

USING AI TO REFORM BUREAUCRACY AND DEVELOP WORKFORCE SKILLS IN THE DIGITAL ERA: A CASE STUDY OF THAILAND

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KEYWORDS	ABSTRACT
Artificial Intelligence (AI), Bureaucratic Reform, Workforce Development, Digital Era, Public Administration in Thailand	This study looks at the use of artificial smarts (AI) in changing government work and improving job skills in Thailand's public sector during the digital time. Using a way of research that talks to people, this study is based on a big look at school writings, policy papers, and real-life examples about AI-led changes in public jobs. The research checks how AI tools can make government work better, speed up admin tasks, and boost new ideas in public service giving. Also, the study checks how AI affects worker growth, especially in fixing skill holes and helping workers in public jobs adjust better. Main results show that bringing AI into public work needs smart planning an investment for digital tools also training programs as well the study ends by showing the troubles and chances linked to AI use in Thailand's system, stressing the need for fair thinking and strong rules to make sure it works well and lasts long.

1. INTRODUCTION

The quick growth of smart machines has greatly changed jobs and communities everywhere, bringing amazing chances for new ideas and better work. In the public area, smart machines have become an important help for solving tough problems, making tasks easier, and improving how services are given. For places like Thailand where rules play a big part in how things are run, adding smart machines to public work can change old systems and get workers ready for a digital time. This study looks at using smart machines to change rules and build worker skills in Thailand, pointing out the troubles and chances that come with this change (Chon & Janewit 2023). Rules in Thailand like in many other places have problems with being slow not flexible enough, and having few resources. Old ways of managing things, though based on well-known ideas, often have a hard time keeping up with the quick changes in the world. Also, people want more openness, responsibility, and quick help from services. Because of this there is a real need to update government systems and give workers in public jobs the skills they need to do well in a digital age. AI helps reach these aims by doing everyday tasks automatically making choices better and encouraging new ideas in public service help

AI tools, like machine learning, natural language use, and guessing numbers, have a lot of power to change government work. These tools can be used to look at big sets of data, guess what will happen next, and make rules based on proof helping governments act fast to what people need. Also AI-based machines can lessen the load on workers in public jobs which lets them pay more attention to smart and hard tasks (NECTEC 2022). But using AI means that there needs to be a big change in how people are trained for jobs because old skills might not fit with what is needed for tech-focused offices. In Thailand now using AI in government work is growing as the leaders want to keep up with world trends and take advantage of chances from Industry 4 Policies like the Thailand 4.0 plan show how key it is to use digital techs to boost money growth and better rule. In this backdrop, changing old ways in offices and teaching workers new skills are important parts OpenGov Asia, 2022. But, these works have challenges. Little digital setup, lack of resources, and pushback to

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change are big blocks to good use. Also, right concerns like data privacy and unfairness in algorithms must be looked at to make sure fair and open results. This study takes a way of research that looks closely at many papers, policy writings, and real-world examples to study the part of AI in changing government work and building job skills in Thailand. It seeks to give views on the changing power of AI, point out good ways to do things, and spot main problems and chances. By looking at the link between tech, rules, and human growth this study adds to the wider talk on what comes next for public managing in the digital time offering helpful advice for those who make laws and people who work in it (Reuters 2024)

2. RESEARCH OBJECTIVES

1. To explore the role and potential of artificial intelligence (AI) in reforming Thailand's bureaucratic system, with a focus on enhancing efficiency, transparency, and public service delivery.
2. To analyze the impact of AI on workforce development in Thailand's public sector, identifying skill gaps, training needs, and strategies for preparing employees to adapt to the digital era.

3. RESEARCH METHODS

This study uses paper checking to look into the part of AI in changing Thailand's government and job growth. For more than ten months, school articles, rules papers, and real-life examples will be looked at using themes and side-by-side checks to find problems, chances, and top methods for adding AI in public jobs.

