the agenda to promote IT in various ministries/ departments for using information and communication technologies in delivery of public services. Learning experiences since year 1998 steered towards National e-Governance plan (NeGP) in year 2006, invigorated e-Governance Mission Mode Projects (MMPs) with enhanced budgetary support for MMPs. Learning experiences from some of the conceptualized and implemented MMPs under NeGP fostered NeGP2.0, i.e. e-Kranti in year 2015 under the umbrella of Digital India programme with an overall budgetary support of more than INR 1000 billion for digital India programme (CMAI, 2011).

People centric SDGs agenda of year 2030 has been adopted by Head of the States of United Nation's members with the commitment for the shared vision to improve the life of people and transform the world. The aim of SDGs is to move all the forces throughout the world to tackle the challenges of fighting poverty, reducing inequality and achieving SDGs. The domain of Information and Communication Technology (ICT) has a strong influence on the development of region, societies with innovation, efficiency and effectiveness in all sectors. ICT has become the integral part of business strategy, governance strategy and other walks of life.

It is the responsibility of the Government to develop the policy framework with coordination and cooperation of stakeholders for planning and implementation of e-Governance to move in the direction of achieving Sustainable Development Goals. Achieving SDGs requires Government commitment, dynamic leadership for far sighted and holistic decisions, creativity and innovation, adequate capacities and means of implementation. Public and private stakeholders have to play an integrated and balanced role. Policy integration and institutional coordination is needed for synergy and interrelation between SDGs.

Methodology

This study is qualitative, explorative and descriptive in nature based on secondary data collected from various web sites, research papers publications on e-Governance. The study is in reference to e- Governance policy of India for empowering the people of India for achieving the sustainable goals. An Overview of e-Governance policy of India is presented in section 3, section 4 indicates role of e-Governance in Sustainable Development (e-Gov4SD) and section 5 indicates

schemes / programmes initiatives taken by the Government of India in the direction of Sustainable development goals.

e-Governance Policy of India

Since the inception of e-Governance in India, the e-Governance projects have been conceptualized and implemented with the existing planning and implementation strategy framework of plan scheme of NITI Aayog (erstwhile planning commission) to achieve the target set for the period of plan. The genesis detailing, approval and implementation of plan was sequential in nature with top down approach at the Centre as well as State Government (Suri and Sushil, 2012).

Different scholars from developing countries including India have pointed to the limitation of top down approach which prevents the benefits reaching to the targeted beneficiaries. In India, Government planning is defined within the pre defined boundaries and is one time exercise with little scope of flexibility. It mainly depends upon top level executives and the implementers have very little role to play in planning (Pande, 2004). In reality, the actions of implementer are not in tune with the planner. Deficiency in collaboration, which may be due to lack of planning and strategy formulation capacities at grassroots level, time and resources constraints for deliberation with various stakeholders, inhabitation for free flow of idea from bottom to top due to hierarchical structure (Chakravarty, 1987).

The inefficiencies of static centralized planning system have been realized at the planners' level and State Governments have been advised to plan taking local factors into consideration in several sectors especially where the implementation is carried out in states. The anticipation of future requirements based on one time static plans is bottleneck and are therefore incapable of handling the dynamic characteristic requirement of e-governance projects. The flexibility to deviate from the approached framework for handling emergent situation is important as the maturity time for e-Governance project is large and requires instant corrective measures as per requirement. Such projects are bound to be affected by the limitation of overall system (Suri and Sushil, 2012).

National Institute of Transforming India (NITI) Aayog has been established on January 1, 2015, is key stakeholder for designing, implementing and monitoring policy for SGDs in India. It has replaced the Planning Commission Instituted in year 1950 to carry out the reform agenda of Government of India for the citizens of country. It acts as quintessential platform of Government of India to bring states to act together in order to have faster cooperative federalism (NITI Aayog, 2016). NITI Aayog is working on the principles of bottom up approach rather than top down model. Sub groups of States Chief Minister have been constituted for critical policy issues for the centrally sponsored schemes. The deliberation of sub groups through negotiation, persuasion and collaboration are incorporated directly into the policies of the Union Government. A task force has been established for the elimination of poverty and agriculture development as per 2030 agenda of Sustainable Development Goals (NITI Aayog, 2016). Ministry of health, government of India has set up task force to achieve SDG3 - Good Health and Well being for all (Task force on Sustainable Development Goal-3, 2016). The SDGs can be achieved with high standard of governance at all levels and role of ICT has been established for SMART Governance (NITI Aayog, 2016).

