

# A Methodology for Digital Government Transformation

Jenny Huang and Achim Karduck

**Abstract**—Digital government is the use of information and communication technologies (ICT) to support government functions, services, and citizens in their participation in social economic development, political processes and quality of living as a whole. However, despite the progress that have been made in the last two decades, most governments are far from capturing the full benefits of digitization [2]. There is a need to provide a methodology to help digital transformations, beyond the provision of online services and e-government portals, into the broader business of government itself. This paper presents studies of several digital government initiatives world-wide [2], and proposes a methodology for a transformational change of the government into digital business and service for better citizen centric services.

**Index Terms**—Digital government, digital transformation.

## I. INTRODUCTION

Information and communication technologies (ICT) is used to form digital government (e-government) which can support government functions and services and improve the quality of living as a whole. “Digital Government refers to the use of digital technologies, as an integrated part of governments’ modernisation strategies, to create public value. It relies on a digital government ecosystem comprised of government actors, non-governmental organisations, businesses, citizens’ associations and individuals which supports the production of and access to data, services and content through interactions with the government” [1]. The main objective of digital government is to provide essential services to the public from different corners which includes societal equity and inclusiveness, safety of the citizenry, productivity, service quality, transparency and accountability, public access, and citizen engagement and participation.

Although almost all governments are now considering as e-government in terms of providing online services to the public, however most governments are lacking in capturing the full benefits of digitization [2]. Therefore, digital transformation is required in predicting wide-spread consequences arising from new technology almost in every sector of government such as social, economic, and institutional forces etc in order to show the capability of technology in changing conventional performance [3]-[5]. In this case, digital transformation is considered as solution to take necessary initiatives in making changes deeper in the provision of online services through e-government portals, into the broader business of government itself [6].

It is expected that digital government should deliver services to the public through:

- 1) Sustainable economy which can show its operational excellence in process, technology and people.
- 2) Delivering more value by being resource efficient and citizen centric.
- 3) Being agile, collaborative and competitive through innovation.

New government business objectives and effective execution plan should be developed accordingly to achieve these goals through adoption of proper and consistent technical methods. As government is always intended to improve service delivery and reduce cost, digital platform is an effective initiative for reducing efforts and facilitating services such as payments, identity management and verification etc. Thus digital technology is considered an integral part of government through which government can improve the services by adopting a range of new technologies including mobile applications, smart devices, cloud computing etc. However, there are many existing challenges in digital government transformation identified by the authors in [7]. Therefore, there is a need to define a conceptual framework for digital government transformation which can address the issues to achieve the goal of producing successful outcomes envisioned by transformational digital government. In this paper, a technology enabled platform based government transformation is proposed which is able to provide improved services to the citizen and gain organizational performances.

The paper is organized as follows: Section II explains the background why we need digital government transformation. Section III shows the need for digital government transformation. Section IV proposed technology enabled platform digital transformation. Section V describes the SEED framework for government transformation. Section VI discusses capabilities and benefits for platform based transformation. Section VII described different metrics for measuring digital government transformation performance. The paper is concluded on Section VIII with future remark.

## II. WHY DIGITAL GOVERNMENT TRANSFORMATION

As governments, like any major business, mobilize to modernize and meet 21st century expectations, they must develop online, or technology based systems that are consumer friendly, strategy driven, and capable of providing not only a better experience for those interacting with the government, but also technology systems which improve the way the government systems, in and of themselves, are capable of operating. This process of modernization is known as digital government transformation.

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In essence, digital transformation in government is seen as two distinct processes, first, internal processes are transformed. This means updating the technology that is used inside a government, which control and coordinate day-to-day operations. Secondly, relational processes are transformed. This means updating the social aspects of a government's digital presence, to alter how it engages with other social and political entities [8]. This altogether, works to create a more efficient and more interactive system, which is designed not only to make inter-government relationships more effectual, but also works to increase its visibility and intractability as it regards the citizenry under a government.