1	Document Collection and Review	- Gather important school books, state papers, rule sheets and real-life examples about mixing AI into public service and job growth. - Pay attention to works made between 2004 and 2024 to make sure of the inclusion of new changes and patterns. - Use places like Google Scholar, Scopus and Thai Journals Online for good and trustworthy sources.
2	Content Analysis	- Do a theme study of papers you have to find patterns, topics and main ideas about rule change and job growth. - Sort results into sections like better use, skill building, fairness matters, and problems of AI take on.
3	Comparative Analysis	- Look at Thailand's growth in using AI next to other nations that have done well with AI changes in public management. - Find good ways and things learned that might be used in Thailand's setting.
4	Timeframe and Research Period	- Do study for 10 months, beginning in January 2024 till October 2024. - Spend the first three months (January to March 2024) on gathering papers and then use the next months (April to October 2024) for looking at data, making sense of it, and writing up report.
5	Validation and Peer Review	- Show early results to people who know about public management and AI mixing to check the study. - Use tips from school helpers and friends to make ideas and advice better.

4. RESEARCH RESULTS

1) The Part and Chances of AI in Changing Thailand's Civil Service System; The mixing of smart machines (AI) into Thailand's civil service system brings big chances to boost speed, openness, and the giving of public help. As the land aims to match its running systems with what is asked for in the digital time, AI is coming up as an important tool in fixing old problems with red

tape. This study sees main spots where AI can act a big part in changing the civil service system, looking at machine work, choice-making based on data, and better public talk.

Improving Efficiency: AI tools, like robots that do jobs for us (RPA), can help make daily and boring tasks easier. Jobs such as entering data, managing files, and handling applications can be done automatically, which cuts down the work for government workers and lets them pay attention to more important and tricky jobs. For example; using chatbots and helpers online can speed up answers to questions from people, cutting response time, ensuring folks get fast help. These improvements may save money and lower delays in admin work; which are often seen as big problems in Thailand's office system. Also, AI can better use resources by looking at past data to guess trends and see where the government needs to put its help. For instance, smart tools that guess future needs can show how many people will want help from services like health care or rides. This helps to plan ahead and use small resources well

Encouraging Clarity: Clarity is key for good rules, and AI can boost this part inside the public service system. Machine learning methods and blockchain tech can be used to make strong records of government deals and choices, lessening the chance of dishonesty and keeping things fair. AI data checks can spot oddities and trends that show cheating actions, helping quick fixes. Also, AI tools can give live details to the people, building trust and belief in government work. For example, digital sites using AI let citizens see how government tasks are going, get budget info, and check on service results. These plans can boost public watch and make a place for taking part in government.

Making Public Service Better: AI can change how public services are given, making them easy for people to reach and focused on citizens. Special services can be done by using AI to look at user data and adjust government help to what each person needs. For saying, AI can be used in welfare systems to find out who gets help and make sure resources are shared fairly minimizing mistakes and exclusions. Also, AI use in smart city plans can help run cities better and give services in things like transport waste management, and safety for the public. By mixing AI with Internet of Things (IoT) devices governments can watch and react to live changes ensuring good management of public things and services.

Difficulties and Moral Thoughts: Although the promise of AI in changing Thailand's public service system is big, its use comes with troubles. Problems like weak digital setup, unwillingness to adapt among government workers, and a shortfall of tech skills create major obstacles. Also, moral worries including data safety, unfair algorithms, and equal access to AI services need to be looked at closely so that outcomes are just and fair.

The end: Using AI in Thailand's public service can change how the government works by making things faster, clearer, and better for people. But, for these changes to work well a good plan, money for systems, training of staff and fair rules are very important. By using AI smartly and safely Thailand can make a more fast clear and people-centered public service system.

2) The Impact of AI on Human Resource Development in Thailand's Public Sector; The introduction of artificial intelligence (AI) in Thailand's public sector has significant implications for human resource development. As the civil service system evolves to embrace digital transformation, there is a critical need to address skill gaps, identify training requirements, and implement strategies to prepare public sector employees for the challenges and opportunities of the digital age. This section analyzes the impact of AI on workforce development, focusing on the areas of skill requirements, training approaches, and strategic adaptation.

