

Leveraging AI to Advance the Sustainable Development Goals in Morocco's Public Sector

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Abstract:

This article investigates how AI can contribute to the Sustainable Development Goals (SDGs) in the Moroccan public sector centered on SDG 9 (Industry, Innovation, Infrastructure) and SDG 16 (Peace, Justice, Strong Institutions). Description of the most representative AI projects developed in the public administration. The study describes a number of AI initiatives from public administrations as an example for the potential of the use of AI tools in promoting transparency, efficiency and institutional innovation. The roadblocks of data privacy, the digital divide, and organizational resistance are also considered. The paper highlights that, while AI has significant transformative potential, its adoption must be accompanied by strong regulatory and ethical frameworks, as well as inclusive approaches to ensure its contribution to sustainable and equitable public governance.

Keywords: Artificial intelligence, Sustainable Development Goals, public administrations, institutional efficiency, innovation, transparency, SDG 9, SDG 16, Morocco, public governance.

JEL Classification: O33 H83 Q01 O38 I38

Paper type: Theoretical Research

1. Introduction:

The 2030 Agenda, offer a universal roadmap to end poverty, save the planet and build peaceful societies for all. The 17 SDGs are interdependent and aim to tackle a variety of social, economic, and environmental issues that contribute to sustainable and inclusive development (United Nations 2015). Specifically, SDG 16 is aimed to promote peaceful and inclusive societies, provide access to justice for all and build effective, accountable and inclusive institutions. SDG 9 (United Nations 2015), meanwhile, focuses on building sustainable industrialization and encouraging innovation and resilient infrastructure, as driving forces of economic growth and social progress. These are fundamental goals for public governance and global development; particularly in developing countries such as Morocco, where institutional and infrastructural impediments are barriers to development. (Griggs, D 2013).

Context At a time when the country's public administrations encounter significant problems, such as high level of bureaucracy, slow administration management and lack of an effective way for citizens to connect with the administrations to get public services Artificial Intelligence seem to offer good moving forward solutions. Public services will become fundamentally transformed via AI as workflows are automated, service is made more transparent, and decisions are based on data. But, its uptake in the public sector is not free of challenges, such as regulatory concerns, data security threats and digital divides. A case in point is the need to better understand the potential contributions of AI to reaching goals such as SDG 16 (Strengthening institutions) and SDG 9 (Innovation and infrastructure), while promoting inclusion and sustainability. This paper seeks to explore and critically assess the role played by Artificial Intelligence in the fulfilment of SDGs 16 and 9 in the Moroccan public administrations. In particular, it aims to highlight how AI-powered tools have been or could be leveraged to drive greater efficiency, transparency, and accountability in public institutions and advance infrastructure innovation and sustainability. The article will also seek to evaluate these initiatives in terms of sustainability and inclusion, identifying implemented projects and their results.

The article is organized in five intersecting sections, which articulate the relationship between Artificial Intelligence (AI) and the Sustainable Development Goals (SDGs) in the Moroccan public sector: The first part sets the theoretical frame by introducing the core concepts involved in AI and the SDGs, based on the major theories of sustainable development and of public sector innovation. This base is useful in helping to understand the processes of applying new technologies to sustainability challenges. The second part is about the method. It outlines the methodology based on case studies that is adopted, and offer a detailed overview of chosen indicators, with which the impact of AI on achieving the SDGs, and more specifically on SDG 16 (on effective and accountable institutions), and SDG 9 (on infrastructure, innovation, and industrialization), can be measured. This method guarantees a strict and context-aware evaluation process. The third section examines real AI projects introduced in Moroccan public administrations. These snapshots illuminate the real impact of these technologies on institutional effectiveness and innovation as well as the real-life, practical and structural challenges faced in implementing them. The following discussion section interprets the findings, highlighting the contributions of AI as well as its limitations, especially regarding governance, access equity, and data management. It offers proposals for overcoming the identified barriers and enhancing the integration of AI from a sustainable and inclusive perspective. Finally, we conclude the paper with the main contributions of the study. It identifies some takeaways for public decision-makers, insights for digital transformation policies, as well as future research avenues to enhance our understanding and harnessing of AI for the SDGs in developing countries. By linking both theoretical and practical considerations,

the study provides an original contribution to the continuous debate about the modernization of public services by means of advanced technologies.

