

Measuring Performance in Public Sector Organizations:

Contemporary Trends and Avenues

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Abstract

This paper dilates upon the concepts of performance, performance measurement, performance management and performance management systems in the public sector. The conventional performance management systems in Pakistan's context are based on the Performance Evaluation Reports. However, performance agreements were recently introduced between the Prime Minister and the Ministers, but unfortunately, the initiative was short-lived. The International practices in the conventional performance management systems are also mostly based on strategic plans and performance agreements, with some of the developed countries also legislating in the field. The issues with the conventional systems in Pakistan include subjective evaluation criteria, lack of recognition and rewarding outstanding performers. The contemporary trends in performance measurement and management have shifted focus from individual performance parameters to good governance and effective and efficient service delivery through a citizen-centric approach. Governments increasingly use technology and digital platforms to introduce interventions focusing on citizens and businesses. The leading trend is E-Governance and use of artificial intelligence to ease the interface with the public organizations by the citizens. The paper concludes that improvement is needed on all accounts and recommends the way forward.

Keywords: *Performance Agreement, Performance Evaluation Report,*

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Performance Management, Artificial Intelligence.

1. Introduction

Pakistan is a developing country where the colonial legacies are still apparent in the bureaucratic set-up and public sector organizations, due to which Pakistan struggles in the management of public sector organizations. Pakistan struggles even with innovations such as the rise of social media, digital government databases and e-governance.

Performance measurement is a collection of systems and techniques through which the performance of employees and systems (both) can be enhanced and measured to facilitate the employee's abilities without burdening or outsourcing them. It views the employee as a productive system member and helps recognize their strengths and weaknesses to place them accordingly within the system. It recognizes merit and enhances its abilities to identify and acknowledge performance as a collective outcome based on individual works. Performance Management strategies and trends are the backbone of performance enhancement and, thus, directly impact how organizations fare when their performance is measured. Thus, performance measurement and performance management go hand in hand. This research will discuss and analyze the existing performance management systems within public sector organizations in Pakistan in light of new trends and avenues in performance management discourse. It will highlight the structure and indicators of performance management systems and will focus on policy recommendations for better reforms in future.

1.1. Statement of the Problem

In recent years, performance management initiatives to enhance the capacity of public sector organizations have gained the attention of HRM scholars and public policy professionals. Whereas, in many under-developed countries, including Pakistan, even the conventional trends and practices have not been effective in enhancing the performance of the public sector organizations. Therefore, the factors for ineffective conventional systems for performance management need to be examined. Furthermore, many countries and international organizations have adopted the new PM trends and practices, such as the World Bank, IMF and UNDP. There is great scope for developing countries, including Pakistan, to benefit from these new performance management trends. However, Pakistan has not fully adopted and implemented these new trends in its public sector organizations, to enhance performance and for optimal utilization of the public.

sector resources. The new trends within the performance management domain need to be analyzed for a better understanding of their modalities and for understanding their impact on performance management and governance. Furthermore, the question arises whether these new trends can be utilized

effectively to improve the performance management and governance in the public sector organizations of Pakistan.

1.2. Significance & Scope of the Study

The scope of the study is to highlight the importance of performance management indicators and systems in measuring performance, introduce the new trends and avenues in performance management with a focus on countries that have successfully implemented the new trends and study the existing performance management within public sector organizations in Pakistan. It will also give policy recommendations in the light of a detailed literature review and analysis of existing policies, to integrate, strategize and reform the existing structure in a better direction.

This study will be qualitative in nature basing it on existing literature and data on performance management and performance measurement in public sector organizations in Pakistan.

2. Literature Review

The literature review is an integral part of the research process. It allows us to research the existing literature and find the gaps within the scholarship to help direct the research. This section includes books, academic articles and policy papers on the given topic. It applies the knowledge in a systematic way to present the argument of this research.

Performance Management in the public sector by Van Dooren et al (2015) is a key book for this research. This book collates the performance management literature of the ongoing public administration discussions, including a few evolving concepts on the new open administration and the post-weber performance models. It examines the numerous meanings of performance and how it has become one of the most challenging aspect of public administration. The authors argue about the utilization as well as the non-utilization of performance data for accountability and enhancing performance. It conveys a nuanced conversation of the theoretical impacts of utilizing performance indicators and examines the details of performance appraisal in a five-step process, i.e., focusing on appraisal, development of indicators, collection of information, analysis and sharing; and examination of the difficulties and future bearings of performance. This book provides a detailed outline of performance measurement theory and was insightful for this paper.

Fryer et al (2009) argue about performance management in public sector organizations basing the research on empirical data. They identify three indicators "technical, system and involvement" as key problems within the public sector. Performance measurement is plagued by the issues of characterizing indicators, their quality and their application. Randor et al (2004) analyse the performance management and performance measurement



systems within the UK since 1997. They explain the impact of political shift on the change in the public administration system and how the new system has affected the existing bureaucratic structure. The authors explain that despite having innovation in performance management techniques and performance measurement methods, there is a gap between the ground reality of the existing system and theoretical understanding which need to be filled. Adcroft et al (2005) highlight the negative side of performance measurement systems. The authors explain that PMS have a negative impact on public sector organizations as it further commodifies the services. It highlights the system of performance measurement and how the indicators of PMS de-professionalize the services of public sector employees. De Bruijn (2002) explains that numerous public organizations have introduced performance measurement frameworks with the conviction that the framework would reform their organization by offering incentives to their employees for better and improved performance. However, the results are mixed leading to various unplanned issues that adversely affect performance. Hanif et al (2020) explain that historically the focus had been on reforming the structure and procedures related to civil service and no attention was paid towards enhancing the performance or to remedy the related inefficiencies. The reforms of 1960s i.e., Basic Democracies system, then the 1970's lateral entry system or the concept proposed in 2000s of National Executive System (NES) had restructuring of the administrative, financial or human resource processes as their main objective, and there was hardly any focus on improving performance management system in the civil service of Pakistan. The article further concludes that the performance evaluation system of civil service of Pakistan is not all bad and has some positives like thoroughness, multiple layers of assessment, self-evaluation and comprehensiveness. But these positives are accompanied by negatives such as political meddling, non-quantifiable indicators and subjective criteria. Haque (2020) argues that while the new trends in performance measurement might be more viable with the neo-administrative hierarchical societies of Western nations, they are not suitable for the new democracies and authoritarian regimes as found in Asia. In Southeast Asia, specifically, although most countries have implemented the performance management system and taken on the new structure of performance, the administrative methods remain more or less the same. Moreover, the performance appraisal techniques are still based on the subjective criteria. The implementation of NPM and its performance management systems makes no concrete impact on improving the performance and has ramifications for public performance with explicit reference to Southeast Asia where local officials need to embrace the new performance benchmarks and embrace the change.