Identifying Skill Gaps; The adoption of AI technologies in the public sector highlights several skill gaps among civil servants. Traditional administrative roles, which often rely on manual processes and routine tasks, are becoming obsolete as AI-driven automation takes center stage. Employees need to develop advanced technical skills, including data analytics, machine learning, and programming, to effectively interact with AI systems. In addition to technical skills, there is a growing demand for digital literacy across all levels of the public sector workforce. Many employees lack a foundational understanding of AI and its applications, making it challenging for them to adapt to new tools and

technologies. Furthermore, soft skills such as problem-solving, adaptability, and strategic thinking are increasingly critical as employees must navigate complex, technology-driven work environments.

Training Needs and Approaches; To bridge these skill gaps, comprehensive training programs are essential. The research identifies several key areas for training in the public sector: **1) AI Fundamentals:** Providing foundational knowledge about AI, including its principles, applications, and ethical considerations. **2) Technical Skills Development:** Offering advanced training in programming, data science, and AI-related tools to employees in technical roles. **3) Digital Literacy:** Conducting workshops and online courses to enhance digital skills for employees across all levels. And **4) Soft Skills Enhancement:** Including training in critical thinking, collaboration, and change management to help employees adapt to a dynamic work environment. Innovative training approaches, such as e-learning platforms, virtual simulations, and AI-driven personalized learning systems, can enhance the effectiveness of these programs. Partnerships with academic institutions, private sector organizations, and international agencies can also provide access to cutting-edge expertise and resources.

Strategies for Adaptation; Strategic planning is crucial to ensure that public sector employees are well-prepared for the digital age. Key strategies include: **1) Workforce Assessment:** Conducting regular assessments to identify current skill levels and areas for improvement. **2) Talent Pipeline Development:** Establishing partnerships with educational institutions to create a steady pipeline of talent equipped with AI-related skills. **3) Leadership Development:** Training senior officials in digital transformation and strategic use of AI to lead organizational change. **4) Job Redesign:** Modifying job roles to integrate AI tools while emphasizing tasks that require human judgment and creativity. And **5) Incentivizing Learning:** Offering incentives, such as promotions and certifications, to motivate employees to participate in training programs.

Challenges and Considerations Despite the potential benefits of AI-driven human resource development, several challenges persist. Limited resources, such as funding and access to digital infrastructure, constrain training initiatives. Resistance to change among employees and managers also poses a significant barrier. Moreover, addressing ethical concerns, such as algorithmic fairness and inclusivity, is vital to ensure equitable access to training opportunities.

Conclusion; AI is transforming human resource development in Thailand's public sector by redefining skill requirements and creating opportunities for employee growth. By addressing skill gaps, implementing targeted training programs, and adopting strategic approaches to workforce adaptation, the public sector can build a resilient and future-ready workforce. Effective planning, resource allocation, and ethical considerations will be essential to maximize the benefits of AI in human resource development while ensuring sustainable and inclusive progress.

5. DISCUSSION OF RESULTS

1) The Role and Potential of AI in Reforming Thailand's Civil Service System

The integration of artificial intelligence (AI) into Thailand's civil service system offers a transformative opportunity to enhance efficiency, transparency, and the delivery of public services. As Thailand strives to modernize its governance structures in response to the demands of the digital era, AI has emerged as a pivotal tool for addressing entrenched bureaucratic challenges. By focusing on automation, data-driven decision-making, and improved public engagement, this research examines how AI can play a central role in transforming public administration.

Enhancing Efficiency; AI technologies such as robotic process automation (RPA) streamline repetitive administrative tasks, freeing civil servants to focus on complex, strategic responsibilities. For example, processes like data entry, record management, and application processing can be automated to reduce administrative bottlenecks. Chatbots and virtual assistants further expedite responses to public inquiries, ensuring that citizens receive timely assistance. These advancements not only cut response times but also minimize operational costs.

Furthermore, AI enables proactive planning by optimizing resource allocation. Predictive analytics powered by AI can analyze historical data to forecast public service demands, such as healthcare or transportation needs. This allows the government to allocate resources more effectively

and address potential issues before they escalate. Studies, such as Chon and Janewit (2023), support this perspective, highlighting that AI can streamline public service delivery and improve decision-making through data-driven insights. However, they also stress that addressing employment displacement and digital inequality is crucial to ensuring equitable outcomes.