The learning experiences of technology usage challenges in service delivery to people of country led to National e-Governance Plan (NeGP) in 2006 with focus on Mission Mode e- Governance Projects. The planning and implementation inefficiencies of National e-Governance Plan-2006 (NeGP) of Government of India for e-Governance Projects have been addressed in e-Governance policy initiatives (e-Kranti) under Digital India programme. Effective implementation of e-Governance

for service deliveries to citizens is the key component of Digital India programme. These policy initiatives are the endeavour to draw improved roadmap for the implementation of the e-Governance projects in India (e- Gov Policy Initiatives under Digital India, 2015).

The major focus of e-Kranti is on collaborative application development using open source as common application software (CAS), which can be configured in Central/State Government departments without the need of modifying the core code of application on cloud platform to avoid the duplication in efforts and economy in time and cost resources. The applications developed using guidelines makes them standardized and compatible for hosting and running in various organisations of the Central/State Governments.

Kranti Framework

e-Kranti under Digital India programme with the aims of transforming India into digitally empowered society is vital for easy, efficient and effective governance in India. The digital India programme has 9 pillars. The emphasis of pillar 4 is on Governance reforms through technology. The emphasis on governance reforms is through government Process Re-engineering (GPR) using IT, Electronic Data bases, Work flow automation and Public Grievance Redressal using IT. Pillar 5 emphasis is on e-Kranti: public services delivery through electronics. The thrust areas and sub components of e-Kranti are: e-Education, e-Healthcare, Technology for Planning, Farmers, Security, Financial inclusion, Justice, Cyber Security. The e-Kranti framework gives emphasis on various factors: integrated service approach, inter operable, standardization, localized language, multiple channels in designing of e-Governance Mission Mode Projects for efficient and effective services delivery to citizens at affordable costs (e- Gov Policy Initiatives under Digital India, 2015).

The framework highlights about outcome based services to citizens, business and government using common ICT infrastructure like GI Cloud, National/State Data Centre, Mobile Seva, State Wide Area Network, Common Service Centre (CSC) & Electronic Service Delivery gateway. The Aadhaar based ID for services delivery to citizens will be facilitated.

Multiple agencies are involved in e-Kranti programme, Role and Responsibilities have been defined to create an appropriate management structure for effective delivery of Public Services. Ministry of Information Technology (MeitY), Govt. of India is Nodal agency for over all policy strategy and resolving inter ministerial issues. The ownership of MMPs is with the line Ministries/ Departments for Central Government and State Government. The detailed services about the project will be planned with consultation of end users by advisory committee with representation of end users to reduce the planning and implementation gap. The Chief Secretary will monitor the implementation of State level MMPs. The MMPs in the portfolio of e-Kranti may be exempted from the budgetary restrictions and cut to avoid the delay in completion of projects.

The inter departmental integration and inter operable issues will be resolved at the level of Cabinet Secretary's Committee and technical issues of integrated projects will be resolved at the level of mission Leader under the Secretary of MeitY.

Open Source Software Framework (OSSF) : In order to make digital services affordable and sustainable to the citizens of country, Govt. of India endeavour is to use open source software in all e-Governance Projects for all the organizations as an option wherever possible to leverage economic and strategic benefits (e- Gov Policy Initiatives under Digital India, 2015). National IT policy 2012 in one of its objectives advocates the adoption of open source, open standard and open technologies. The availability of source code helps the open source software community for study and modification. The source code is free, which reduce the overall cost of the project. The availability of application source code for customization is the main reason why,

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Governments throughout the globe are trying to promote application development in open source software for innovations, optimisation of costs in implementation of ICT in Governments.

The Open Source Software framework adopted by Government of India provides the guidance for adoption of open source software in Government departments as a preferred option than closed source software (CSS) for National/State Projects. This framework helps the Government departments and agencies in identification and selection of OSS solutions (e- Gov Policy Initiatives under Digital India, 2015).

The adoption of open technologies usage policy of Government of India with emphasis on technological compatibility based on standards, localization of contents, data/software security, reusability of software, absence of proprietary lock-in, freedom to modify and improve etc. will lead to rapid and easy to scale design of sustainable software applications for sustainable development. The application software plays a critical role in sustainability of application. It can have north push of consumption of resources, in equality in society but also can create democratic process, freedom for individual and also resource conservation (Becker, C., Easterbrook, S. and Penzenstadler, B., 2015). The design of the software can have long term consequences depending upon the intentions of the designer. The designer has to understand that sustainability applies to both; a system itself and its wider system of which it will part with.

