



# A conceptual study on the role of Information and Communication Technology in Public Administration.

By

D.Kaseemvali<sup>\*1</sup> & Prof. B. Ananda Naidu<sup>\*2</sup>

## Abstract:

*This article investigates the relationship between modern-day public administration and information and communication technologies. Public administration is the ability to accomplish things as a result of political dynamics. The public sector is developing into a new section and phenomenon. This is useful in government activities and relevant to leadership objectives and ideals. It is also a component of the government web, taking its shape and content from public policy. With the advancement of information and communication technology, public administration is no longer restricted to a specific physical area. The town crier's compelled distribution of information is no longer a problem. For information transmission, public administration today employs radio, phone, zoom, Telegram, Twitter, Facebook e-election, e-governance, and various other methods. In this research, we looked at the history of the town crier as a method of disseminating information and the present, where many concepts are played out on the global stage, such as local news, wars, education, strikes, and so on, and are seen in homes all over the globe. The advancement of information and communication technology has altered the way we think and behave. It has changed the governance legislation. Because of Information and Communication Technology, the government and public administration are considerably more cautious in administering leadership in today's society. Even when the government does not want to make information accessible to the public, public administration operates on an open-door policy since information may reach a million individuals in a short period via information and communication technology tools. Without knowledge, public management is like a deaf and stupid person who is also blind. As a result, information and communication technology has become the primary instrument in contemporary public administration. Even better, information and communication technology has enabled and enhanced communication by overcoming geographical boundaries. Furthermore, various Information Communication applications have been implemented in public administration, such as e-Procurement, e-Finance, e-election, e-governance, e-campaigning, etc. Anyone interested in a career in public administration should get familiar with information and communication technology. Nonetheless, the beneficial effect of Information and Communication Technology exceeds the limitations; therefore, public administration must be rethought or overhauled to be completely compliant with Information and Communication Technology.*

**Keywords:** Efficiency, Governance, ICT, Public Administration, Public services, Managerial skills.

**\*1 D.Kaseemvali:** PhD Research Scholar, Department of Political Science & Public Administration, Sri Krishnadevaraya University, Anantapur, Andhrapradesh. Mail [dkaseemvali@gmail.com](mailto:dkaseemvali@gmail.com) **\*2 Prof. B. Ananda Naidu:** Professor in the Department of Political Science & Public Administration, Sri Krishnadevaraya University, Anantapur, Andhrapradesh.



## **Introduction:**

An essential part of the governance matrix is public administration, which influences and affects other institutions. The establishment of additional administrative institutions may impact public administration's capacity, efficiency, and responsibility within this intricate governance <sup>[1]</sup> (Riley, 2001). It denotes the ability to accomplish government tasks as a result of political dynamics. This is crucial for government work and has significance for leadership objectives and ideals. Like everything else in government, its shape and content are derived from public policy. As a result, public administration's most critical feature is its position within the political system <sup>[2]</sup>. According to the report, IT is transforming public administration into a new field and phenomenon, according to the report <sup>[3]</sup>. Many concepts and problems in today's world, such as local conflicts and strikes, are played out globally. As a result, individual states may feel pressured to live up to international standards. The international community's expectations may also significantly impact, primarily if the problems are championed by major states, regional alliances, multilateral institutions, or any combination of these. Numerous global forces and causes affect national decision-making today.

At the same time, politicians and public servants must redefine the role of the government and the markets in economic development and growth <sup>[4]</sup>. As a result, the majority of public administration is now conveyed to the public through information and communication technology, which has been a significant advance in public administration during the last ten years. New terminology, models, and connections have been made across fields of study and between theory and practice. This has now reached a critical mass across nations and groupings of countries. All around the globe, technological gadgets are being used to store, retrieve, and transmit data between different locations. For example, many information and communication applications have been introduced in public administration, such as e-procurement, e-finance, e-election, e-governance, and e-campaign. Those aspiring to positions of power in government must become well-versed in the latest information and communication technologies.