3. Research Methodology

This research employs the qualitative form of inquiry. It gathers data from available literature and tries to highlight the research problem. It also compares the discourse on performance measurement and its implication for Pakistan. It tries to examine the Pakistan's public sector organizations and the impact of performance measurement on them. Experiences of other countries are studied to formulate policy recommendations. Using content analysis of existing literature and available secondary data, this study will explain the performance data, performance measurement systems and their limitations within Pakistan.

4. Section I: Concepts & Conventional Systems

Conceptually and practically, performance management has a very vast canvass and applies to all the tiers of an organization like employees, groups, departments, and wings, up to the whole organization itself. Service delivery and efficacious policy management are the main drivers of PM in government sector organizations.

The terms Performance Management and Performance Measurement are often used interchangeably. However, one is subservient to the other. For clarity, the terms are defined as follows:

'Performance' is the capacity of the government to obtain resources and use them efficiently (input to output connection) and effectively (output to outcome connection) for attaining the preferred outcomes and effects (Chandrasekhar, 2012).

'Performance measurement' monitors processes (e.g. conformity to rules), results (e.g. realization of policy goals, output) or more intricate factors (e.g. efficiency, effectiveness, productivity). Performance measurement requires well-articulated and circulated key performance indicators, supported by robust Management Information Systems (Chandrasekhar, 2012).

'Performance management' is an extensive system of outlining and measuring performance, which includes designing motivation strategies for employees and organizations. It involves the planning, implementing, reviewing, evaluating and reporting to measure the impact of policies and programs. PM emphasizes upon development and learning, and identifies that training and enhancement of employee performance results in reaching the objectives and goals of the organizations. However, PM functions optimally with an auditable performance information system that focuses on financial management and policy cycles. PMS involves planning, monitoring, employee development through trainings, rating the performance and incentives for good performance (Chandrasekhar, 2012).

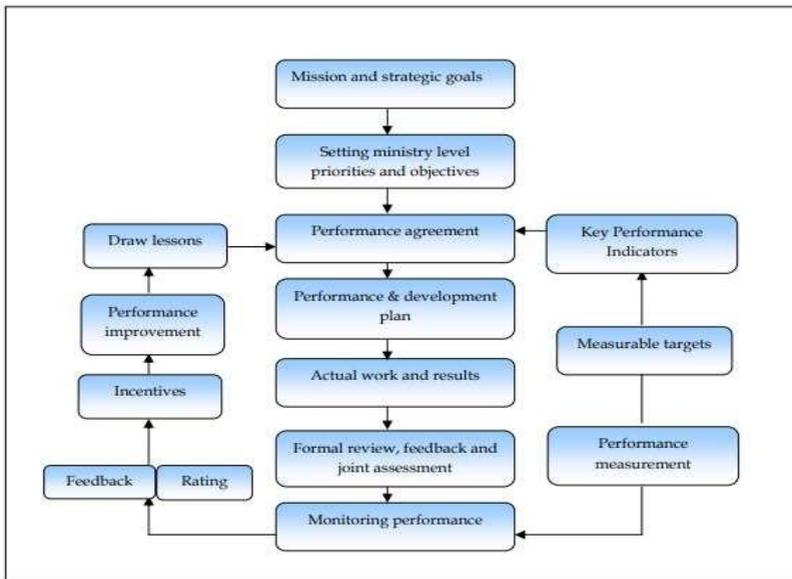


New Public Management introduced the concept of performance management for organizations in the public sector (Modell, 2015). The performance management is based on four main principles: what is measured, how is it measured, understanding the data and sharing the results (Roh, 2018). Performance management aims to manage statistics and information for future performance. Contrarily, performance measurement is the methodology to assess prior performance (Fryer et

al., 2009). It is pertinent to note that public organizations do not operate for profit and the main strategic objectives are efficient and effective service delivery and various non-financial goals, which can be difficult to assess. (Roge & Lennon, 2018).

The conventional performance management system in the public sector is distinguished by rule- based methods. Process-regulation is the aim of civil service. This means that the governments are process oriented and usage of input. The management of HR and other resources that are put to use in a scheme, program or project is important and it is also important that these resources have been put to use according to rules and regulations. Under this system the focal performance measure is financial; and the success of projects etc. is mostly measured in relation to the inputs consumed. This conventional performance management system emphasizes on the input-output relationship, as opposed to evaluating the impacts or outcomes of policies and programs.

Figure 1.
Performance Management System (Chandrasekhar, 2012)



4.1. Conventional Performance Measurement/Management in Pakistan

The fundamental component of performance assessment is the Performance Evaluation Report (PER) which is also called Annual Confidential Report (ACR). In Pakistan, the Establishment Division issues the guidelines and parameters for the PERs. PER is the main tool used by government organizations in Pakistan to measure the performance of an officer which then is supposed to determine the officer's training needs and fitness for promotion to higher grades. These PERs are filled by the officers for their direct subordinates and such officers are called Reporting Officers (RO). Then, the ROs boss also has to briefly comment on the PER and agree or disagree with the ROs grading. This officer is called the Countersigning Officer (CO). However, there is another step in place before PER can be considered complete, but this step is not applicable in all case. If the organizational structure is such and the work of the officer is such that the COs boss also examines it then, he also briefly comments and signs the PER. This officer is known as the Second Countersigning Officer (Samaratunge, 2008).

In Pakistan, there are various types of performance measurement and evaluation forms for different grades within public sector organizations:

For grade 17 and 18 officers, six criteria are established to measure the performance which include, "i) personal information of the officer, (ii) self-evaluation of the officer by himself/herself, (iii) evaluation of personal qualities by reporting officer, (iv) pen picture, overall grading and fitness for promotion by reporting officer, (v) remarks of the countersigning officer and (6) remarks of the second countersigning officer (if applicable)" (Safdar, 2012).

For officers above 18 grade till grade 20, the criteria for performance evaluation are "(i) personal information of the officer, (ii) self-evaluation of the officer by himself/herself, (iii) evaluation of personal qualities and pen picture by reporting officer, (iv) Remarks of the countersigning officer and (v) remarks of the second countersigning officer" (Safdar, 2012).