The key stakeholders such as software designers, researchers, professional associations, educators, customers and users can play important roles in designing of software which can meet the requirement on current generation without comprising the needs of future generation.

e-Governance for Sustainable Development (e-Gov4SD)

Development can be defined in terms of social, economical, environmental and institutional. Traditionally, efforts for development were carried out in isolated manner for different domains, without considering the impact in other areas, for instance industrial development activities led to economic development but had effected environment adversely. It has led to wealth growth, but the gap in society has increased and undermined the societal sustainability.

Sustainable development (SD) refers to holistic and integrated approach to development in different areas of development; economic, social, environmental and institutional taking account of current as well as future generation requirements (World Commission on Environment and Development, 1987). This requires that needs of different groups of society, which are affected by such developmental initiatives are taken in account as part of governance for SD (Estevez, E., Janowski, T. and Dzhushupova, Z., 2013).

Governments are major players in SD process, ensuring the needs of all sections are addressed. They coordinate and collaborate with non state actors for participation using IT as means. This process is used for transforming the internal processes and for interaction with the stakeholders such as citizens, business and other arms of the society-e-Gov, when applied in the context of SD; we can redefine e-Governance into e-Gov4SD. It can be referred as use of IT to support public administration, public services, interaction between government and people for participation in decision making process for social equity and socio-economic development and protection of environment for future generation (Estevez, E. and Janowski, T. and Dzhushupova, Z., 2013).

There are five pillars of e-Gov; Government, Technology, Interaction, Customer, Society, which lie in the solution domain for Sustainable development in terms of social, environmental, economic and institutional which lie in problem domain of e-Gov4SD framework.

Problem domain		e-Governance (Solution Domain)				
		Government	Technology	Interaction	Customer	Society
Social	SD					
Environmental						
Economic						
Institutional						

Figure 2: E-Gov 4SD Conceptual Framework
(Estevez, E. and Janowski, T and Dzhussupova, Z. ,2013)

The cell of matrix defines the contribution space matching problems and solutions across dimension.

Illustrative Initiatives taken by Government of India toward SDGs

Some of the initiatives taken by the Government of India with technology as integral part of scheme/programmes in the direction of SDGs:

Table1: Some Initiatives towards SDGs

Scheme/programme	Indicators	SDG
Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)	<ol style="list-style-type: none"> 1. Employment through public works, Development of Agriculture infrastructure, Productive assets and entrepreneurship based livelihood opportunities. 2. Over 2 billion persons-days of employment. 3. Women and disadvantage group benefited. 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Zero Hunger (SDG2) • Gender Equality (SDG5) • Decent Work and Economic Growth (SDG8) • Reduce Inequality (SDG 10)
Pradhan Mantri Jan Dhan Yojana (PMJDY)	<ol style="list-style-type: none"> 1. Access to financial services; banking credit, insurance and pensions. 2. 280 millions bank accounts in one year. 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Zero Hunger (SDG2) • Good Health and Well being for All (SDG3) • Gender Equality

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Pradhan Mantri Jan Dhan Yojana (PMJDY)	<ol style="list-style-type: none"> 1. Access to financial services; banking credit, insurance and pensions. 2. 280 millions bank accounts in one year. 3. Delivery of payments from Government benefits schemes directly to bank accounts. 4. Minimising leakages, enhancing the effectiveness of social security schemes, saving in expenditure. 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Zero Hunger (SDG2) • Good Health and Well being for All (SDG3) • Gender Equality (SDG5) • Reduce Inequality (SDG 10)
Deen Dayal Antyodaya Yojana (DAY)	<ol style="list-style-type: none"> 1. Bring one Female Member from Poor Household in Rural Area into Self Help Group (SHG) for sustainable livelihood through skill development. 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Zero Hunger (SDG2) • Good Health and Well being for All (SDG3) • Gender Equality (SDG5) • Reduce Inequality (SDG 10)
Access to Basic Services	<ol style="list-style-type: none"> 1. Right to Education (6-14 years) for Free and Compulsory Education. 2. Universalising Primary Health Care. 3. Integrated Child Development Services (ICDS) for addressing Maternal and Child Nutrition. 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Zero Hunger (SDG2) • Good Health and Well being for All (SDG3) • Quality Education (SDG4) • Gender Equality (SDG5) • Reduce Inequality (SDG 10)
Pradhan Mantri Ujjwala Yojana	<ol style="list-style-type: none"> 1. Liquid Petroleum Gas (LPG) Connection to Poor Families. 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Good Health and Well being for All (SDG3) • Reduce Inequality (SDG 10)
Food Security and Improved Nutrition	<ol style="list-style-type: none"> 1. Food security programme for 800 million people at affordable prices. 2. Ration Card in name of Female member of family. 3. Digitization of 232 million ration cards. 4. Automation of Food Items Delivery Outlets 5. Mid Day Meal Scheme for Children in Primary School. 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Zero Hunger (SDG2) • Good Health and Well being for All (SDG3) • Gender Equality (SDG5)