A new way of understanding public administration has emerged as a consequence of this experience. You just need a phone with a browser and other internet-administrable features. As a result, almost everyone now has a platform to share their thoughts on the internet. Public administrators, on the other hand, face criticism from inside their own ranks. Social media and



other forms of media make it simple for citizens to voice their opinions on government policies. However, since ICT has more benefits than drawbacks, public administration must rethink or rebuild itself to fully comply with information and communication technologies.<sup>[5]</sup>

### **Public Administration: A Quick Glance:**

Public administration must play a vital role in the matrix of governance institutions since it may affect and be impacted by other institutions. The strength of other administrative institutions may impact public administration's ability, effectiveness, and responsibility within this intricate network<sup>[6]</sup>. Because of its capabilities and connections, public administration's collected experience shows how difficult it is to bring about a solid national integration, growth, and modernization. People's expectations of government have risen due to too pessimistic discourse. As a stand-alone entity and a component of the required institutional structure for achieving policy objectives, national goals must represent whatever public administration can genuinely accomplish. It's clear from developing nations' lessons that governance and development are challenging, and short fixes often generate new issues. New states, for example, seldom had the institutional ability to handle all of the duties envisioned. Some of the essential institutions never came into being, while others were ill-equipped or even hostile. It was common for institutions to be adamantly anti-development. The concentration of crucial assets in government institutions was a consequence of a focus on centralizing power. There was no voluntary transfer of authority from government institutions, as expected. Due to a lack of resources, independent power centers outside the government were uncommon. The centralized state's ramifications are still being felt today. The disparity between a powerful state and a weak society remains in many nations.

While institutionalizing political processes may be complex, other nations have been able to do it with relative ease. Civil society has been able to flourish in many countries because of the delicate balance that has been achieved between the state and society. Increasing civil society activity is critical to realigning state-society interactions and maybe the government's most excellent chance to prove its legitimacy as a leader in the long run. Civic society. The old or colonial administrative systems of many nations have yet to be modernized. Modern institutional structures and procedures are often professed but seldom put into reality. The range of institutional capability in developing countries varies significantly.



However, there are specific broad generalizations that can be made about the vast majority of them. Most of these new firms were centered on government organizations and career public employees. To defend their position, the theories of stewardship and technocracy were advanced [7]. The international assistance community gave development administrations a boost. National political parties led some mobilization programs. However, most of these political parties were either absorbed into government administrative groups or grew into independent bureaucracies. A significant imbalance was created between a powerful state and what was supposed to be a standardized network from the outside government due to these developments.

### **Managing the development process:**

Development management is an effective way to show the new role of the state and accessible organisation in national progress and modernization. The focus of the advancement organization was on growth and development rather than peacekeeping. Individuals would be better served if authorities were open to the public rather than just the domain. Finally, it was predicted that public officials would approach their tasks with a combination of ingenuity and allure. The better organization also caused raised suspicions. The opportunity and attraction of establishing a government aid state were the most prominent of these hypotheses. The state would act as a catalyst for progress, and as it expanded, an open organization would serve as its engine. Government order over the national economy would lead to a welfare state [8]. As a result of this need, the government has undertaken a few significant tasks, including the coordination and implementation of enhanced projects and ventures and advancements in technology and a board to oversee mechanical development. These tasks have been accomplished by coordinating social administrations, financial opportunities, and government assistance programs to meet residents' basic needs. Material and HR samples were also possible alternatives to assets and budgetary planning. It was put to the test by bridling and then creating it. Institutional change of events procedures was worked out and streamlining of investments and industrialization. Social development and enhancement of human assets With the help of global leadership and technological cooperation, the available mix of skills and support would be enhanced and upgraded [9]. After then, the list was expanded to include a global exchange. The use of research and innovation was also recognized as a means of accelerating asset development, which would, in turn, accelerate progress and success.



### **Administration and effects: Commitments:**

When it came to a government organization, the results were immediate and wide-ranging. Most state frameworks were characterized by focal planning, authoritative allocation of assets, and control costs <sup>[10]</sup>. In a short period, traditional frameworks proliferated, with open connections and the number of government workers both increasing. However, governments have set up forthcoming ventures, businesses, and experts to handle the avalanche of financial activities. The typical response to a new problem, opportunity, weight, or program was to start a new open business. Before long, introductory energy provided a means of addressing contemporary issues and concerns. Cutoff points and implications for growth concepts were prominent among them. Disappointment with a slew of new development concepts came quickly. For example, when external assistance ended, many activities created with the outside sources did not become self-creating processes. Degradation of the environment and the creation of pollution further cooled the initial drive for limitless growth. Mechanical work did not produce a culture that might contribute to the self-modernization process. Automated tasks did not generate a culture.