For the grade 21 officers the criteria are "(i) personal information of the officer, (ii) self-evaluation of the officer by himself/herself and (iii) evaluation of personal qualities and pen picture by reporting officer" (Safdar, 2012).

4.2. Performance Agreements in Pakistan

In the most recent attempt at civil service reforms in 2019-2021, the concept of "Performance Agreement" was introduced. The performance agreements aim to achieve "optimal efficiency of government processes and governance outcomes". The performance agreement is to be based on goals and targets to be mutually agreed by the officer and the boss for a given year. These goals and targets would be supported by detailed key performance indicators that would



be quantifiable and verifiable. Based on these measurable indicators, determination would be made if the agreed upon goals and targets have been achieved or not (Hussain, 2023).

In the first phase, the performance agreement was signed between the Prime Minister of Pakistan and his Ministers with specific objectives and targets which were monitored quarterly. It was piloted in 2019 in 11 ministries. The pilot proving to be successful was extended to all 41 ministries. UNDP's Democratic Governance portfolio (Reforms and Innovation in Government for High Performance Project) funded by the United Kingdom Foreign, Commonwealth and Development Office (FCDO) provided support to this initiative. For review and monitoring, a Peer Review Committee (PRC) was formed which constituted of the main players in charge for institutional management and development planning, namely Special Assistant to the Prime Minister on Establishment, Deputy Chairman Planning Commission, and senior officers of Establishment Division, Cabinet Division, Finance Division and Planning Division. The whole process was digitized with an online portal where ministries updated their progress and reporting and monitoring was done through this online portal (Hussain, 2023).

The process of formulating the performance agreement has 3 stages. In the 1st stage, the ministries/divisions pen their performance agreements through an internal process of stock take of priorities on which the goals are set with timelines. This creates an environment of accountability and transparency along with full ownership by the minister and bureaucratic heads. In the 2nd stage, the performance agreements are reviewed by the PRC before sending to the Prime Minister's Office for final go-ahead. The third stage comprises of review of the performance of the ministries quarterly, in relation to the targets set in the performance agreement by PRC and a brief of the review is sent to the Prime Minister. These performance review reports include completed targets, partially completed targets, and targets started and targets not started. Furthermore, the guiding principles for the categorizing the targets by function are mainly "four categories of initiatives: including administrative and internal financial matters, key initiatives under Public Sector Development Program (PSDP) and key policy/ reforms initiatives". The Minister along with the Secretary of the Division was responsible to ensure that the specific goals and targets were effectively and efficiently achieved. The relevant hierarchy of officers for each goal were also entrusted with the requisite responsibilities, however, the performance agreement was not signed at any other level in the government (Ishaque, 2021).

The general perception was that bureaucrats may try to sabotage the whole spirit of performance agreements by including ordinary and banal tasks as targets. This was the case for some ministries; however, the contrary was witnessed in other ministries. Very ambitious targets were included, many of

which were initiatives of the past governments as well and which had failed to materialize. As an example, Privatization Division included privatization of major projects by June 2022, which included Pakistan Steel Mills, Heavy Electrical Complex, Jinnah Convention Centre Islamabad, and SME Bank, among many other projects. Other over ambitious examples by various ministries included operationalization of the Gwadar International Airport, establishment of a model SEZ in Islamabad, launching the 5G network, achieving financial close of the TAPI pipeline project, and many more by June 2023. In total, over 1300 initiatives were committed to be achieved by June 2023. Another important aspect of the performance agreements is that the ministries often have interdependencies with other ministries and departments. During this exercise over 1700 interdependencies between various ministries were identified and worked upon to mitigate the risks associated with interdependencies in achieving targets. The age-old issue of interdependencies and related delays, can be capitalizing upon for ensuring better coordination, meaningful accountability for outcomes, and taking the performance agreements as policy tools for improved public service delivery and this in turn could be the main factor for success of the performance agreements.

However, an interesting facet of the performance agreements is that they are not legally binding documents, and no mechanism was given to address the situation where the minister and secretary do not meet their targets and this poses as a delivery risk. The PTI government based on the recommendations of PRC gave out certificates of appreciation to top ten performing ministries based on their performance against the performance agreements in February, 2022. But, the ranking of the ministries was met with high criticism by many ministries including Shah Mahmood Qureshi's Ministry of Foreign Affairs, Information Ministry, Finance Division and Health Ministry. This initiative was implemented for two years and then the government changed after a no confidence motion against the Prime Minister in 2022, after which the performance agreements were not continued (Khawar, 2021).

The Performance Agreements was an initiative that is present in many developed and developing countries and has been implemented successfully. These lead to enhanced accountability and improved performance in the public sector. These agreements institutionalize a performance management system which promises to change the internal accountability of the ministries, with verifiable performance measurement of employees and also alignment of individual performance with organizational objectives. Performance Agreements and the peer review system aims to create ownership of the reform process and internal accountability of the civil service.

4.3. International Examples

Study of literature lead to the following examples from other countries (Chandrasekhar, 2012):



- i. **Public Service Agreements in United Kingdom:** Public Service Agreements (PSAs) contain the goals as agreed between the public sector organization and the Prime Minister's Delivery Unit for the services to be provided. PSAs span for a medium time frame of three years.
- ii. **Strategic Plans of United States of America and South Africa:** South Africa and United States use strategic plans for performance management. In South Africa, three-year strategic plans are made where each department's goals are listed. Operational work plans and performance agreements are derived from these strategic plans. And in USA the strategic plans cover five years and contain the policy and operational goals.
- iii. **Pluri-Annual Planning program of Brazil:** The governmental goals are split into almost 400 programs. Each program is headed by a senior civil servant as the program manager and he accountable for the achieving the results within the timelines. The targets of the program form basis of the performance agreement for the civil servant.
- iv. **Balanced Score Card of New Zealand & Australia:** Australia and New Zealand follow the Balanced Score Card system. In this system, there are a set of measures that link directly to the organization's strategy. Managers are able to assess the financial performance, learning and growth, customer knowledge, and internal business processes, through the scorecard.
- v. **Performance Contracts of Kenya:** Performance contracts are similar to PSAs between the government and public organization, with goals and setting the service standards. Good performance is rewarded with incentives.
- vi. **The Government Performance and Results Act of 1993 (GPRA) of USA:** This law was enacted in 1993, to improve government performance management. The GPRA envisions that public organizations will undertake performance management tasks like determining their goals, assessing the outcomes, and reporting the progress. Under the legal provisions of the GPRA, organizations make strategic and performance plans, and undertake gap analyses of programs. The GPRA Modernization Act of 2010 updated the 1993 act in light of feedback over the years and provided an improved and modern system for performance management of government agencies. The Modernization Act assists federal organizations in identifying their main priorities and basing their policy, financial, and management decision-making on evidence-based practices. This law

gave an institutional framework which included positions of the Chief Operating Officer and Performance Improvement Officers within the federal organizations and the creation of the inter-organizational Performance Improvement Council. The law gives the performance framework with rests on established management practices like:

- i. Involving senior management,
- ii. Concentrating on a few but high importance objectives,
- iii. Periodic reviews of the performance that are evidence based and cover varied qualitative and quantitative inputs,
- iv. Enhancing capacities of organizations, cooperation, and awareness for managing programs more effectively and efficiently (Halachmi, 2002).