Almost all governments are moving toward the e-government model, and revising their systems to provide increasing access to online services for the public, or their constituency, and to increase the interconnectivity of their offices or segments. However, despite the progress that has been made in the last two decades, most governments are far having developed systems that harness all of the benefits available from increased digitization [2]. A review of the literature available on the development of Digital Government will reveal the basic ways that digital government can increase its own efficacy through digitization, the expectations of the public with regard to digital government, and the frameworks that governments are using, or have already used in order to achieve these transformations

#### A. E-government Start-up

Digital government goes beyond just trying to update the existing, out of date and inefficient governmental processes. It is, in fact, more like starting an entirely new business with a digital or technologically based foundation. As such it is constructed, or in this case reconstructed around a digital framework. This element, or viewing the current Government as a "digital start up" means structuring the government around the new framework, rather than trying to get the new framework to fit inside the old government's systems [9]. This requires a total transformation of the current Government's business processes, service delivery models, and total culture, to restructure how the government performs basic functions, or governs.

This is in part, relevant, because while many existing business/industry frameworks, architectures and best practices can be leveraged for the transformational change, however, because of the broad range of the services and diversity of how each agency operates, often each project is as a new initiative and new investment even among similar projects.

The relevance of this mind set or model has been heavily documented in the development of digital government services in Sri-Lanka and Belarus [10], [11]. When a government launches online services, it hopes to increase profits by generating income and by increasing interactivity with clients. Similarly, the underlying goals of e-governance is to develop the country's economy, and improvement of citizen quality of life [10], [11]. It is because of these parallels that use of business frameworks are often applied as a basic concept for creating frameworks for digital

government transformation.

#### B. Steps in the Digital Government Transformation

Because it is modelled after a start-up, and launched as a new and independent framework, separate and apart from old government systems, it takes time to launch, and must go through multiple stages of development [12]. According to [10], "Nearly all the countries in this world now have some sort of Internet presence, or so-called e-governance. Some countries still in entry-level publish only stage, and many countries are in the advanced transaction stage [10]."

The eGovernment Transformation Plan, as outlined by [12], is built from six main steps such as:

*ePresence Stage:* The government is intended to publish information through website at this stage [10], [11]. This stage creates a placeholder for the transformation framework for generating information that needs to be processed to deliver service [13].

*Interaction Stage:* this stage establishes interactive, web-based initiatives to the public. While the interactions at this stage are simplistic, and likely need a great deal of refinement, they create an element of the framework that is will both give the public the ability to make contact with the government, and to streamline basic government operatives [13].

*Transactions Stage:* The transaction stage enables public to conduct complete some, at least basic transactions, completely online, avoiding a trip to an office [12]. Examples would include filing out a license renewal, applying for aid, or providing personal information updates. The stage includes building in a payment service system, so that the framework is capable of taking e-payments [12]. Likewise, these kinds of applications allow increased data exchange, or information sharing, between government agencies [12]. However, it should be noted that "although the level of interactivity is of a higher magnitude than second stage initiatives, the activities still involve a flow of information that is primarily one-way (either to government or to the client, depending on the activity). The electronic responses are generally highly regularized and create predictable outcomes [13]. Thus, though it is more operational, it cannot be considered complete at this stage.

*Transformation Stage:* The transformation stage is directed to add value, and a sense of customer service to the basic framework that was established in the previous stages. This it is not about adding new systems, but rather designing upgrades to, or transforming the systems in place [12]. This adds both efficiency and convenience and must be developed both vertically, in terms of what is provided to the customers, and horizontally, to determine the interactions between government sectors. This is the peak point of evolution for e-government, according to [13]. This is because of the power it has to change government. It not only ensure a higher, more engaged, and more service-oriented interaction with the public but also "facilitate the seamless flow" of materials or information, and enhances cross-structural decision making, between federal, state, local, public, and private stakeholders [13]. Some experts have gone so far as to claim that, at its most advanced level, this transformation

could allow governments to reorganize, and eliminate unnecessary departments through shared responsibility over virtual channels [13]. While [13] model, thus, ends here, more recent experts have outlined an additional two stages for more *complete success*.

*eParticipation Stage*: The participation stage takes longer to reach than each of the previous stages, representing a set of long-term goals for both the development and the application of the eGovernment framework developed [12]. In terms of thinking about the business as a start-up company, it is the stage at which the business moves from a start-up toward a mature business. The digital government structure, by creating tools that accommodate features like voting online, doing consumer research, developing the interaction of government agencies, and other operations and services, can improve both governmental efficiency and the involvement of the citizenry [12].

