

UDC 351

## THE DIGITAL TRANSFORMATION: FROM E-GOVERNMENT TO DIGITAL GOVERNMENT A CHANGE OF PARADIGM

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Digital government applications in public administrations, all over the world, are growing extremely rapidly. This digital transformation is not only technological but it also involves all public administration processes. These fundamental changes impact on the fundamentals of public administrations such as hierarchy, decision-making, public policies, training of government employees, data access and collection, new types of control, a new mode of relationships between citizens and public administration, the political, socio-economic domains, and democracy. Citizens are increasingly involved in the fulfillment of basic functions of the state through a permanent access to government decision-makers thus reducing the boundaries between them. In fact, the bases of the Weberian state are being replaced by a virtual territorial citizen, jurisdictional, and legal basis. All these developments imply a change of paradigm in public administration as a result of the digital transformation that passed through many phases starting from e-government, to e-governance, and digital government. This digital transformation creates a number of challenges such as the financial burden, privacy, algorithm impact, and training of government employees and citizens.

**Keywords:** digital transformation, e-government, digital government, public administration, paradigm shift, open data, virtual transformation.

In modern times, governments are pushed to create a digital economy and to engage in digital transformation. States are lead to carry out national digital transformation policy to create among others a digital public administration fitting with the demands of the digital age. This state role requires strategic partnership, not dirigisme and bureaucratic behavior, i.e. a change of paradigm in an age where the wide diffusion of information, disseminated instantly through high-speed Internet, have made citizens more demanding and the state more vulnerable.

Digital government applications in public administrations, all over the world, is growing extremely rapidly. Covid 19 is one example of the extensive use of virtual public policies to cope with the pandemic and trace it at the national and at the international level. This digital transformation involves such notions as efficiency, effectiveness in the implementation of public policies and even democracy. These fundamental changes are not limited to technologies but also impact on the fundamental of public administrations such as hierarchy, decision-making process, policies, data access and collection, new types of control, and a new mode of relationships between citizens and public administrations. Moreover, citizens are increasingly involved in the fulfillment of basic functions of the state through a permanent access to government decision-makers thus reducing the boundaries

between them. In fact, the bases of the Weberian state are being replaced by a virtual territorial citizen, jurisdictional, and legal basis. All these developments imply a change of paradigm in public administration.

### **Definitions**

There is a confusion in the different definitions of e-government, e-governance, and digital government. To put it simply, the World Bank defines e-Government as the use by government agencies of information technologies mainly the Internet that have the ability to transform relations with citizens, businesses, and other arms of government [1].

On the other hand, the term “e-governance” sometimes creates confusion with the meaning with the term “e-government”. E-governance, meaning “electronic governance” is the usage of information and communication technologies (ICTs) at different levels of the government and the public sector, for enhancing governance [2] while digital transformation is the integration of digital technology into all areas of organizations [3]. This will result in fundamental changes on operations and on the ways of delivery of services to citizens. It is a cultural change that requires organizations to continually challenge the status quo, and abandoning public administration traditional processes in favor of new practices. Thus, digital transformation, which is not limited to technology but also, induces a paradigm shift in public administration operations [4].

### **Paradigm Shift in Public Services Delivery**

The technological and informational tremendous development in the recent decades have prompted changes in the traditional centralized public administration, its hierarchical structures, and regulated rule-based organizations to switch from departmentalization to networks spreading inside and outside the organization, flexibility, innovation, horizontal integration across government authorities and to adopt citizen-centric strategies. Digital transformation requires the transforming of governments through a new common vision of the future of the public administration, supportive of policy changes and reforms, leadership, and new professional competencies capable of managing fundamental change, consumer training, and continuous assessment of performance of service delivery.

These profound technological innovations and the new way of thinking such as innovation and ICT and the availability of information sharing system on the Internet lead in paradigm shifts in the public sector [5].

In fact, the essence of this digital transformation is about redefining the relationship between the government and its citizens to become more customer focused. The introduction of a citizen-oriented approach to public administration introduced a game changer technology into a traditional system. This paradigm shift in perspective is starting from the client, not the bureaucracy. In fact, the traditional model public administration is based on the agency providing the service. Hence, the service type, its timing and payment mechanisms, and legal procedures are fostered around the agency. On the contrary, a citizen focused public administration makes the citizen the core of

all activities. As a result, public administration services must be accessible permanently, everywhere, and through any kind of medium the citizen use.