From these examples, performance management across countries is codified in strategic and performance plans that span over medium to long term time frames. Some countries have gone a step further and introduced legislation to govern the performance and outputs/outcomes of public sector organizations. These systems are in place since decades in many of the developed countries and have proved to be successful in managing the performance in the public sector.

4.4. Problems in Conventional Performance Management System in Pakistan

Pakistan inherited its civil service structure from the British and despite various attempts at civil service reforms over the decades, there has been no significant improvement. The current system, although in use since decades has many shortcomings. There are many reasons for this but for the purpose of this paper the performance related issues are discussed as follows (Institutional Reforms Cell Prime Minister's Office, 2021; Chandrasekhar, 2012):

- i. **Absence of proper training and career planning:** Officers don't have the requisite skills for the job at which they are sent by the government to work. There is career planning to send the right person for the right job. The trainings imparted are also generic and not specific for the job.
- ii. **Lack of knowledge about job description and KPIs:** Many public sector organizations have not established job descriptions and neither have KPIs been defined. Under such circumstances the officers don't have any benchmark on which to perform and resultantly the performance measurement is arbitrary.
- iii. **Indifference towards the job and ancillary functions:** The indifference



is concerning because it is rooted in the issue that high quality work is not differentiated from average and below average performance with no special incentives to reward the outstanding performance. At the end all officers get similar increments and promotion prospects. The ensuing indifference compromises the quality of work, deadlines, incomplete targets and low skill set.

- iv. **Subjective assessment criteria:** The PERs are designed in such a way that the evaluation criteria entail assessment that is highly subjective. In the absence of objective, measurable and evidence-based criteria, the process of performance appraisal will not translate in to improving the performance of the organization and thus is a futile exercise.
- v. **Lack of communication between supervisor & subordinate:** The communication of negative rating and remarks in the PER is a cumbersome process due to absence of two- way communication culture. Performance interviews and counselling sessions are not held to discuss the performance and ways to improve it.
- vi. **Timing of completing PERs:** PERs are to be completed and submitted for every calendar year. The requirements of multiple PERs for each reporting officer over 3 months in a calendar year are very cumbersome. Moreover, the PERs are not submitted by the officer by the end of January following the calendar year to be reported upon. Usually, the PERs are completed in a state of hurry when mandatory training or promotion board is imminent, which further kills the purpose of timely performance appraisal.
- vii. **Appraisal of the individual:** The PERs are designed as such and the culture of reporting is such that the appraisal ends up being of the individual as a person and not his/her performance related to the organization's goals and objectives and relative to the KPIs.
- viii. **Seldom punish and never reward culture:** The performance appraisal culture has developed over the decades that does not reward the high performers and the shirkers are not held accountable. At the end everyone gets rated Very Good to Outstanding with a few getting rated as Good. Hardly anyone gets rated as Average and virtually no one as Below Average.
- ix. **Avoiding adverse rating & remarks:** Giving adverse rating and remarks puts the reporting officer in a defensive position where he/she is required to support their rating with evidence and thus it becomes a very hectic and burdensome task. Therefore, the officers avoid giving adverse rating to avoid the whole process.

4.4.1. Issues With the Implementation, Reporting and Monitoring of the PAs

Although the introduction of the performance agreements by the PTI government was a positive step in the performance management arena, there were issues with the implementation, reporting and monitoring of the PAs. Some of the issues are enumerated below:

- i. **High Turnover Issues:** The frequent changes in the portfolios of the ministers had direct impact on the performance agreements and the targets contained therein. The incoming Ministers did not have the ownership of the performance agreements as they were planned and signed by the out-going Minister. Furthermore, the new Ministers had different strategic objectives for the Ministry. This led to issues of initiatives started but work stalled, shift of focus to other initiatives, non-updating of performance agreements on time. This led to poor rating of the Ministry by PRC as the performance agreement targets had not been achieved. Ministry of Information & Broadcasting was one such Ministry. No system was put in place to address this widely prevalent issue (Shabbir, 2022).
- ii. **Dynamic circumstances:** Some ministries work in an environment where externalities directly impact their performance. Two such ministries are Ministry of Foreign Affairs and Ministry of Finance & Revenue. The global political and economic factors impact these two ministries which impact their objectives contained in the performance agreements. However, the evaluation by PRC does not cater to these very valid external factors and the rating was done in a static manner. Again, no system was put in place to cater to these valid issues (Shabbir, 2022).
- iii. **Change in Rating Criteria:** PRC changed the weightage of the rating criteria from 100% based on achieving performance agreements goals to 70 percent based on achieving of performance agreement goals and qualitative weightage which meant 30 percent PRC discretionary marks. This change of criteria without stakeholder on-boarding led to many questions and disgruntlement by the Ministries rated low, like Health Ministry that had proven its performance during the Covid 19 pandemic (Shabbir, 2022).

5. Section II - Performance Measurement/Management: New Trends and Avenues

The contemporary trends in performance measurement and management have shifted focus from the individual performance parameters to good governance and effective and efficient service delivery through a citizen centric approach.



With the rise in technology and new research, there are multiple new trends and avenues in performance measurement and management. Rapid technological advances, the growth in digital governance, the application of artificial intelligence, and the capacity to gather and study big data, can lead to leaner public sector organizations, that are more efficient, and more responsive to citizens' needs. The use of technology and digital platforms are increasingly used by governments for introducing interventions that focus around citizens and businesses.