Double economies, on the other hand, may have been the norm. Furthermore, the better off in society did not benefit from the increase in wealth. Detonating populations wiped off small but frequent gains in population: compulsion and additional modification. Local and global national responsibilities grew to unmanageable proportions over time. Lack of funding and uneven expenditure strategies have become commonplace for countries. Governmental organizations lost money year after year and had to be bailed out by the general fund as nations struggled with transforming their responsibilities and adopting necessary adjustments following international lending agencies <sup>[11]</sup>. Industrialization created new societal problems, including urbanization, housing shortages, and labor unrest. The global asset progressions fell short of expectations. It turned out that implementing new ideas was more difficult and costly than first anticipated. Information and communication technology, on the other hand, has paved the path for more efficient government.

### **Decision-Making, Analysis of Policy, and Planning:**

These three ideas are intertwined: policy analysis, planning, and decision-making. With each action, the aim is to improve management skills to achieve desired outcomes. <sup>[12]</sup> Increasing



rationality in organizational and management behaviors is the goal of all three activities. In the same way, they prefer to use analytical and calculus-based approaches to creating the future rather than depending on old-fashioned intuition or chance. Furthermore, there are considerable differences amongst them, particularly in their breadth, duration, and level of detail. The process of planning focuses on the institutions and social and system-wide features. Long-term planning uses predictions and forecasting methods to specify likely futures and develop plans and programs for implementation. The breadth of planning is thus broader, the time horizon is longer, and the focus is less narrow on current issues. A lot of planning happens in reaction to the state's shifting role, and it aims to establish broad national objectives and work towards achieving them. Policy analysis, on the other hand, concentrates on pressing issues. They tend to be focused on a single area of social or economic reality, such as famine relief or education. They may also address specific problems like flood relief or commerce and export development. When the political system is under pressure from the wider environment, public policy analysis becomes a quick fix. Managers and their organizations use decision-making to take immediate action. Decision-making, in this view, is a part of the chain of policy execution that happens as a consequence of other dynamics or by coincidence.

Two main factors have increased the significance of planning, policy analysis, and decision-making processes <sup>[13]</sup>. National objectives are increasingly becoming the primary criterion for state activity, which is one example. The second factor is the expansion of people's knowledge and analytical abilities throughout the globe. All of these activities are predicated on the idea that people and communities can go where they want to go by weighing their alternatives and making the correct decisions. There may be standard techniques in all three contexts, but each may have a unique toolkit. For the most part, methods are informed by a systems perspective and a study of variables to identify and optimize goal-oriented alternatives. Beyond the most basic generalizations is not feasible for our objectives. When it comes to the social sciences, these ideas are fraught with disagreements because there are so many different schools of thought and methodologies. Instead, the goal is very limited in scope. Its purpose is to give the reader a sense of the spirit of these procedures while also showing how practical they are for managers who are always on the go. Management professionals may apply many of the concepts on their own, while others will need highly trained and experienced personnel.



### **The role of information and communication technology in public administration:**

When we talk about information, we're talking about a message processed and sent from a source to a destination via a channel. This is a typical method of getting a message through to others. The history of information and communication dates back to the dawn of civilization. As a result of civilization and technological advancement, Information and Communication Technology has progressed. The human race has never stopped trying to figure out new ways to accomplish things. Numerous information and communication technologies have been used in various fields of endeavor as a result of this. Information and communication technology (ICT) has altered our thinking and behavior in the present day. It's changed the way government works. In today's world, governments and public administration are considerably more conscientious about distributing leadership<sup>[14]</sup>. Although the government does not want to make information accessible to everyone, the development of information and communication technology means that Public Administration is operated as an open-door policy, with news reaching millions of people in short periods via these instruments. The principles of human communication are applied by information and communication technology, including the sender, medium, and receiver. To communicate, there are three parties involved: the sender, the receiver, and the medium. The medium serves as a bridge between these three parties. If wireless or wired connectivity is needed, this will be required. The computer system cannot understand the human voice, which has long served as a means of communication. If you want to use speech or data on the computer, you may do so like a machine and then have the computer translate it back into human-understandable language. Voice recognition, a microphone, a keyboard, and a scanner are input devices, whereas speakers, a printer, and a fax machine are output devices.

Furthermore, information and communication are part of everyone's everyday routine, including government<sup>[15]</sup>. Public management without information is analogous to a deaf and stupid person who is also blind. As a result, current public administration relies heavily on information and communication technology (ICT). Even better, advances in information and communication technology have made it possible to communicate more effectively no matter where you are. E-elections, Facebook, Twitter, and the town crier have all supplanted the town crier as an effective instrument for public administration.