2. Literature review

2.1. AI and the SDGs

To fully address the relationship between artificial intelligence and the Sustainable Development Goals, it is necessary to first define these two overarching concepts. Artificial intelligence is an umbrella term for a suite of advanced technologies, from machine learning to natural language processing and vision capability that can enable machines to replicate some human cognitive functions (Russell & Norvig, 2020). Because it can handle very large volumes of data, detect very subtle patterns and make very reliable predictions, AI is more and more deployed as a lever to optimise public policies and administrative services (Wirtz et al., 2019). Among other things, AI can improve decision-making, automate repetitive tasks, and make services more accessible to the public. The Sustainable Development Goals, created by the United Nations in 2015, establish a universal framework of seventeen goals to be achieved by 2030 to eliminate poverty, reduce inequality and promote solidarity, ensuring the future of the planet (United Nations, 2015). In terms of public administration, SDGs 16 and 9 are the most relevant to this topic. SDG 16 is of particular interest to us because it promotes transparency, accountability and the rule of law, aspects where AI can help through self-managed systems and analytics. Sustainable Development Goal number nine also raises issues of interest due to its emphasis on innovation and infrastructure to be smart using digital technologies supported by artificial intelligence. Consequently, artificial intelligence for sustainable development has the potential not only to strengthen the modernization of public administration, but also to support other areas including governance to accelerate the achievement of all the SDGs (Griggs, D 2013).

2.2. Sustainable Development Goals (SDGs) 16 and 9

SDG 16 is central to the rule of law – enabling peace, inclusion and justice. It is about creating societies where public institutions are not just efficient, but also information sharing, transparent and open to all. This pillar of the governance for sustainability depends on public administrations being able to clear obstacles such as excessive bureaucracy, convoluted and non-transparent procedures and a lack of transparency in administrative decisions. These institutional frailties erode the confidence citizens have in their governments and fracture social cohesion. The facilitation of transparency, accountability, and access to judicial services are factors for which SGD 16 contributes to making more equitable and peaceful societies. Digital transformation (supplemented with artificial intelligence in particular) has a role to play in serving as a support mechanism for this, by automating processes, reducing the possibilities of mistake and encouraging a culture of more transparent and accountable public decision-making.

At the same time, SDG 9 focuses on fostering the construction of resilient infrastructure, inclusive sustainable industrialization and supporting innovation – "the driving forces of growth so that the economy can be competitive". Strategically, this is something that a country on Morocco's development trajectory should want to do as it looks to diversify its economy and create quality jobs. However, aspirations for progress toward SDG 9 face stubborn obstacles: underinvestment in infrastructure, territorial disparities, low investment in R&D and unfair access to advanced technology.

In addition, public service innovation remains too rare, too regularly crushed by bureaucratic rigidity or lack of digital skills. To face these challenges ambitious public policies in innovation and digital are needed. With good governance, AI has a potential to be a powerful tool for

upgrading infrastructure and increasing the efficiency of industry and public services, and thereby contribute to delivering SDGs 9 and 16 in a mutually reinforcing manner.

2.3. AI in the Public Sector

The integration of AI in public administrations has a significant impact on improving efficiency, transparency, and innovation. Here are some key applications:

- **Improving Efficiency:** AI has the capability to do repetitive administrative tasks, such as document management, request processing or HR management automatically (Wirtz, B. W., Weyerer, J. C., & Geyer, C. 2019). Indeed, systems that use machine learning have been shown to be able to sort and processing administrative documents in record time, thereby cutting processing times and enhancing the productivity of public services as a whole (van Noordt, C., & Misuraca, G. 2020). This enables workers to work on more value-added activities while simultaneously lowering costs (Brynjolfsson, E., & McAfee, A. 2014).
- **Enhancing Transparency:** AI might also support the growth of transparency and probity in the public sector (Misuraca, G., & Viscusi, G. 2021). Data-centric technologies like predictive analytics dashboards enable authorities to track the usage of public resources in real-time with exception detection to hint incidences of corruption or mismanagement (Kankanhalli, A., Charalabidis, Y., & Mellouli, S. 2019). In addition, AI-powered chatbots and virtual assistant systems can help communicate direct information to citizens, increasing their access to public services and public engagement with government (Eggers, W. D., Schatsky, D., & Viechnicki, P. 2017).
- **Promoting Innovation:** AI innovation in the public sector brings about a new way to provide innovative smart city solutions to support infrastructure management and urban planning (Kitchin, R. 2016). Predictive algorithms, for example, could be employed to improve urban traffic, use natural resources efficiently or to predict requirements for public services (Allam, Z., & Newman, P. 2018). AI is also used to support evidence-based policy science by sifting through comprehensive data to inform decision-making (Mergel, I., Ganapati, S., & Whitford, A. B. 2021).