5.1. E-Governance as a tool of performance management

E-governance is a trend that has become wide spread in the developed countries since nearly 30 years. It is an effective tool to guarantee good governance in any country. In the digital state survey, USA was rated high e-governance delivery, Europe came in second, and Asia was third in e-governance in the regional category. The parameters of this survey were interventions such as e- democracy, e-taxation, e-commerce, e-revenue etc. Information and communication technology (ICT) has spear headed a revolution in the performance of governments worldwide. Governments are employing ICT for many things, like Government to Employee technology (G2E); Government to Government technology (G2G); Government to Business (G2B) and Business to Government (B2G) technology to facilitate ease in doing business. Government-to-citizen technology (G2C) is used enhance service delivery efficiency, response, and end-user-friendliness. Governments are proactive in implementing the e-governance system to promote improved social and corruption indicators (Batool et al., 2021).

"E-governance can be defined as the delivery of government services and information to the public by using electronic means"(Ilyas, 2016). E-governance is a major driver of good governance by improving performance as it offers quick services and ease for the citizens. E- governance eliminates the need for excessive interface with humans which reduces the incidence of bribes. The salient features of e-governance can be summarized as follows (Batool et al., 2021):

- i. Easy outreach of services to the public.
- ii. Ease in accessing information.
- iii. Conducive to decision-making process as information about the performance of different services is readily available.
- iv. Transparency in decision-making.
- v. Maximum participation of citizens in the governance structure.
- vi. Performance and efficiency monitoring and measurement.

- vii. Citizen satisfaction due to less effort and time saving.
- viii. Bridge between citizens and their government.
- ix. Improved collaboration of state organs, commercial communities, and civil society.

5.2. E-Governance in Pakistan

Pakistan as a developing country endeavor to build the e-governance system to enhance its status as a digital country - digital Pakistan. There are many e-governance initiatives in Pakistan which have been classified by theme and briefly explained as follows (Batool et al., 2021):

5.2.1. E-Governance Initiatives in Services Sector

- i. **Khidmat Markaz:** combined 17 citizen centric services like marriage registration, birth certificates, divorce registration, death certificates, character certificates, NADRA e- sahulat, route permit etc. under a one window operation that is fully automated and the required document is delivered to the home of the applicant.
- ii. **Baytee App:** this app has been introduced for female empowerment through technology by providing resources on women rights, laws and regulations, women centric education opportunities, job portal, health services, hostels, women police stations and helpline etc.
- iii. **Mera Bacha App:** this app linked with a special Integrated Response Mechanism (IRM) to efficiently respond to the incidents of child sexual abuse and kidnapping.
- iv. **Pass Track App:** registers and tracks foreign passengers & travellers coming to Pakistan by scanning the National Identity Card and / or Passport of Pakistan.
- v. **Durust Daam App:** gives updated prices of essential commodities and give platform to lodge complaints against profiteers.
- vi. **Clean and Green Pakistan:** to report unhygienic and dirty washrooms at Petrol Stations to the local administration.
- vii. **City Islamabad App:** links to e-Police, excise and taxation, CDA, e-NADRA, notifications, city guide, utility bills, and other public services.
- viii. **Case Tracking System:** helps to track the status of legal cases
- ix. **Central Collaborative System:** shares information about the existing developed software to enable focus on new software saving resources.



5.2.2. E-Governance Initiatives for Socio-Economic Development

- i. **Board of Investment Visa Portal:** business community visa applications through the online portal.
- ii. **Economic Affairs Division NGO Portal:** online portal for the registration of NGOs and database management of related activities.
- iii. **Kamyab Jawan Program:** provides loan opportunities to youths to enhance their entrepreneurial potentials.
- iv. **Freelancer Facilitation Hub:** provides directory of freelancers in Pakistan.
- v. **Ehsaas Program:** a program of social safety and poverty alleviation and includes many pro-poor initiatives.
- vi. **National Jobs Portal:** it is a single platform for the job seekers to get hired at their desired jobs on the pure merit basis to maintain transparency.

5.2.3. E-Governance Initiatives in Health Sector

- i. **WECARE:** protected the frontline health workers treating patients of COVID-19 and also sensitized citizens with tips to minimize infections through health providers.
- ii. **Central Information Board:** detailed and specific information about the allocated, released, and disbursed amount of COVID relief fund across cities.
- iii. **Pak-Nigehban-National Emergency Response:** helped to identify the nearest hospitals, labs, beds, or ventilators for corona patients.
- iv. **CORONA Relief Tigers Registration:** integrated with Prime Minister's Citizens' Portal allowing public to register themselves as volunteers.
- v. **COVID-19 Mobile Platform:** for up to date and authentic information about coronavirus in the country.
- vi. **Naya-Pakistan Qoumi Sehat Card App:** was launched to facilitate citizens regarding the 'Sehat Sahulat Program'.

5.2.4. E-Governance Initiatives in Financial Sector

- i. **Raast App:** Pakistan's Instant Payment System that enables end-to-end digital and instant payments among customers.
- ii. **Online Mobile Banking:** This app simplifies the banking experience

and allows access to their bank accounts anywhere and anytime.

- iii. **FBR E-payments:** Federal Bureau of Revenue facilitates e-payments to pay various taxes.
- iv. **Roshan Digital Account:** State Bank of Pakistan with the partnering commercial banks in Pakistan offer investment banking solutions to the overseas Pakistanis.

5.2.5. E-Governance Initiatives to enhance participation of the Overseas Pakistanis

- i. **Electronic Voting Machines Initiative:** The bill for EVMs was passed on 18 Nov 2021, which enables voting by overseas Pakistanis in the general elections of Pakistan.
- ii. **Call Sarzameen:** Process digitalization of registering complaints by overseas Pakistanis with the aim to ease and eliminate their grievances.
- iii. **Yaaran-e-Watan:** facilitates collaboration between overseas Pakistani health professional with professional volunteering opportunities in Pakistan to boost the health sector of Pakistan.

5.2.6. E-Governance Initiatives Citizens Feedback

- i. **PM's Citizen Portal:** provides a platform to the citizens to lodge their complaints against any issue of public importance.
- ii. **The Monitoring and Evaluation System:** helped the government to perform its routine services efficiently.

5.3. International examples of E-governance

5.3.1. E-Estonia: The Estonian e-government

Estonia adopted the e-governance model quite early and is considered an advanced country in the e-governance realm. Estonia moved towards e-governance and automation after independence from Soviet Union in 1991. They wanted reinvent how they governed by trashing the archaic Russian bureaucratic model and invested in technology.