### ***Requisitioning Weberian principles of public administration***

Bureaucracy as described by Max Weber is a concept referring to the systems that organizations implement and enforce to organize society. Max Weber major principles such as formal hierarchical structure, management by rules, organization by functional specialty, neutrality, impersonality, rationality, and employment based on technical skills are questioned by digital transformation in the public administration are being challenged by digital tools and new ways in doing business or managing the public sector.

In fact, digital government is a major shift in the way that government and public administration are to function because the digital information technology have a strong effect on the general organization of government thus forcing a reconsideration of the new mission or *raison d'être* of public administrations, how should they perform and the reasons for such performance.

This evolution is a major shift in the linear historical progression of public administration. In fact, in order to accommodate this new era, a new organizational and information systems as well as political paradigm for public administration is needed. This assumption can be tested through an examination of the successive theories of public administration through applying norms based on the new behavior patterns and skills resulting from digital transformation or digital government norms, roles, procedures applied to achieve better efficiency, quality, productivity, innovation that were strictly connected to power and public action in the traditional public administration,

This evolution towards result oriented public action directed to citizens made public organizations more dependent on suitable and valid information. Yet, the manual collection and processing of data reached its organizational limits. Technological and the large scale of data allowed the digitalization of information and data. The quantity and speed of processing and dissemination increased dramatically bringing public action in the I.T. era. The main features of this digital massive information transformation are: Concentrated communicative processes consisting of the incoming of disparate data and its transformation to comprehensive and qualitative information, the exclusion of personal contacts within and outside the public administration structures, the online submission of information by citizens, the supply of feedback to the users of digital government. These informational interfaces require specific competencies to be processed. This is a shift from the Weberian hierarchy structure, and the mode of recruitment because public administrators found themselves in the presence of officials more skilled than their superiors and who have access to much more information that was previously concentrated in the hands of their same superiors.

The integration of information (IT) and communication (CT) technologies (ICT) created an extremely dynamic technological trend capable to increase the speed and amount of information processing but also to establish effective direct communication channels between individual citizens and public officials. This evolution reshaped radically the communication and the

organizational and political structure of the public sector. By allowing the customization of standardized processes, ICT made it possible to handle online large scale as well as individual requests. This new configurational structure brought radical changes regarding public action and destabilized the existing power relations within the state and between state and society. Centralized structures were no longer a prerequisite for the effective functioning of public administration thus making some departments and intermediate structures no longer needed.

Bureaucrats in charge of information delivery lost their discretionary power over the effective release of data and information. New formal information and communication processes were introduced to allow the usage of IT thus increasing transparency. Immediate feedback facilitated accountability. In addition, the delocalization of informational and transactional activities through decentralization allowed access to large data and knowledge bases.

The introduction of ICT in Public Administration and the new administrative practices have been progressive stating with government were described as e-government. At the beginning, organizational changes were minimal. Yet, organizational changes occurred along with development of digital technologies, public organizations had to question the ways they produce services, how they do it, and actually what is produced leading to Reengineering through Information Technology. This organizational integration is a prerequisite for a successful digital transformation, and requires a unified design and implementation.

I.T. continues to provide completely new capabilities to both organizations and citizens, creating new options, new relationships leading to the creation an Information Society. Information Technology has become the main agent of change at all levels. Demand for new kinds of services appeared, while some public services became obsolete. Moreover, the merger of information and communication technologies, and the further development of networks that bypass organizational boundaries linking internal and external actors in the public administration lead to the political sphere through the request of the need to redefine the role and the mission of public administration to accommodate the technological changes that are pushing for more change in the processes of public organizations.

In fact, the tools used by Henri Fayol and Frederick Taylor are no longer effective because they are rigid and static while there is a need to a more holistic, flexible, self-organizing and self-regulated organization, with both internal dynamics and a continuous interaction within a rapidly changing environment. These developments are incompatible with the rigid bureaucratic model of Max Weber. The main features of this new paradigm are: User satisfaction and control. flexibility, horizontal hierarchy, network organization, information access and sharing, interdepartmental team work, innovation, multidirectional networks, formal and informal feedback, non-face to face interactions, user customization and personalization, and electronic exchange.