Artificial intelligence has many potential uses in the public sector, but is also fraught with peril. Doubts regarding the safeguarding of personal data, the transparency around algorithmic decision-making, and the existence of biases in AI systems are legitimate and need to be addressed. If they're not handled well, these problems can, in turn, undermine public confidence. In addition, digital divides could continue to reproduce and deepen inequities that slow down the extension of the AI dividends to the entire society. For fair-dealing, public organizations should take inclusive technologies that deliver equal access to technical developments. It is necessary too to develop and support ethical guideline sand regulatory regimes that direct AI deployment consistent with democratic principles. AI adoption needs to be sustainable not only in the long run-in terms of function being sustained but also the environmental purpose it serves. Inclusive and responsible design can also help to maximize the social value of AI applications. In the end, AI in the public sector has to be regulated for the benefit of all citizens.

2.4. Theoretical Frameworks on AI, SDGs, and the Public Sector

The intersection of Artificial Intelligence (AI), Sustainable Development Goals (SDGs), and public sector transformation can be better understood through several theoretical lenses. These frameworks provide analytical depth to the study and support a critical assessment of AI's contribution to sustainable governance.

- **E-Government Theory:** E-Government is defined as a strategic way to use information and communication technologies (ICTs) in government organization to change and enhance

government process and citizen involvement in public institutions (Heeks, 2006). The introduction of AI fits this vision by automating processes, improving institutional accountability and boosting administrative efficiency. The former theory is salient to SDG 16, is focused on strong, accountable, and inclusive institutions.

- **Public Sector Innovation Theory:** According to Moore (1995), there are three aspects of an innovation in the public sector that should be satisfied: Mission fit, Operational capacity, and Political support. AI as a disruptive innovation creates a basis for public value, through service efficiency and increased citizen satisfaction. But it also poses governance issues of algorithmic accountability and inclusiveness.
- **Sustainable Development Theory:** Sustainable Development is characterized by a comprehensive view on progress that ages economic development, social inclusion and environmental protection aim at a balance in multi-vitamin (Griggs et al., 2013). From this viewpoint, AI could be used as an enabling technology cutting across multiple SDGs, providing that it is guided ethically and responsibly. Floridi & Cowls, (2018), insist on the necessity of a “good digital society” where AI is in harmony with the more overarching objectives of sustainability and justice.
- **Capability Approach:** The capability approach as elaborated by Amartya Sen (1999) emphasises the enhancement of freedoms and opportunities for individuals. In the area of AI in the public administration, it means to create systems we can be in control of and that provide equal access to public services. This theory is particularly insightful for discussing the social inclusion of AI use and its potential impact on select groups in society in meeting SDG 10 (Reduced Inequalities) and SDG 16.

3. Research methodology

To conduct a methodical analysis of the contribution of artificial intelligence to the Sustainable Development Goals in Moroccan public administrations, this article relies on a comparative analysis of two projects aimed at providing a detailed description of real experiences. Thus, the two projects help to understand the internal or external functioning of the experiences, identifying the factors that make them effective and transmitting relevant lessons for the development and implementation of similar technologies and innovations. Regarding the two projects, it is essentially the approach to be adopted simultaneously to the SDGs and innovation that we discuss in a broad sense. This will contextualize the results, link the cases stated to the SDGs and provide recommendations applicable to public governance regimes. The two projects are designed to provide a detailed analysis of complex situations, both in process and performance. This methodology proposes a situation analysis conducive to the completeness of a country's situation from different aspects, reconciling the cultural, economic and administrative dimensions of the territory.

3.1. Project Selection

The choice of AI projects under examination in this study follows a solid methodologic approach, framed in specific criteria that guarantees the pertinence, quality, and representativeness of the selected case studies. This approach seeks to not only evaluate the effective contribution of AI in the Moroccan public sector, but also innovative dynamics related to the Sustainable Development Goals (especially SDG 16 and 9).