Consequently, e-Estonia was created, that empowered the Cabinet eliminate the use of paper, use of digital signature to approve laws, and inter-connected public services optimizing resources and administrative procedures. A citizen can renew his/her passport, while carrying on day-to-day tasks such as waiting for the train.



5.3.2. United Kingdom's digital governance: the e-Government unit

Digital by Default introduced in the United Kingdom in 2010. The purpose was to digitalize its connection with citizens. The Gov.Uk portal was initiated the next year, which guides all government related functions to a single digital platform.

This digital strategy is governed by a number of principles:

- i. Citizens need to provide their information only once even if different government agencies are involved
- ii. All government officials in the public sector must have been users of the services offered by Gov.Uk to have personal experience of the services offered to citizens and,
- iii. An information number or customer service desk with humans will always be available to prevent digital divides.

5.3.3. China's e-Government

Since 2012, President Xi Jinping of People's Republic of China has led the digitization of the Chinese government, adopting technology and artificial intelligence. The flagship project in digitization was collection of big data which assisted in monitoring the population.

A novel initiative of the Chinese e-governance is the social credit system. This is a digital record system of each citizen that grants points to public based on morality and honesty. This point system regulates the type and extent of citizen's liaison with the administration. Those scoring poorly, will not be able to interact and transact with the institutions to varied degrees.

5.4. Challenges of E-governance in Pakistan

The e-governance in Pakistan is performing relatively well, however, there are issues inherent with technology. Some issues are mentioned below that need to be addressed to ensure successful implementation and effectiveness in performance:

- i. **Digital divide:** Not all citizens have equal access to technology, especially in developing and remote areas. The digital divide, characterized by disparities in internet access and digital literacy, can hinder the participation of certain groups in e-governance initiatives (Junaid, 2021).
- ii. **Data security and privacy:** Managing and safeguarding vast amounts of sensitive data collected through e-governance systems is a major concern. Ensuring data security and protecting citizens' privacy from

breaches and cyber-attacks is crucial to maintain public trust.

- iii. **Digital literacy and skill gaps:** Many citizens, especially older adults and those from disadvantaged backgrounds, may lack the necessary digital literacy and skills to effectively engage with e-governance platforms. This can lead to exclusion and reduced participation (Rasool et al., 2021).
- iv. **Interoperability and standardization:** E-governance initiatives often involve multiple systems and databases that may not be compatible or standardized. The lack of interoperability can hinder data sharing and collaboration between different government agencies.
- v. **Resistance to change:** Transitioning from traditional governance to e-governance requires a cultural shift within government institutions and among citizens. Resistance to change from stakeholders can slow down or impede the adoption of new technologies and processes.
- vi. **Infrastructure limitations:** In some regions, inadequate technological infrastructure, such as poor internet connectivity and power supply, can hamper the implementation and accessibility of e-governance services.
- vii. **Legal and regulatory challenges:** The legal framework for e-governance needs to be well-defined and updated regularly to address emerging issues related to data protection, cybercrime, and electronic transactions.
- viii. **Cost and sustainability:** Implementing and maintaining e-governance systems can be expensive, and governments must ensure that such initiatives remain financially sustainable in the long term.
- ix. **Citizen engagement and participation:** E-governance aims to increase citizen engagement in the decision-making process. However, ensuring active participation and feedback from the public can be challenging, requiring innovative approaches to promote involvement.
- x. **Technological obsolescence:** With rapid advancements in technology, e-governance systems can quickly become outdated. Governments must invest in scalable and future-proof solutions to prevent obsolescence.

To overcome these challenges, governments need to adopt a holistic approach, addressing technological, social, and policy aspects. Collaboration between governments, private sector entities, and civil society can play a crucial role in driving successful e-governance initiatives. Additionally, investing in digital literacy programs and building robust cybersecurity measures are essential



steps to ensure the successful implementation of e-governance strategies.

5.5. Artificial Intelligence as a tool of performance management

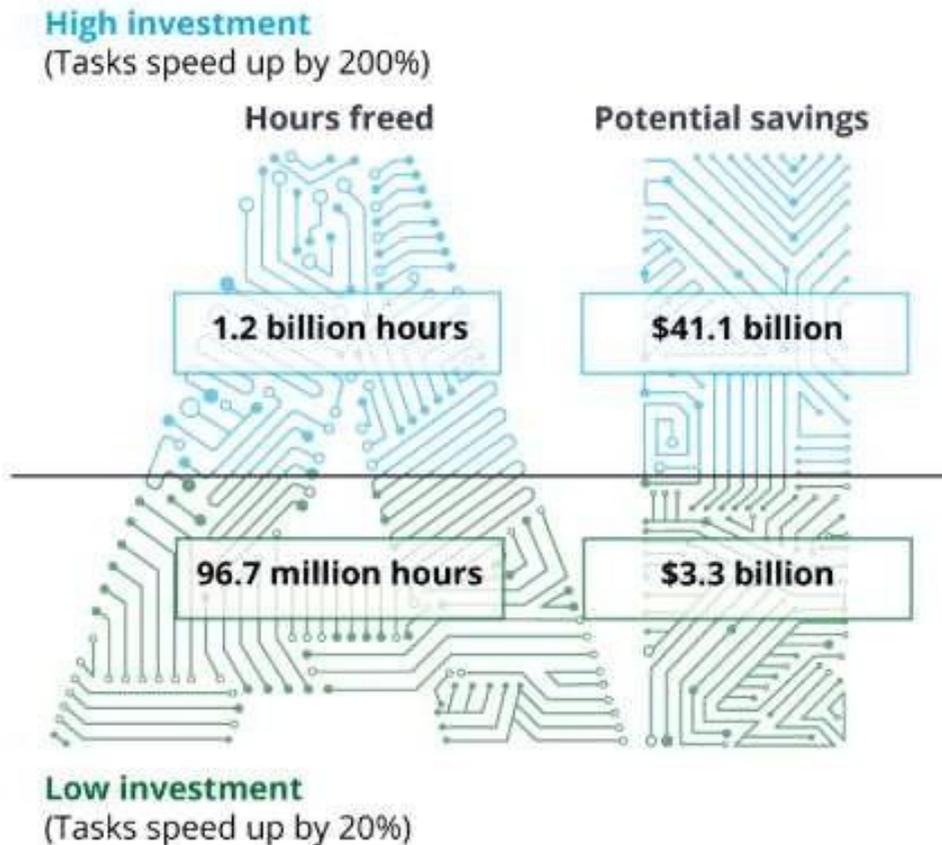
In policy-making circles, AI is defined as “systems that display intelligent behaviour by analysing their environment and taking actions—with some degree of autonomy—to achieve specific goals” (European Commission, 2018). AI systems are “technological systems which have the capacity to process information in a way that resembles intelligent behavior”. These systems usually comprise of “reasoning, learning, perception, prediction, planning, or control aspects” (Zuiderwijk et al., 2021). “Approaches and technologies that comprise an AI system may include, but are not limited to: machine learning, including supervised and unsupervised learning; Artificial Neural Networks; case-based reasoning; natural language processing; cognitive mapping; multi-agent systems; machine reasoning, including planning, predictive analytics, knowledge representation and reasoning, search, scheduling, and optimization; and, finally, cyber-physical systems, including internet-of-things and robotics, computer vision, human-computer interfaces, image and facial recognition, speech recognition, virtual assistants, and autonomous machines and vehicles” (Zuiderwijk et al., 2021).