On the contrary, the traditional model is focused on process organization, management principles, internal communication, command and control, top down hierarchy, centralized and more limited channels of

communication, documentary mode, interpersonal communication, impartiality and equity, standardization, functional rationality, and production cost efficiency. All these change entails paradigm change.

### ***Towards a new digital government paradigm***

One of the most important issues to be addressed concerning the development of digital government is to find out whether a prevailing and dominant virtual government will replace traditional government as defined by the traditional theories of public administration. or if digital government will be limited to technological changes.

As a matter of fact, the intense development of ICT coupled with artificial intelligence and the increasing instant interaction between public administrations, citizens, through the Internet or mobile communication precludes a fundamental change in the traditional public administration.

This fundamental change is the different and evolving relationship between the state and its citizens who are gaining more access and more freedom in their interactions with the state thus increasing transparency and accountability of public officials. Citizens will exercise horizontal and vertical control devices on public officials and their management.

Taken together these developments indicate a paradigm shift that is unfolding amidst huge technological developments setting a different set of relationships between public administration and citizens.

The digital administration is gradually replacing the still dominant structures and orientation of Weberian bureaucracies. More than a change of tools, this shift is a change of culture, attitudes, policies, and structures.

### ***New challenges of digital government***

Yet, this unfolding new digital transformation is raising a number of challenges that needs to be addressed [6]: The most relevant ones are:

**a.** Building an inclusive digital government capability. Thus, the state needs to manage and lead the digital transformation to make the public sector more capable and responsive, to expand citizen participation in service delivery and policymaking and to enhance accountability and citizen's opinions in service delivery.

**b.** Develop interoperability through standardization between different governments applications.

**c.** Engaging public administration while public bureaucracies are more focused on policy system categories of the public service, than on the service of citizens.

**d.** Ethics: Ethics gives the administration guiding principles for honesty in their operations. It generates an atmosphere of trust.

**e.** Privacy: Privacy need to be protected because technologies could be a real threat to democracy and personal freedoms.

**f.** Engage in periodical review of algorithms that can alter realities and facts through suspicious technical combinations.

**g.** The right of access to public information: right of access to all documents and other public information that the legislation designates as public.

**h.** The right to public involvement: the right of citizens to express their opinions, proposals and comments.

i. Regulatory Impact Assessment: a regular analysis of the positive and negative impacts of legislation.

j. The fast pace of technology and the explosive generation of big data call for policy innovation and quick policy-making processes and institutions development. Firm policies are also needed to ensure online data privacy and cybersecurity.

k. Governments are required to manage the growing risks of concentration, inequality, and control that can undermine the advantage of digital transformation.

l. As new digital technologies and platforms emerge, policies must be continuously updated to deal with advances in artificial intelligence and robotics. This is a permanent challenge that requires continuous communication, coordination, and strategy management among core policy-making agencies and must engage all stakeholders in the process of adoption of digital technologies for inclusive and sustainable development.

m. developing training and investing in human capacity building for when tasks are automated workers' skills are to be continuously upgraded, otherwise this will lead to greater inequality.

n. At the political level, major efforts are needed to implement organizational changes, and process innovations. These measures involve major changes in competencies, rules, procedures, cross-sector partnerships, and the development leadership and managerial good practices.

o. Checking the validity of data, and safeguarding its security by technological and organizational measures.

### **Conclusion**

Under digital transformation, the way government and public administration are to function according to the type of information produced, processed, and circulated is a major paradigm shift. Evolving virtual technology is affecting radically public organizations not only by reengineering current processes and structures but also by inducing fundamental changes to the State's strategic role. The major changes brought upon government and public administration through IT appear to have profound effects leading to a reassessment of the nature and types of outcomes public administrations should yield and what kind of interrelations with civil society public officials should have, The implementation of national digital transformation policies and strategies have to prompt a shared vision, and mobilize continuous commitment to digital transformation, and integrate ICT advantages into national, regional, and sectoral development strategies. The state must lead in setting fast-paced policy reforms, share digital platforms, engage stakeholders, pursuing partnerships with all national stakeholders, and secure wide access to the Internet and digital technology tools. Because digital transformation is irreversible. There is an urgent need to develop new strategies and competencies within the public sector to lead this paradigm shift in partnership with the private sector and civil society.