## **The intervention of Information and Communication Technologies in Public Administration:**

Some of the instances in which information and communications technology has been used in government:

- 1. Electronic procurement**, often known as supplier exchange, is a term used to describe e-procurement. A business-to-business or business-to-consumer, or government-to-business purchase and sale of goods, work, and services via the internet and other information and networking technologies, such as electronic data interchange and enterprise resource planning<sup>[16]</sup>. Strategic sourcing, catalog managerial staff, Purchase Order Connectivity, Order Status, and Ship Notice are all part of the importance circle for e-procurement. The circle also includes e-invoicing and e-payment, as well as contract administration. The tender preparation process includes indent management. Individual purchasing departments may define their indenting procedure as part of the value chain. Administrative permission and technical approval are acquired electronically in the procurement of works. Online indent creation is used in the purchase of commodities. The stage's final results are used as inputs in the NIT<sup>[17]</sup>

### **a) Informing through electronic means:**

Instead of taking part in the buying process directly, E-Informing initiates the purchase. It's a method of collecting and disseminating buying information from and to internally and outside stakeholders through the internet. If essential and private information is shared with a company's supply chain partners, the supply chain will be more efficient and perform better. The quality of the data is also taken into account when it is shared. This covers the timeliness, correctness, and sufficiency of the information transmitted, as well as the trustworthiness of that information. Such a procedure is standard, particularly in ERP.

- b) Electronic tendering:** With e-bidding, the goal is to improve the tendering process for low-volume, high-value specialized products, services, and works. Bids and tenders for.



**c) the use of electronic auctions:**

When assets, natural resources, or other commodities are sold via online competitive bidding, an e-auction is used to conduct an auction. As opposed to a traditional one, the electronic auction offers complete transparency and allows for participation by a more significant number of participants <sup>[8]</sup>.

**d) The management of vendors:**

To get more value from their suppliers throughout the procurement process, contracting authorities must manage costs, promote service quality, and minimize risks. Establishing contract management divisions is expected to secure the best possible deal.

**e) Management of catalogs;**

To purchase goods and services electronically, catalog management begins with suppliers publishing their product portfolios digitally, producing things available to buyers. This strategic process then appears while managing the product catalog to ensure that quality data on products is maintained throughout all of the company's sales channels. The provider or customer may host the product content.

**f) Purchases made via the online platform:**

Instead of e-Tendering, e-Purchasing is utilized in the purchase of low-value but high-volume products and services. It streamlines the buying procedure for such products and services by using electronic means. A standard part of this kind of procurement is cataloged, which plays an essential role. As a result of the complexity of the system's key components, system development is often required. The process begins with suppliers posting goods online, then moves on to electronic selection, order, and delivery, before concluding with payment on the buying side.

**g) Electronic ordering:**

It is now much easier to create and approve buy requisitions using internet technology and place purchase orders and get the products and services requested. Except for e-



ordering, most orders are for non-product services. Each of an organization's workers will utilize both the supporting software system and the catalog ordering system.

**h) Billing through electronic means:**

Customers may pay an invoice online via a method known as E-Invoicing. A bill of sale is a list of the things you bought. Accounts payable departments are in charge of processing and paying bills in organizations.

**i) The management of electronic contracts:**

Compared to the traditional system, the electronic version includes receivables and payments management instead of audit and control operations. It may also deal with contract modifications and performance securities as well. In-the-field contractors benefit from information and communication technology (ICT). They may retrieve, store, print, query, and send an email on the contract information communication platform, among other things.

- 1. E-election:** This is a well-coordinated electoral process, then. Another reason is that voting procedures are becoming computerized. It makes the electoral process easier. Electoral voting technology, also known as E-election, makes ballot-counting more efficient, reduces election costs, and makes voting more accessible to people with disabilities<sup>[19]</sup>. Results are readily accessible and may be made public right away. Voters may register and vote from the convenience of their own homes, saving money on transportation and other associated expenses. A more significant number of people are eligible to vote as a result. The people who stand to gain more from electronic elections are those who live overseas, live in rural regions distant from voting booths, and are physically handicapped. The nation's image and marketing may be enhanced through computerized voting.
- 2. E-finance:** Using information and communication technology, this web-based platform provides financial services to citizens swiftly and effectively. It includes services such as banking, insurance, trade, foreign exchange, and trading in cash-equity positions.