The first selection choice is that of alignment with the SDGs. Projects have to be instrumental to achieving SDG 16 (peace, justice and strong institutions) or SDG 9 (industry, innovation and infrastructure) or substantial contribution to the above-mentioned areas. For example, an AI application that could be used to automate citizen complaint resolution or improve transparency in public procurement would.

Next, there's measurable effect. Projects which can be measured such as improved case processing times, user satisfaction or human errors are typically perspectives taken for prioritization." These criteria allow assessing added value of AI in an objective manner.

The third one is sectoral representation. Selected projects should cover the wide-range of AI applications within different public administrations such as the justice system, urban planning, and environment, as well as the area of social services and management of human resources. Availability of data is also very important. Selected projects should allow access to written documentation, performance reports, feedback, and /or interviews with main stakeholders, so that it is possible to have a thorough and well-argued analysis.

And lastly, scale of impact and replicability are taken into account. Priority shall be given to plans that have broad appeal and engagement of the public, have significant public outreach, or are easily replicable throughout the administration or its regions. The aim is to showcase best practices that could help serve as models if the court cleans up its act down the line.

Using these five criteria, the purpose of this study is to build an up-to-date, consistent and practical synthesis of cases in order to measure the actual contributions of AI on the process of modernization and efficiency improvement within Moroccan public administration.

3.2. Measurement indicators

In order to provide an evidence, based on the impact of artificial intelligence (AI) projects on the SDGs, there is a need to use a consistent set of well-defined key indicators. These indicators serve to measure the material contribution of digital undertakings in public governance and to recognize the changes brought about in performance, equality, and sustainability. Five key dimensions have been chosen in this evaluation method:

Improvement of Transparency: The degree of openness and accountability of public administrations. It uses information such as the quantity of documents available on the web, the frequency and speed of responding to citizen petitions, and the decrease in reported instances of corruption. For instance, a real-time tracking of administrative files, or automatic publication of public procurement achieved in an AI project significantly improves institutional transparency.

Administrative Efficiency: AI is frequently employed to automate rote tasks, decrease processing times, and maximize the utilization of human and financial resources. This measure assesses the decrease in the timing of procedures, the reduction in the operating costs and the increase in the labor productivity. Good examples of this contribution are platforms for automated processing of application for permits or for in- and outgoing mail flows.

Social Inclusion: One of SDGs' important challenges is not to leave anyone behind. This dimension is determined by the extent to which AI projects support access of vulnerable groups that do not benefit from AI (rural populations, disabled, linguistic minority groups) to public services: language of user interfaces possibilities, compatibility with assisting technologies and geographical coverage of services.

Sustainability: The environmental impact of an AI solution is not nil. This attribute is concerned with assessing energy efficiency of digital infrastructure in use, reduction of carbon footprint (e.g., through digitization of services) and application of green, low carbon methods in systems and/or processes and/or products. Similarly, employing green data centers or minimizing bureaucratic trips can be considered as positive effort.

User Satisfaction: The use of AI in public services is successful only if there is positive feedback from the users. This eligibility may be checked via satisfaction surveys, user feedback examination or the number of returning users. It measures citizen and public servant views on ease of use, service speed and the quality of interactions.

By combining these indicators, the research aims to provide a detailed overview of the added value of AI projects for the sustainable development of public administrations.

4. Presentation of Projects

4.1. Project 1: AI for SDG 16

The first work targeted is the development of an AI based document management system in a Moroccan public structure and automation of administrative processes within. The primary goal of this initiative was to improve transparency and bureaucratic efficiency through automation of case processing and the increasing public access to administrative information.

Project Description:

It will modernize administrative services with an AI system that work in natural language processing. With this, thousands of administrative documents can be automatically analyzed, sorted, and classified on a daily basis. The time-consuming nature of these tasks are automated by the system, which in turn, cuts down the processing time for the citizens' files and greatly enhances public service efficiency and responses.

The project also involves the development of an interactive online interface open to all users. This gateway enables citizens to monitor the status of their records in real time which increases administrative transparency. With a persistent online portal and centralized information exchange, the platform cuts down on travel and can contribute to a more transparent relationship between administrators and the people they serve.

This system to that extent is a strong factor in the participating bodies' own digital transformation, the sectoral pressure for renewal, transparency and accessibility. With this advancement, the administration transforms into a proactive, streamlined, user-focused organization.