*eBorder /eRegional Stage*: Another long-term process to improve e-government over time, involves making contact with other neighbouring governmental systems, in order to offer collaboration with those further governments [12]. Reaching this goal requires that the governments share and exchange data between countries, in accordance with agreed shared goals.

With an understanding of these stages and goals in mind, it is possible to embark on a greater understanding of how working through these stages to deliver e-government can improve internal efficacy, and why such digital government transformations are needful.

### III. THE NEED FOR DIGITAL GOVERNMENT TRANSFORMATION

#### A. Digital Government for Internal Efficacy

While some define digital government purely as a technological approach to increasing communication and interaction between citizens and businesses with the government, the reality is that it is much more [14]. It is truly the intersection of three area of development, only one of which deals with the public. The other two focus on internal efficacy, or improvement of the government's internal operation. These two areas include: the connection and interaction of connecting agencies, and resourcing operations [15].

In terms of the internal initiatives related to digital government, there are three measures of efficacy or improvement that should be considered: inputs, outputs, and outcomes [16]. That is to say that while the greatest focus can be on the total outcome, it is important to understand which branches of government, or performers, are involved in the process or project at hand and the extent to which they provide input of data or output of data that effects outcomes and performance [17].

This kind of strong internal structure is also relates to the readiness and ability of different government sectors to share information. There was a time when individual government offices maintained their own files. Today, however, both efficacy and internal connectivity, it is in the best interest of

governments to focus digital government development on sharing resources, by creating interactive and interconnected databases that allow varying sectors to share information [17], [18]. There are multiple basic models, or mindsets, which can drive this kind of organization.

For example, one study by Sarantis, Charalabidis, and Askounis studied the use of goal-driven management frameworks for digital government transformations, and the implementation electronic systems [19]. Generally, the study found that e-government is more successful when it incorporates goal-driven systems that contain a project management framework. This allows the commission of government projects to share information between interrelated, or collaboration offices, through the sharing of tools, organizers, monitoring systems, and schedules [19]. This simplifies the sharing of information, and ensures that all parties are acting in coordination, rather than relying on potentially conflicting information.

Speaking more generally, the authors in [20] found that as countries shift their focus to provide electronic automation at all government levels, they must focus on utility, which includes internal change and interaction. In other words, services are transformed only by the introduction of instruments that facilitate the organization of government services, and the ability to scale and engineer the way governmental subsets operate and support one another [20]. Again, in this case, the focus is placed on "process modelling, planning, management and implementation of IT projects," as they relate to internal government operation and interaction with the public, equally [20].

There are multiple ways in which this integration of information, and sharing of information across multiple sectors actually protects both the projects and the public. This includes systematizing data representations, and reducing information conflicts by ensuring that all the data recorded is in a consistent format, that data is represented in a single domain, to prevent multiple, overlapping or conflicting representation, to ensure that the units of measure are consistent, to simplify aggregation, and to ensure ease of implementation and coordination [18].

#### B. Digital Governance for Public Relationship

As previously mentioned, the other, and perhaps most prominent of the implementations is that of developing a relationship between the public and the government. This includes increasing the movement of information, and true interaction between the government and individuals and businesses in its constituency. As such, it can be defined as a method of drawing people and businesses closer to the government through the reinvention of "government systems in order to deliver efficient and cost effective services, information and knowledge through information and communication technologies [14]".

This role of the digital government transformation is especially important at current, as governments work to rebuild a relationship with the citizenry based on trust and progress. According to [21], the citizen trust of governments has been significantly damaged, or suffered reduction, as the results of a variety of global situations, or governmental

failures including the current economic crisis, public corruption cases, and the leaking of government information and hacks into public databases [21]. However, a well-constructed e-government can help to re-build the trust of the citizenry, by increasing the government transparency, accessibility, communication, and perceived quality of services [21].

In Spain for example, the public law 11/2007, established that citizens have a right to interact with Public Administration, and the government has the responsibility to provide an e-government system that provides for a high level of internet-based interaction with government sectors, in order to pose questions, perform transactions, and gain information [21].