Kuziemski (2020) explains the role of artificial intelligence (AI) in public sector governance and administration. Use of AI in government sector can free up millions of labour hours. This allows to shift focus on other integral tasks and improves service delivery to the citizens. A Deloitte survey estimates that “automating government workers’ tasks can save around 96.7 million to 1.2 billion labour hours, potentially resulting in annual savings of about 3.3 billion to 41.1 billion.” (Sajid, 2023).

AI in government has its challenges. Awareness and developing AI expertise among government officers is the need of the hour. Government organizations must be cognizant about the accountability of AI as it directly impacts public and national safety. The key aspects that the public sector should aim at to build dependable AI are as follows:

Figure 2.

How much saving can AI generate in government (Sajid, 2023)



- i. Fair & impartial: Reduction in the prejudiced, historical, racial, and gender bias from AI decision-making
- ii. Transparent & explainable: The AI algorithms don't have any hidden component
- iii. Responsible & accountable: Systems and policies to be introduced that focus on accountability of AI systems
- iv. Safe & secure: Reduction in cybersecurity risks by employing professional approaches to safeguard the security of AI systems
- v. Privacy: Guaranteeing the privacy of the data in the AI system through compliance with data and privacy regulations

5.6. Uses of AI in Government with international examples

5.6.1. Healthcare and disease spread prevention

AI in healthcare has attained numerous innovations, like early disease detection and prevention to support in clinical decision-making. AI permits real-time monitoring of patients' health. This includes monitoring all vitals etc., and sending this information to AI healthcare systems, which can notify doctors of any possible risks. Governments can leverage AI to provide effective health services to citizens. For instance, during the pandemic, AI impacted the detection and control of the COVID-19 virus.

In the UK, National Health Service (NHS) formed an initiative to collect data related to COVID patients to develop a better understanding of the virus. Through various partnerships, the NHS set up the National COVID-19 Chest Imaging Database (NCCID), an open-source database of chest X-rays of COVID patients across the UK. This initiative aimed to develop deep learning techniques meant to provide better care for hospitalized COVID-19 patients.

Similarly, the NHS has developed an AI tool that can detect heart disease in only 20 seconds while the patient is still in an MRI scanner. Normally, it would take a doctor 13 minutes or more to analyze the MRI scans of a patient manually.

Likewise, the U.S. Centers for Disease Control and Prevention uses an AI tool to streamline polio virus tracking and reporting. It can identify virus types and form clusters of different disease reports.

The Australian government's syndromic surveillance system, PHREDSS, monitors patient symptoms in hospitals every day to determine emerging disease outbreaks and configure health policies accordingly (Sajid, 2023).

5.6.2. Large-scale infrastructure monitoring

Governments around the world face difficulty in monitoring real estate. Manual administration is challenging and often proves insufficient in identifying land developments. These challenges pave the way for the inclusion of AI in government to automate the monitoring and administration of properties.

A French consulting firm Capgemini partnered with Google to develop AI software that can analyze aerial imagery to spot undeclared properties. The software was able to spot 20,000 undeclared pools across France. This discovery helped the French tax authorities collect an additional €10m in tax revenue. Moreover, the authorities say they will use the software to identify undeclared patios, gazebos, and home extensions.

Similarly, in the United States, government organizations and insurance companies use an AI tool to identify any changes in infrastructure or property.

An Australian company NearMap has developed an AI tool that provides land identification and segmentation from aerial images. NearMap's AI tool is trained on image data that covers 380,000 square miles across the US and Australia.

In summary, AI in government enables authorities to enforce policies that result in better infrastructure monitoring to fight tax evasion and unlawful property changes (Sajid, 2023).

5.7. Issues with AI in government

Public-use technologies demand a higher level of accountability and compliance with regulations than technologies developed by the private sector.

This causes some major challenges and risks in adopting AI in government. Let's go through a few of them.

- i. **Lack of AI expertise:** High-quality AI resources are rare. A SAS survey states that 63% of respondents believe that they don't have enough high-quality AI and machine learning resources. Government workers often lack the data science and AI skills necessary to handle the massive scale of citizen data and build state-of-the-art AI models that benefit the public.
- ii. **Lack of motivation:** Typically, government workers are accustomed to their existing workflows. Their existing organizational culture does not encourage an R&D-based environment which is critical for AI adoption.
- iii. **Challenge of fairness and equality:** AI bias has long been a challenge for experts. AI models can display bias based on different characteristics, raising questions about the fairness and integrity of the government. For instance, a facial recognition security and surveillance system used by a government agency could mischaracterize a citizen, leading to false legal action against them.
- iv. **Concerns of privacy:** Collecting large amounts of citizen data may be met with protests from citizens concerned with safeguarding their identities. For instance, contact tracing and self-reporting applications raised some serious healthcare privacy protection concerns during the pandemic. In addition, most government agencies outsource the development of AI systems, which leads to sharing citizen data with third-party companies. Also, it is challenging to get the consent of each individual.
- v. **Ethics and lack of accountability:** AI models have always been subject to ethical issues, and their public sector implementations are no



different. Ethical issues in AI mainly arise due to data biases and privacy. Data biases impact how the model treats certain sects and communities, and the use of public data puts its privacy at risk.

Government agencies must adopt and enforce ethical AI guidelines in different phases of the AI lifecycle to ensure transparency, contestability, and accountability. However, most public-sector AI initiatives are underfunded and understaffed to execute ethical AI policies effectively. If AI is effectively applied across government departments, it can have a positive impact on the healthcare, energy, economic, and agriculture sectors. However, without clear governmental guidelines, AI can jeopardize the well-being of citizens.