4.1.1. Results Achieved:

The outcomes so far are very promising after the use of the artificial intelligence system. This improvement can reduce the average processing time for administrative cases to half, with a potential 40 percent reduction. The upgrade has contributed to faster service and a better quality of services for residents. At the same time, procedural transparency has been reinforced, which has led to a significant gain in user satisfaction.

Following the digitization of operations and the automation of processes, citizens also have the impression of more transparency in the monitoring of their requests. What's more, administrative documents are now much more accessible online thanks to the project. This development paves the way for having the Public Information easy to reach and diminish the pressure to physically revisit government offices.

Altogether, these outcomes represent a substantial step forward in the modernization and simplification of public services. The system fosters a stronger relationship between the administration and citizens, while laying the groundwork for more open, efficient, and user-centered governance.

4.1.2. Challenges Encountered:

The project was not without its challenges despite the positive results. One of the big issues was obviously privacy, there was concern about the confidentiality and use of digital information. The security of information placed on the internet was also questioned over hacking risks and data loss.

Moreover, some of the staff members were also resistant to change and were settled in the conventional and manual ways. There was some resistance to the implementation of the new system, which occasionally slowed down its acceptance. It was also such a major expense to bring in the technology then train people to use it. Such costs were a hurdle, especially for cash-strapped administrations. The necessity for continuous support to facilitate the process of transition was further emphasized.

Despite these challenges, the lessons learned allowed for adjustments in strategies and better anticipation of future needs related to change management and cybersecurity.

4.2. Project 2: AI for SDG 9

The second project studied is the use of AI in urban transportation systems management optimization. This project aimed to introduce State-of-the-Art technical solutions to ensure better fluidity and less congestion on the roads of big Moroccan cities. By using the power of AI, the project wanted to make transport networks more intelligent, in real-time, changing the timings of traffic lights and crunching traffic data to prevent jams from forming. This effort also seeks to support Sustainable Development Goal (SDG) 9, which calls for the building of resilient and sustainable infrastructure for all.

4.2.1. Project Description:

The scheme encompassed the installation of artificial intelligence-based traffic management system to monitor vehicle flows in real time. We build on this application of machine learning and smart sensors to traffic monitoring where traffic lights are dynamically controlled with reference to the density of cars. Yes, and the goal is to ease traffic congestion and waiting times. With this technology, the system is able to analyze and process big datasets in order to deliver accurate quality suggestions. Local Governments also have access to very detailed analysis reports, which influence their decisions on transportation infrastructure improvement and maintenance. It allows to prepare new actions for making the urban transport network more efficient and sustainable. The integration of AI and real-time management will optimize management of city traffic and provide fresh ideas to congestions.

4.2.2. Positive Impacts:

There were remarkable effects for urban traffic control in the project. Firstly, there were 25% decrease in the mean travel time of vehicles, which also leads to a more fluent and more harmony of traffic. In addition, the drop in traffic reduced greenhouse gas emissions significantly, contributing to cleaner urban air. This project also contributed to strengthening the capacity of local governments to apply modern methods and tools in planning and managing transportation systems. Because of this effort, local officials had data to make better decisions. In addition, cooperations arose with high-tech firms that drove innovation and enabled the emergence of new smart city solution. These partnerships also presented economic opportunities for the local region, especially in the tech industry, and thus spurred regional economic development.

4.2.3. Lessons Learned:

This project taught us important lessons on continuous innovation and multi-sector collaboration. If there was a bottom line, it was establishing the value in having a continuous process of innovation to be on the cutting edge -- especially in a world where the pace of breakthroughs in artificial intelligence is accelerating. The project also showed that it is important to not only protect the right to upgrade, but to offer upgrades and system refreshes to stay up-to-date on technology. But there were several problems, not least among them the lack of coordination between local governments. These obstacles at times served as impediments to the roll-out and implementation of technical solutions. Improved coordination among the plethora of involved players and better strategic communication would be required for these large, long-term projects to be successful. And the need for ongoing training for local teams to be able to get to grips with the technologies in use was also stressed. These are some implications for future technical projects within smart cities.