	<ol style="list-style-type: none"> 1. Reduction in Infant Mortality Rate (IMR). 2. Reduction in Under 5 Years Mortality Rate. 3. Reduction in Total Fertility Rate. 4. Increase in Institutional Deliveries. 5. Mission Indradhunsh (Rainbow) for Children Vaccination. 6. Digitisation of ICDS Centres for Real Time Monitoring of Services Deliveries. 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Zero Hunger (SDG2) • Good Health and Well being for All (SDG3)
<p>Beti Bachao Beti Padhao (Save Girl Child, Educate Girl Child)</p> <p>Increase Access to Employment</p>	<ol style="list-style-type: none"> 1. Improvement in Sex ratio. 2. Mahila E-haat; Technology based Marketing Platform for Women Entrepreneurs and SHGs. 3. Stand Up India; Bank Loans to Women to set up Green Field Enterprise. 4. Mahila Shakti Kendra at Village level; for Skill Development, Literacy for Women. 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Zero Hunger (SDG2) • Gender Equality (SDG5) • Decent Work and Economic Growth (SDG8)
<p>Deen Dayal Upadhyaya Gram Joyti Yojana</p> <p>Pradhan Mantri MUDRA Yojana</p> <p>Pradhan Mantri Rural Road</p>	<ol style="list-style-type: none"> 1. Electrification of All Villages. 2. Easy Credit for Small Scale Entrepreneurs. 3. Special Incentives for Textile and Apparel Sector; Job creation for Women. 4. All habitations of more than 500 population to be connected with all weather roads. 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Zero Hunger (SDG2) • Gender Equality (SDG5) • Decent Work and Economic Growth (SDG8) • Industry, Innovation and Infrastructure (SDG 9)

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<p>Make in India</p> <p>Digital India</p> <p>Skill India</p>	<ol style="list-style-type: none"> 5. Development of Industrial Corridors. 6. Setting of manufacturing units for infrastructure sectors such as Electronics, Automobile, Defence, Aviation etc. 7. Integration of services from various government agencies for single window clearance. 8. Bharat Broadband Network For Gram Panchyats (Appox. 2,50,000). 9. Emphasis on Technology; Aadhar, DBT, Decision Based on GIS, Atal Innovation Centres. 10. Skill Development of Youth. 	
<p>Meeting the financial requirements gaps for SDGs</p> <p>Tax Reform: Goods and Services Tax</p>	<ol style="list-style-type: none"> 1. Improving GDP- Tax Ratio 2. Strengthen of Tax Administration System 3. Mechanism for control of illicit fund flow, pursuing tax heaven countries 4. Assistant from Developed Countries specially for Climate Change 5. Increase in Tax Devolution to States from 32% to 42% 6. Public Finance Management System for Real Time 	<ul style="list-style-type: none"> • No Poverty (SDG1) • Zero Hunger (SDG2) • Good Health and Well being for All (SDG3) • Partnership for Goals (SDG17)

Source: Voluntary National Review Report (2017)

Limitation and Challenges

e-Governance has the potential to improve the government citizen relationship. It has limitation and challenges, which needs to be addressed. Digital Governance is able to reduce the gap between have and have not up to certain limit. There is gap between the availability of technology and utilization by the citizen. Availability of ICT is not sufficient in itself; there are other factors like reliable digital infrastructure, institutional and political will, transparency in Government functioning, utilization of resources through sharing by multiple agencies, user's digital literacy and resources. Digital technologies can provide the information and opportunities for empowerment and engagement but participation by citizens is important for fully measuring the empowerment.

Conclusion

The digital policy under digital India programme with emphasis of creation of digital infrastructure like BharatNet, CSC2.0, Deen Dayal Upadhyaya Gram Jyoti Yojana, Digi Locker, National Digital Literacy Mission, Digitize India (Digital India, 2017) and initiatives of empowerment like skill development programme, Jan Dhan Yojana for financial inclusion, Unified Mobile application for new age Governance (UMANG) app for e- Gov services etc. have helped in creating conducive environment for achieving the sustainable development goals. This will help in achieving the intended objective of digital India policy of transforming the Indian society to empowered knowledge based society, which will act as mile stone for achieving the sustainable development goals.

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