The success of public e-government initiatives is twofold, first that the public will actively adopt the engage with the platform presented, and second that the government will present an entity that is capable of engaging the public or gaining their trust [22], [23].

As such it is essential that the platform presented have a perceived quality, which is observable, and which is service focused [24]. This means that the services must be easy to use, and built to establish an ongoing and interactive relationship with the citizenry. More specifically, this is defined as being measured in five areas “efficiency, privacy, fulfilment, system availability, and responsiveness [25].”

This coincides with [26], and his peers, recent study, which determined that e-government can be used to face many of the challenges that are facing the public-serving segments of government [26]. This occurs through the application of business strategy, or an “entrepreneurial paradigm” to the public sector, in order to increase the quality, and equality of the services provided by the government [26]. This includes closing divides between the public and the services they need, solving accountability shortcomings, giving citizens a place that they can feel assertive, and raising awareness.

More recently, studies have focused on crowdsourcing as a means to doing just that, allowing the citizenry to become more actively involved in the development of the digital government that provides them access to the elements of e-governance [27]. As such, three new measures of success are outlined as: innovation, agility, and crowdsourcing. Specifically, agility and innovation can, theoretically, be improved through crowdsourcing, or encouraging the involvement of the public in the development of improved digital systems. According to the work of [27], “that broader, unencumbered participation in governance is an objectively positive and democratic aim, and that governments’ accountability can be increased and poor performance corrected through openness and empowerment of citizens.” By such means, crowdsourcing can improve tracking of flaws, increase reporting of poor government performance, and government responsiveness as it relates to those reports, organizing grassroots movements, and inspiring civic participation and wide-spread change through increased engagement [27].

#### IV. A TECHNOLOGY ENABLED PLATFORM FOR DIGITAL TRANSFORMATION

In order to improve the efficiency of e-government, here we proposed technology enabled platform transformation so that government can be aware of the coordination of information flows, collaboration and innovation of different actors and situational awareness. A Platform is typically made up of a number of systems managed a coherent unit to deliver a well-defined set of business capabilities through using different applications. A Platform can be exposed through a small simple or very large service by generating diverse capabilities and services. Examples of Platforms would be things like Amazon Web Services or IBM BlueMix.

Platform based transformation framework helps government to make an infrastructure which can be available to use by both public and government. The whole idea of platform based transformation is to create a community in order to reduce the transaction cost and increase the feasibility of using different processes. In this framework as shown in Fig. 4, we are showing the interaction of different processes for platform based transformation through which people can be interconnected to observe, report, collect, analyse, and provide information.

In the framework we have three sub components:

- 1) Technology enabled platform formation
- 2) Technology enabled platform used by Private sector
- 3) Technology enabled platform used by Public sector

##### A. Technology Enabled Platform Formation

In this phase, government collect the requirements and make a documentation using their previous data regarding performance and activities. According to the requirements, applications are developed by the developers using different definitions, protocols and tools and make them available to the government. Then government introduces this technology enabled platform to different collaborative actors for collaboration.

##### B. Technology Enabled Platform used by Private Sector

Government introduces the platform to different organizations in private sector but not all so that researchers and citizen can get advantages from this platform. They can submit, acquire, search and visualize diverse, distributed and derived public sector datasets in order to improve the efficiency of government.

##### C. Technology Enabled Platform used by Public Sector

This platform allows public sector organizations to be integrated to fulfil government mission and vision. Such platform allows public organizations to link data like criminal statistics, labor force and employment market etc in order to make the government more efficient.

Government can increase the business capability through platform based transformation which provides a strategy to get better technologies to observe, report, collect, analyse through providing and disseminating information to different stakeholders. Fig. 1 shows the platform capabilities through technology platform from business platform to gain success in business.