4.3. Comparison of cases

In comparing these two projects, a number of similar success factors stand out. First, in order to facilitate a smooth transition to the application of AI in both projects, the necessity of training and educating administrative staff is recognized as the most important element in both initiatives. To defeat this resistance and to ensure optimum efficiency of the system, civil servants must first be knowledgeable of the innovative technology and play an active role in incorporating AI tools. In addition, inter-sectoral collaboration and public-private partnerships had a significant impact on the implementation of these projects contributing to access to important financial resources and to the technical knowledge required for the design and implementation of novel solutions.

But despite them, both projects also had other problems in common. Resistance changes of work (in) organization is a (in) public administration, also the challenge. Somewhere along the lines of old school way of working and culture, growing staff showed resistance in using automations. Meanwhile, questions about data minimization, data protection and the security of personal data were repeatedly coming up and, in connection with the use of AI, were prompting queries about handling of delicate data. This created concerns that had to be taken care so that the technologies being applied also corresponded to the ethical and legal regulations of privacy.

These projects also all share very high up front capital costs. Such costs can be a barrier, particularly for cash-strapped public bodies. investment in infrastructure, training and technology is a significant investment that must be funded or however, I have not referenced this paper throughout your paper You funded through external support or collaboration. This is a reminder of the necessity to find the correct funding options and for minimizing the resources and making the implementation of such projects sustainable over time.

Both initiatives also illustrate the importance of a robust and tailored regulatory framework to ensure that the use of AI in public services complies with principles of transparency, data protection and ethics. Without a legal framework it may be difficult for governments to get access to citizens' data and restrict abuses of technology.

In conclusion, these initiatives highlight not only the vast potential that AI has to enhance infrastructure and governance, but also the critical obstacles to be address if they are to be realized for the purpose of sustainable development. Coordinated efforts between the public and private sector are necessary for the Moroccan public sector to fully utilize the potential of AI advances. This cooperation will not only overcome difficulties, but bring about an atmosphere in which technologies can grow and administrative services can be upgraded.

5. Results and discussion

5.1. Analysis of Results

The two projects reveal that the introduction of artificial intelligence (AI) in Moroccan public administrations can play a role in contributing to the implementation of the Sustainable Development Goals (SDG), especially SDG 16 (peace, justice and strong institutions) and SDG 9 (industry, innovation and infrastructure). AI has enabled significant/largely advanced the development of administrative efficiency and transparency, as evidenced in the findings. For example, the automation of procedures has shortened the processing of requests, in line with the institutional efficiency targets in SDG 16. Smart traffic management infrastructure has also been enhanced with modern technological innovation to support sustainable advancement of transportation infrastructure (UNDP SDG Goal 9).

Taking the relationship of findings to the literature into account, we can deduce that the advantages of AI for public services as described by several authors, such as by Brynjolfsson and McAfee (2014), can be extended to be the case in Morocco. Enhancements in data-informed decision-making and administrative efficiency are common themes in studies of AI

in the public sector. But it testifies all the literature also stress on making technology inclusive and ethical—the former cases are still highly relevant to the analyzed projects. Well yes, the benefits are obvious, but so are the obstacles, as we have reported previously.

Despite promising results, the deployment of AI in Moroccan public administrations presents several challenges. Data protection remains a key issue (Misuraca & Viscusi, 2021), especially as the mass processing of personal data raises ethical and legal concerns. Algorithmic bias is also a serious risk (Cowls & Floridi, 2018), potentially leading to unjust outcomes if discriminatory training data are used. Furthermore, the digital divide continues to hinder access to AI-enabled services for marginalized populations (Van Noordt & Misuraca, 2020). Finally, institutional resistance to change, often due to organizational culture or lack of digital literacy, has been identified as a major barrier (Mergel, Ganapati, & Whitford, 2021).

5.2. Challenges and Limitations

Despite some encouraging results, the actual use of AI in Moroccan public administrations has a number of limitations:

- **Data Protection:** Protecting citizens' personal data is perhaps citizens' foremost concern. Automation and digitalisation of Government services have facilitated in large-scale computation of personal data that has privacy and security implications. Strict regulation is a necessity to avoid misuse and abuse of sensitive information and to ensure privacy rights of citizens.
- **Bias and Discrimination:** AI algorithms that reinforce or augment biases may lead to unfair, or even discriminatory, decisions. For example, if an AI system is trained on data that itself reflects past discrimination, it may generate biased predictions or outcomes. This is a very big disincentive especially where we need equity.
- **Unequal Access:** Problems with access to technology and the digital infrastructure persist. There is not much modern technology in most parts of Morocco that may widen the social and economic disparity. The potential of AI must also be harnessed in a way that creates more widespread benefits across all segments of society, including vulnerable populations.
- **Resistance to Change:** The change from a human to automated process might get resistance from staff and administration. The success of AI initiatives are critical by managing the dynamics of organizational culture, and rollouts will need to proceed methodically.