6. Section III Conclusion & Recommendations

6.1. Conclusion

Performance measurement and management are an integral part of any public or private organization. There is some literature available on the topic in Pakistan's context but empirical studies are largely lacking. The available literature and resources have been examined in the foregoing analysis and discussion. From the analysis, it is concluded that Pakistan suffers from many governance related issues which are apparent in the various rankings of Pakistan like Human Development Index, or Corruption Index etc. Efforts are made to improve the governance structure; however, little attention is paid to the core issue that leads to break down of governance, that is performance management of the public sector.

The public sector is a gigantic structure with multiple players in various hierarchal and horizontal, cross cutting relationships. The organizations in the public sector have their peculiar dynamics with specific performance indicators. The employees of the organizations have their own particular set of performance indicators. There has to be a process in place to measure the performance of the employees and the organizations against the indicators. And performance management is the system through which these individual appraisals are brought together to measure a cumulative impact.

However, in Pakistan the whole regimen of performance management is replete with issues that have been discussed in detail in the foregoing discussion. Unless and until, the issues of performance management are addressed in Pakistan, the bad governance woes shall not leave us. Unfortunately, rather than shifting from conventional approaches of performance management to contemporary approaches, Pakistan has yet to apply the conventional approach in its true spirit. The performance measurement criteria have to be objective, fair, measurable, verifiable and evidence based. There has to be shift from the subjective appraisal which gives out the same treatment to all, whether you perform well or you don't perform at all. The faults in the individual appraisal impact the whole organizational

performance adversely.

The performance agreements were a step in the right direction, however, due to political instability, the initiative was short lived. With some tweaking in the review and ranking mechanism, this initiative needs to be revived and applied piecemeal, starting from the Ministers, to senior bureaucracy down to middle management. The performance agreements have the potential to hold all concerned accountable for their performance as ownership of the goals set is present. If implemented well, this initiative can lead to far reaching impacts.

The foregoing discussion also focused on the new trends in performance management which focuses on citizen centric approach for good governance. The use of e-governance and AI in public service delivery domain have positive impact of efficiency and effective of organizations as citizen's satisfaction becomes a metric for evaluating the performance. The digital governance also cuts down the bureaucratic processes for getting anything done and automates the process. Use of AI minimizes the use of human discretion and follows logical patterns. Also, the interface with government functionaries reduces the element of rent seeking from the system. However, no system is without its risks and with technology the privacy of citizens, safety of data and unfair processing of unique cases always remains a risk.

Pakistan has many miles to go before it gets a robust performance management system. Need of the hour is a satisfactory mix of conventional and contemporary performance management systems that are geared towards improving performance and thus improving governance.

6.2. Recommendations

Based on the discussion and issues identified, the following recommendations are proposed to improve the performance management systems in Pakistan:

- i. PERs evaluation criteria needs to be revamped and based on objective, fair, measurable, verifiable and evidence-based parameters. This can only be done if the KPIs and job descriptions are well defined and circulated. Each employee knows his work and knows his KPIs against which he will be evaluated.
- ii. There should be quarterly meeting of the reporting officer and the subordinate to assess the progress of the sub-ordinate against the KPIs. Any issues should be timely identified and rectified. Counselling if required should be done and any issues being faced by the subordinate should also be addressed.
- iii. The PER system should be automated with all parts of the PER completed online by all the concerned officers. The officer should not be initiating the PER themselves but the HR department of the officer



should be doing it automatically so that the issue of time lag in submission of PERs is addressed. Moreover, the reporting and countersigning officer should be bound to complete the PER once generated within the given time frames. If there are any delays then administrative action may be taken against such officers.

- iv. The concept of forced ranking as given in the civil service reforms of 2018 to 2021 may be piloted with certain amendments to ensure recognition and reward of the outstanding officers.
- v. The performance agreements need to be reintroduced as soon as possible to have accountable performance management.
- vi. The review and rating criteria of performance agreements need to be codified after stakeholder consultations.
- vii. In the next phase, performance and result based legislation should be done so as to provide legal cover and enforceability to the performance agreements and strategic plans.
- viii. Use of AI should be introduced in basic citizen services functions; however, strict monitoring of the algorithms and its use needs to be ensured.
- ix. E-governance should be promoted but with safeguards against hacking, privacy breach and unfair treatments.
- x. Invest in infrastructure development to improve internet connectivity in remote and underserved areas. Establish community centers and digital training programs to enhance digital literacy among citizens of all ages and backgrounds.
- xi. Implement robust cybersecurity measures to protect government systems and citizens' sensitive data. Adhere to international best practices and standards for data protection and privacy. Conduct regular security audits and vulnerability assessments to identify and address potential weaknesses.
- xii. Develop and enforce interoperability standards for government systems and databases. Encourage collaboration and data sharing between different government agencies to provide seamless services to citizens.
- xiii. Invest in upgrading technological infrastructure in areas with inadequate connectivity and power supply. Leverage mobile technology to reach citizens who may not have access to traditional computing devices.

- xiv. Review and update existing laws and regulations to address emerging issues related to e- governance. Establish clear guidelines on data protection, privacy, and electronic transactions.
- xv. Develop a long-term financial plan for e-governance initiatives to ensure their sustainability. Explore public-private partnerships to share the financial burden and benefit from private sector expertise.
- xvi. Use multiple channels (websites, mobile apps, social media) to engage citizens and gather feedback. Conduct awareness campaigns to encourage citizens to participate in e- governance processes.
- xvii. Government agencies should prioritize using AI systems that are transparent and can provide explanations for their decisions. Citizens and stakeholders should be able to understand how AI algorithms arrive at specific conclusions or recommendations.
- xviii. Ethical AI Frameworks: Develop and implement ethical frameworks for AI use in government. These frameworks should address issues like bias, fairness, and accountability to ensure that AI systems do not unintentionally discriminate or perpetuate social inequalities.
- xix. Ensure that the data used to train AI models is of high quality, reliable, and representative. Data privacy and security must be maintained, and compliance with data protection regulations should be a top priority.
- xx. Incorporate human oversight and intervention in critical decision-making processes involving AI. While AI can automate tasks, human judgment is still essential, especially in areas with significant social impacts.
- xxi. Proactively identify and mitigate bias in AI algorithms, particularly in areas like criminal justice, healthcare, and social services, where biased decisions can have severe consequences.

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