**3. E-governance:** Incorporating Information and Communication Technology (ICT) into all operations, also known as electronic governance, aims to improve the government's capacity to respond to the demands of the general population <sup>[20]</sup>. E-main governance's goal is to make government, people, companies, and other federal, state, and municipal levels more efficient. The use of technological tools to enhance good governance is, in essence, what it is, which means that government procedures and operations will be simplified, moral, responsible, and transparent as a result of using information technology. To do this, citizens must access and receive government services, information, and communications quickly and efficiently. The government intends to improve public access to information and services by using information and communications technology (ICT) as simple, cost-effective, and efficient via e-governance. To complete the process, hardware, software, networking, and even re-engineering all functions are needed to improve service delivery. Only a government that is ready for e-governance can make it happen. Because it is a long-term project, the government must develop and execute strategies before implementing them. For example, government agencies could invest in telecom infrastructure by allocating financial resources and ensuring security. They should also monitor assessments of internet connection speed and raise public knowledge about the issue's significance. E-Governance is more than just a digital presence. In e-governance, services provided by the government are available online. Any government operation or activity available in digital form is said to be "out there."

**E-Governance Forms:** E-Governance may be broken down into four different areas.

**1. The G2C (Government to Citizen) channel;** The Government-to-Citizen concept refers to the government services made accessible to the general public daily. G2C is the umbrella term for most government services. It aids the general public in reducing transaction time and cost. A person may access the services at any time and from any location. In addition, G2C relies on many benefits, such as license renewals and tax payments <sup>[21]</sup>.



2. Similarly, G2C makes it easy to pay the administrative charge online. To address time constraints, the facility of Government-to-Citizens was developed. Geographical land barriers are also discussed.
3. **G2B (Government to Business) communication:** The interchange of services among government and corporate entities is known as government to business. The government, as well as the private sector, may benefit from its innovative capabilities. G2B makes it simple to get the necessary paperwork to stay compliant. Many services are transferred between businesses and the government as part of the G2B. In the same way, the government delivers timely information to businesses. In addition, a business may effortlessly and conveniently reach government authorities through the internet. G2B has a significant impact on business growth. It improves government project communication efficiency and quality while also increasing transparency.
4. **The G2G (Government to Government) relationship:** the contact between various departments, institutions, and agencies within a government is known as government-to-government. Because of this, government operations are more efficient. Government organizations' may use G2G to communicate online and share a database. Departments of the government may cooperate. This service has the potential to improve international relations and diplomacy. The degree of local or worldwide G2G services is up to you. As well as providing safe and secure interrelationships between domestic and international government, it can interact with global government and local government at the same time. To improve service, G2G builds a common database for all participating nations.
5. **G2E (Government to Employee) Communication:** One of the essential parts of the G2G industry is government to employees. As an added benefit, G2E seeks to unite workers so that they may share information more creatively. Similarly, G2E offers online resources to its workers. Additionally, it aids in the process of requesting leave, examining pay stubs, and verifying remaining vacation time. The G2E industry



offers training and development for human resources. G2E refers to the connection between government agencies, their workers, and the organizations' top management.

### **Conclusion:**

Public administration must fine-tune the government's management structure and policies. Because it simplifies duties while improving job quality, information and communication technology have played a significant role in helping government departments and agencies enhance and support their activities. The history of information and communication dates back to the dawn of civilization. As a result of civilization and technological advancement, Information and Communication Technology has progressed. Information and communication technology (ICT) has altered our thinking and behavior in recent years. It's changed how governments operate. In today's world, governments and public administration are considerably more conscientious about how they distribute leadership. Open door policies are no longer necessary thanks to advancements in information and communication technology (ICT) when it comes to government. Even when the government does not want to make information accessible to everyone, ICT tools may quickly reach millions of individuals. Every human being's everyday routine includes accessing and communicating with information and ideas. Much like a blind person who can't hear or see, public management is hopelessly inept without enough information. As a result, current public administration relies heavily on information and communication technology (ICT). Even better, advances in Information and Communication Technology (ICT) have made it possible to communicate more effectively no matter where one is located. Public administration tools like the town crier have been superseded by newer technologies such as radio, cell phones, zoom, telegraphs, social media like Twitter and Facebook, and e-elections and e-governance.



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