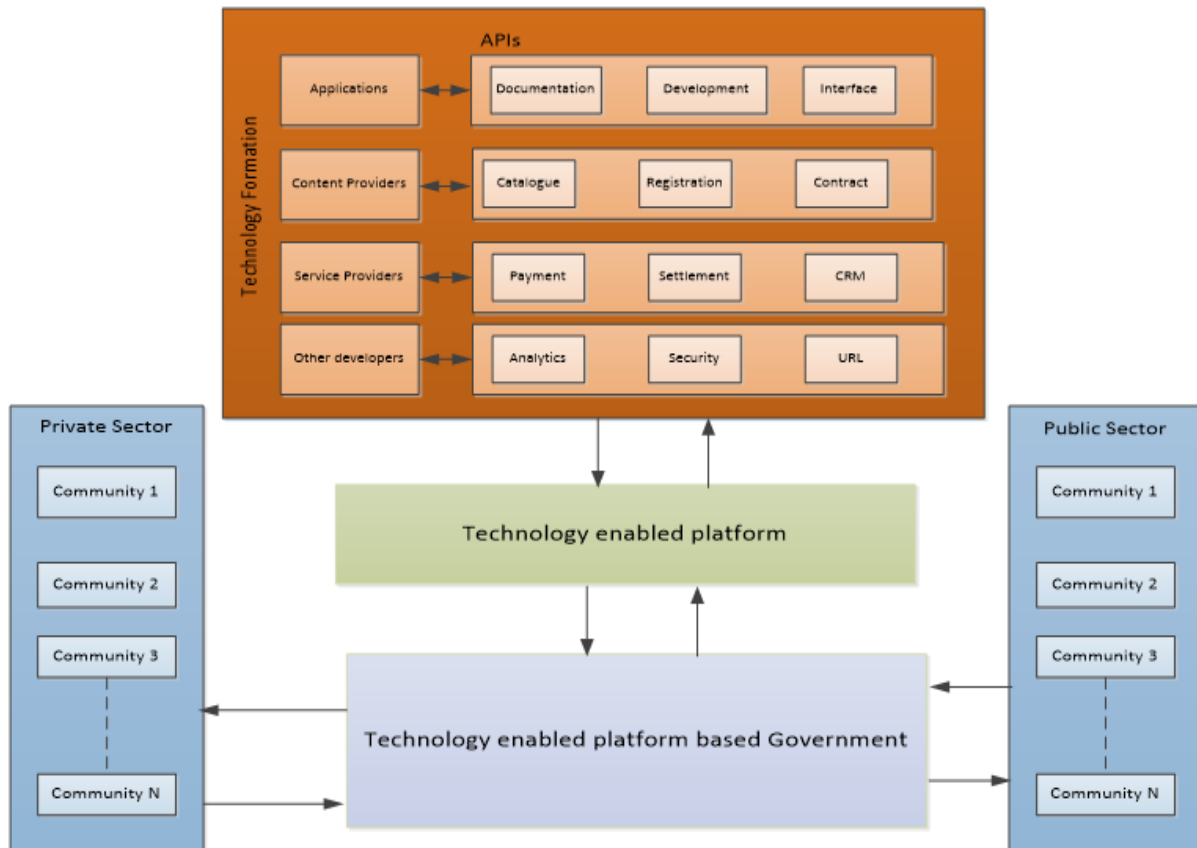


Fig. 1. Technology enabled platform for government transformations.

V. THE SEED FRAMEWORK FOR FOR DIGITAL TRANFORAMTION

An ICT (Information and Communications Technology) enabled digital ecosystem blueprint, aims to facilitate collaborative sustainable development through an emphasis on locally-led technological innovation. In this technology enabled platform, we will use the proposed SEED (Social, Economic and Environmental Development) [28] framework to create an environment for the community towards discovering opportunities for development. This is a systematic collective intelligence approach between application developers and service providers. The focus is on a value-based partnership strategy between different communities in both public and private sectors for government transformation. This allows the efficient use of resources through shared knowledge and process automation and builds long term social equity.



Fig. 2. SEED framework.

The 6 phases of locally-led innovation lifecycle include:

A. Needs: Identify Needs and Opportunities

The “needs” of a platform is identified through identifying different concerns raised by the local community. Information is gathered and connected in a semantically rich knowledgebase. New development opportunities and ongoing project evaluation purposes are a direct result of this information. Indicators of implementation priorities are common needs found in other communities, which highlight opportunities to reduce redundant investments.