5.3. Future Opportunities

To maximize the impact of artificial intelligence (AI) in public administrations and effectively contribute to the Sustainable Development Goals (SDGs), several solutions and strategies can be considered:

Training and Skills Development: It is important to invest in training civil servants and administrative leaders so that they are equipped with the skills they need to use and manage AI technologies. Ongoing training and real world, practical workshops is one way to break the resistance to change and creating a culture of innovation.

Robust Regulatory Framework: Ethical regulations on AI must also be developed, with monitoring and follow-up in place. These requirements ought to cover topics such as data privacy, the transparency of algorithms, and the accountability of AI systems. An ethical framework for AI would go a long way to stave off bias and discrimination.

Public-Private Collaboration: Partnerships with private sector and academia help in acquiring state-of-art technologies and best practices. Private sector companies might be able to offer technical solutions, while universities and research centers can be valuable members of teams that will evaluate social and ethical implications of AI efforts. Closer cooperation would also promote sharing of costs and make initiatives more sustainable.

Inclusive and Sustainable Approach: "It's critical we develop solutions that serve all humanity so that the benefits of AI are shared by all." It can be through pilots in rural; It can be localized technology. Moreover, embedding sustainability in the genesis of AI systems can reduce their environmental impact.

6. Conclusion

This article has discussed how artificial intelligence (AI) can help in realizing the sustainable development goals (SDGs) in the Moroccan public administrations in light with SDG 16 (peace, justice, and strong institutions) and SDG 9 (industry, innovation, and infrastructure). Adopting a case study methodology, the paper showed that AI may optimize the running of administration, increase the transparency of institutional process and facilitate innovation in the services related to public infrastructure. The specific examples analyzed show that AI, by automating those processes and optimizing resource allocation, can play a central role in the modernization of the public administration, and in promoting more inclusive and sustainable development. But the article also highlighted the difficulties as well as the possibilities of integrating AI, in particular on data security, the dangers of algorithmic bias and disparities in the availability of technology.

The results of this paper are of high importance for Moroccan decisionmakers, for whom AI is not only a technological opportunity but also a strategic lever of sustainable development. Some practical advice:

Fortify the regulatory regime: also need to create policy and regulations around ethical and secure use of AI for public administrations. This includes the adoption of data protection regimes; having oversight mechanisms in place to ensure algorithmic transparency.

Invest in learning and skills: Policy-makers should invest resources to ensure continued training of public employees in the use and management of AI. This will in turn reduce resistance to change and facilitate the acceptance of advanced technologies in public services.

Stimulate private-public partnerships: The public sector, corporate and academia can then join forces to accelerate the adoption of the latest products. If done right, these partnerships can help unlock technology resources, boost research and improve the success rate of AI projects.

Foster inclusiveness and accessibility: Public policies must ensure that the benefits of AI are widespread. That includes supporting initiatives to close the digital divide and deliver AI services to the neediest individuals, particularly in rural or underserved communities.

Embed sustainability into AI projects: Policymakers need to ensure that AI projects are to be environmentally friendly by encouraging the development of sustainable applications that reduce the environmental burden of technology machines.

AI for Achieving the SDGs in the Public Sector: Potential future research might investigate the long-term assessment of AI projects to gain an understanding of the impact on public institutions and citizens extended over time. This would help identify positive developments or necessary adjustments.

International comparative analysis: Comparing Morocco's experience with that of other developing or emerging countries could provide valuable insights into best practices and models for AI adoption in the public sector. Such comparative research would help to better understand the cultural and economic specificities that influence the success of these projects.

Impact of AI on social inclusion: It would be relevant to further explore how AI can reduce or potentially exacerbate social inequalities. Studies focused on digital inclusion, equitable access to automated services, and the impact of AI on vulnerable groups could enrich the existing literature.

Optimization of smart infrastructure: Another research area could examine how AI-powered smart infrastructure can be developed to withstand climate change and adapt to the evolving needs of Moroccan cities.

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