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**ԹՎԱՅԻՆ ՓՈԽԱԿԵՐՊՈՒՄ. ԷԼԵԿՏՐՈՆԱՅԻՆ  
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**ՋՈՐՋ ԼԱԲԱԿԻ**

*Լիբանանի պետական կառավարման դպրոց*

Ողջ աշխարհում հանրային կառավարման ոլորտի թվային կառավարումը մեծ թափով լայն կիրառում է ստանում: Այս թվային փոխակերպումը ոչ միայն տեխնոլոգիական է, այլ նաև ներառում է հանրային կառավարման բոլոր գործընթացները: Այս հիմնարար փոփոխություններն ազդում են հանրային կառավարման հիմունքների վրա, ինչպիսիք են հիերարխիան/աստիճանակարգը, որոշումների կայացումը, հանրային քաղաքականությունը, կառավարության աշխատակիցների վերապատրաստումը, տվյալների հասանելիությունը և հավաքագրումը, ղեկավարման նոր տեսակները, հանրային կառավարման մարմինների և քաղաքացիների միջև հարաբերությունների նոր ձևը, քաղաքական, սոցիալ-տնտեսական ոլորտները, ժողովրդավարությունը: Քաղաքացիներն աստիճանաբար ներգրավվում են պետության հիմնական գործառույթների իրագործման մեջ կառավարության որոշումներ կայացողների մշտական հասանելիության միջոցով՝ այսպիսով նվազեցնելով նրանց միջև պատենշները:

Հիրավի, վերերյան պետության հիմքերը փոխարինվում են վիրտուալ տարածքի քաղաքացիով, իրավաբանական և իրավական հիմքերով: Այս բոլոր զարգացումները ենթադրում են հարացուցային փոփոխություն հանրային կառավարման ոլորտում թվային փոխակերպման արդյունքում, ինչը շատ փուլերով է անցել՝ էլեկտրոնային կառավարությունից մինչև էլեկտրոնային կառավարում և թվային կառավարում: Այս թվային փոխակերպումն առաջ է բերում մի շարք մարտահրավերներ, ինչպիսիք են ֆինանսական բեռը, գաղտնիությունը, ալգորիթմի ազդեցությունը, կառավարության աշխատակիցների և քաղաքացիների վերապատրաստումը:

**Բանալի բառեր.** թվային փոխակերպում, էլեկտրոնային կառավարություն, թվային կառավարություն, հանրային կառավարում, հարացուցի փոփոխություն, բաց տվյալներ, վիրտուալ փոխակերպում:



## ЦИФРОВАЯ ТРАНСФОРМАЦИЯ: ОТ ЭЛЕКТРОННОГО ПРАВИТЕЛЬСТВА ДО ЦИФРОВОГО ПРАВИТЕЛЬСТВА, ИЗМЕНЕНИЕ ПАРАДИГМЫ

ДЖОРДЖ ЛАБАКИ

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*Школа государственного управления Ливана*

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По всему миру число приложений цифрового управления в сфере государственного управления растет с большой скоростью. Эта цифровая трансформация не только технологическая, но и включает в себя все процессы государственного управления.

Эти фундаментальные изменения влияют на основы государственного управления, такие как иерархия, принятие решений, публичная политика, переподготовка сотрудников правительства, доступность и сбор данных, новые виды руководства, новая форма отношений между органами государственного управления и гражданами, политическая, социально-экономическая сферы, демократия. Граждане постепенно вовлекаются в реализацию основных функций государства посредством постоянного доступа лиц, принимающих решения правительства, тем самым снижая барьеры между ними. Поистине, основы веберского государства заменяются гражданином виртуального пространства, на юридических и правовых основах. Все эти развития предполагают парадигмальные изменения в результате цифровой трансформации в сфере государственного управления, что прошло много этапов-от электронного правительства до электронного управления и цифрового управления. Эта цифровая трансформация порождает ряд вызовов, таких как финансовое бремя, конфиденциальность, влияние алгоритма, переподготовка сотрудников правительства и граждан.

**Ключевые слова:** цифровая трансформация, электронное правительство, цифровое правительство, государственное управление, смена парадигмы, открытые данные, виртуальная трансформация

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Երաշխավորվել է փյաթեթյան 29.11.2021*