B. Strategy: Identify Stakeholders and Partnership Strategy

Governments, NGOs, businesses, trustees and research organisations are able to assemble multi and interdisciplinary teams to leverage and build upon this knowledgebase. This assists in identifying and organising targeted business cases. In this phase, partners and key stakeholders step forward to define project scopes and execution strategies (see more details in the Value Delivery Modeling and Ecosystem Governance & Operations sections).

C. Incubation: Project Incubation and Crowdsourced Innovation

The initial implementation and investment strategy can be carried out using a process similar to venture capital or angel fund investments. A paradigmatic strategy for government investment based on project performance, is the UK Social Impact Bond. It is the incubation phase where research, appropriate technology and best practices are identified for a given problem space. Evidence of data and stakeholder input (both at the global and local level) guide the investment and execution strategy. Successful incubation projects will be

captured and connected in a knowledgebase, providing insight for the investors, and industry as a whole. Any data obtained from unsuccessful projects is not useless, but will assist in cross-referencing common obstacles and recurring issues across the local/global spectrum.

*D. Localisation: Customisation and Knowledgebase Refinement*

An open and “coopetition” development strategy is similar to an open source approach. This is because it encourages creativity and promotes re-use and local customisation. Updating information from field workers and others in the community is now made easier by using location data, mobile technologies and social media. Participants have the ability to localise the knowledgebase by uploading data specific to their communities. In addition, information can be shared with similar communities where the data contributes to the overall global refinement of the knowledgebase in order to replicate solutions and reduce redundant investment.

*E. Evaluation: Project Evaluation and Impact Investment*

To help measure and determine the impact-based investment strategy, benchmarks and metrics must be defined and standardised. The inclusion of reports and indicators also helps in the refinement of the knowledgebase.

*F. Creation: Technology Transfer, Business and Job Creation*

Successful incubation projects also link to new businesses, job creation and curriculum development for education, as

well as leading to new technology implementations and deployment. The SEED knowledge base should be leveraged (adapted, transferred, extended) for similar community development efforts, and continuously enriched with local instantiations and.

VI. CAPABILITIES AND BENEFITS FOR PLATFORM BASED TRANSFORMATION

*A. Capabilities of Platform based Transformation*

Platform Capabilities are the unit of Business that is exposed via a catalogue for internal or external use. The Platform Manifesto describes APIs as one of the key building blocks of a Platform Business Model. Digital leaders like Pearson have pioneered them to underpin their platform strategies. Therefore, the exposure of the Business can be increased through using Open APIs that allow system and users to interact the technical content of the platform without having to be aware of the technical complexity. Platform Capabilities are typical in developing a complex business service through composition. This composition can occur within a single platform. For example combining multiple Amazon Web Services capability to deliver what appears to be a single service. Composition can also be used across platform. For example creating a Salesforce Analytic capability by using APIs exposed by Salesforce and Watson Analytic.

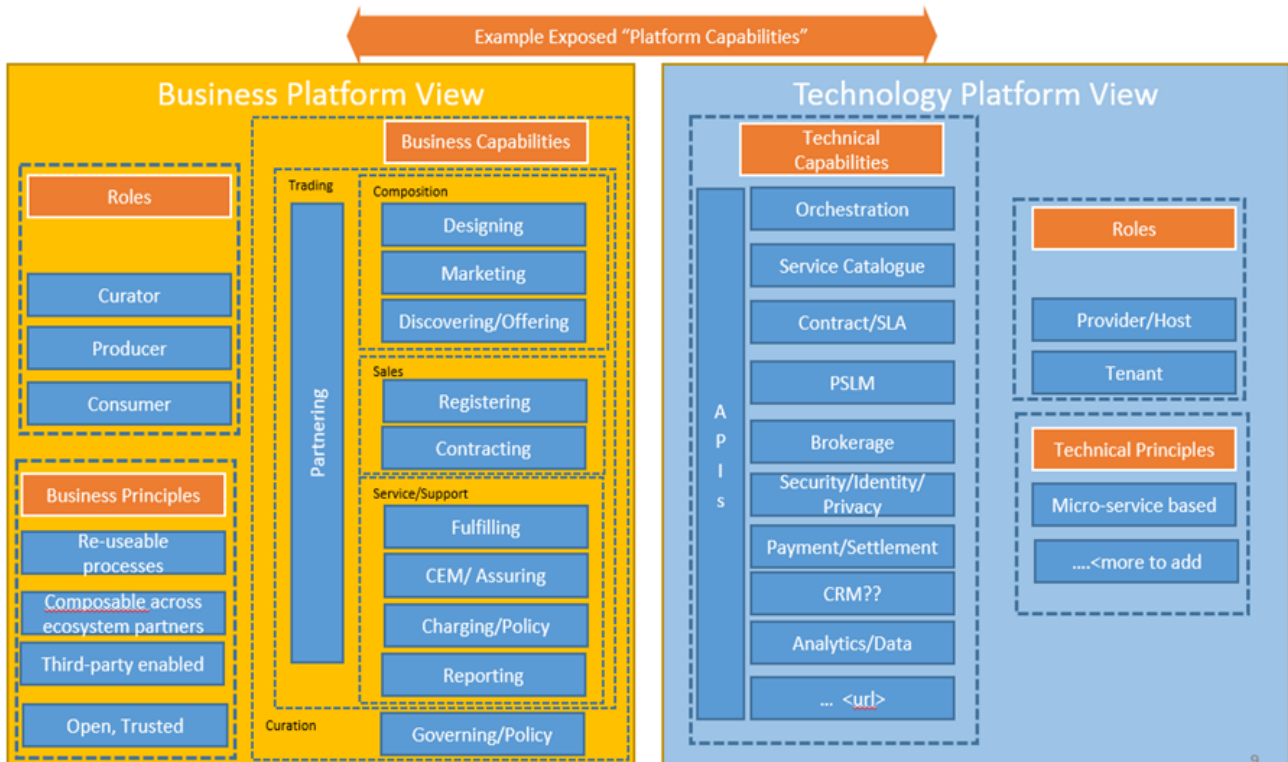


Fig. 3. Interactions between business and technological views in digital government transformation.

*B. Benefits of Platform Based Transformation*

There are various benefits of using technology enabled platform based model in the public sectors, such as:

For Service Providers: It helps them understand their core assets, and how to use models like the business canvas to re-engineer their operating model. The target is to place service providers as the heart of a digital eco-system,

enabling vertical industry solutions to transform every aspect of our lives, from smart health to smart energy and from smart cities and transportation to the 4th Industrial revolution. The platform model also drives an internal operating model through splitting large monolithic organisations into nimble and empowered operating units.

For Vendors: It helps vendors understand multi-sided business models and how they can package their capabilities to fit seamlessly into this platform based model. In a technology enabled platform based model, there are unprecedented opportunities for vendors to innovate the platform by providing different solutions to the market.

Learning from the many examples of case studies [8], [26], [29], the essential approach is to understand an organisations core assets (using the business canvass). There is no standard model for the size and scope of a platform – the platforms represent an organizations target operating model where a single company or business unit can deliver and operate a set of value-added-services. The target is to focus on core assets and enable the platform to deliver all non-core services. The platform therefore both hosts many customers (tenants) and can be a tenant itself on multiple other platforms.

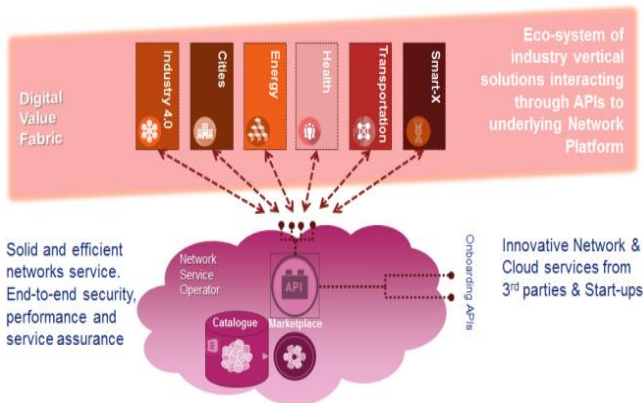


Fig. 4. Industry vertical solution through digital value.

The ability to share common services in an automated and API enabled platform based model makes many of new solutions possible. The business platform approach enables new solutions to work and creates a virtuous-circle of capabilities and solutions. The virtuous-cycle can already be seen in the internet hyper-scale cloud operators which have driven new revenues task into the Infrastructure and Platform-as-a-Service providers.

Open APIs are required to be integrated in a platform to use the services of one of the Infrastructure- or Platform-as-a-Service companies without having prior knowledge of the underlying systems or processes that deliver these services. The platform service providers are also constantly innovating in the ways to deliver these services through using big data and machine learning in order to constantly optimize the customer experience and cost. The Platform based systems should be flexible enough to support unforeseen use cases for customers and users. The standardization should focus on Open APIs that meet the following principles:

- 1) Abstract: Reflect the “business” service that is provided, not the implementation.
- 2) Loose-coupling: Do not expose any technical

dependencies/intimate knowledge of the underlying implementation.

- 3) Reusable: APIs are defined with re-use in mind (even for unknown future use-cases).
- 4) Discoverable: Service contracts can be effectively communicated and interpreted.
- 5) Developer-friendly: APIs can be consumed with minimal effort/cost.

## VII. METRICES FOR MEASURING DIGITAL GOVERNMENT TRANSFORMATION PERFORMANCE

There are different metrics that are measured in order to get the performance level of digital government transformation framework. This measurement will inform customers about the service level that they desire to perceive from the government. Performance metrics depend on the customer service strategy through collection, analyze and act upon customer feedback.

- 1) Metric 1-Overall Customer Experience: This is based on Customer’s perception of the experience of using the technology and depends on customer’s satisfaction level.
- 2) Metric 2- Completion rate of intended task: This metric determines the needs of the customer, and gaps and deficiencies in services and information. It basically provides actionable data that gives accurate picture of whether people could successfully complete their task through the platform based technology.
- 3) Metric 3- Visitors likely to return- This metric is based on customer’s perceived willingness to recommend the service. It is important to pair this “intention” with actual returning visitor data to make better predictions about customers satisfaction level.
- 4) Metric 4- Easy access of information- This metric determines easy access of information that customer needs. It is very useful to get the overall rating about the technology.
- 5) Metric 5- Timeliness- This metric determines the customer’s perceived ability to get the service within a time frame. It is an important metric to get the overall rating about the technology.
- 6) Metric 6- Meeting Expectation- This metric determines the level of satisfaction that customer expect using the service.

The authors in [30] described different initiatives that government leaders need to take in order to motivate transformation performance and to bring it up to an aspirational target. These are as follows:

- 1) Alignment of e-government with comprehensive public sectors to improve performance.
- 2) Setting up a clear and shared vision of digital government which is achievable through using of ICT-enabled tools
- 3) Development of comparative performance metrics depending on available data
- 4) Collaborative discussions both inside and outside government regarding performance improvement
- 5) Maintaining visible engagement with all stakeholders which can lead sustainable improvement of performance.
- 6) Setting up leadership through clear policies and stretch

- targets which can ensure better performance through coordination and cooperation among different agencies
- 7) Maintaining standard infrastructure through integration of various mechanisms for attracting and retaining the necessary capabilities in digital service
  - 8) Bringing new cultures and practices through government transformation and data-driven decision making
  - 9) Adding value for setting up specific and stretch targets through innovation in service design and continuous measurement of use and outcomes
  - 10) Integrating strategic flexibility tools and practices from the private sector to the public sector and adapting them in order to increase government transformation performance.

### VIII. CONCLUSION

As government is intended to find feasible ways to deliver services for the digital era, there is a need to transform the ways for implementing new innovations for long-term sustained improvement. Alternatively, government always tries to find a feasible ways to reduce costs and solve organizational problems by developing new methods through adoption of proper and consistent technical methods. Here, digital technology can be an effective way to transform public sector services for the betterment of humanity, and creating a more open, innovative and transparent government. Though government faces lots of challenges in adoption of these new methods, tools, practices and models, IT becomes an integral part of government for improving the services through the development of a range of new technologies. Therefore, technology enabled platform digital government aims to effectively support self-organizing, multidisciplinary collaborations and transformation concepts and ideas into actions for stimulating innovation by mobilizing stakeholders in order to reduce cost and facilitate services.

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