Promoting Transparency; Transparency, a cornerstone of good governance, can be significantly enhanced through AI applications. Machine learning algorithms and blockchain technology provide tamper-proof records of government transactions and decisions, reducing the risk of corruption and ensuring accountability. AI-powered data analytics can detect anomalies indicative of fraudulent activities, enabling swift corrective actions. Digital platforms powered by AI can also foster public trust by providing real-time access to government information. For instance, citizens can monitor the progress of government projects, access budgetary data, and evaluate service outcomes. As noted in the World Bank (2021) report, transparency mechanisms are critical to building confidence in public administration, especially in AI-driven systems.

Improving Public Service Delivery; AI revolutionizes public service delivery by making it more accessible and citizen-focused. By analyzing user data, AI can personalize government services to meet individual needs. For example, in welfare systems, AI can identify eligible recipients and ensure accurate, equitable resource distribution, minimizing errors and exclusions. Additionally, AI applications in smart city initiatives enhance urban management in areas like transportation, waste management, and public safety. Integrating AI with Internet of Things (IoT) devices allows governments to monitor real-time developments, ensuring effective infrastructure management. Thailand's National AI Strategy (NECTEC, 2022) emphasizes the importance of AI in improving service delivery and economic growth, outlining specific strategies to increase government AI readiness.

Challenges and Ethical Considerations; Despite its potential, the adoption of AI in Thailand's civil service faces challenges, including limited digital infrastructure, resistance to change, and a lack of technical expertise. Ethical concerns such as data privacy, algorithmic bias, and equitable access to AI-driven services must also be addressed. ETDA (2023) provides guidelines for responsible AI use, emphasizing privacy and bias mitigation.

Conclusion; AI offers a pathway to transform Thailand's civil service system, enhancing efficiency, transparency, and public service delivery. However, successful implementation requires strategic planning, infrastructure investment, workforce capacity building, and ethical governance. By addressing these challenges, Thailand can create a more efficient, transparent, and citizen-focused public administration. This aligns with international best practices and contributes to sustainable governance in the digital era.

2) The effect of AI on human resource growth in Thailand's public area. The use of artificial intelligence (AI) in Thailand's public area has big meanings for human resource growth. As the civil service changes to welcome digital change, there is a key need to look at skill gaps, find training needs, and set up plans to ready public area workers for the tests and chances of the digital time. This part looks into how AI affects work force growth focusing on skills needed, training ways and smart changes.

Finding Skill Holes: The use of AI tools in the public work shows many skill holes among workers. Old school jobs, which often depend on hands-on tasks and regular chores, are fading away as AI-run systems take the main spot. Workers must gain better tech skills, like data study, machine learning, and coding to work well with AI tools. Along with tech skills, there is a rising need for digital know-how at all levels of public sector jobs. Lots of workers don't have basic knowledge of AI and what it can do making it hard for them to get used to new tools and techs. Also, gentle skills like fixing problems, being flexible, and smart thinking are more and more important because workers have to deal with tricky, tech-led work places.

Training Needs and Approaches to close these skill gaps, complete training programs are must. The study shows a few main areas for training in the public field: 1) AI Basics: Giving basic ideas about AI, such as its rules, uses, and moral thoughts. 2) Tech Skills Growth offering higher level

training in coding data science and AI tools to workers in tech jobs. 3) Digital Knowledge: Holding classes and internet courses to boost digital skills for staff at all stages. And 4) Soft Skills Boosting including learning in thinking clearly working together and managing change to help workers fit into a fast-changing work place New ways of teaching, like online learning sites, pretend exercises, and clever learning tools can make these programs better. Working together with schools, businesses, and global groups can also give access to top skills and things needed.

Ways to Adjust, planning is very important to make sure that public workers are ready for the digital time. Main ways include: 1) Worker Check: Doing regular checks to see skill levels now and areas needing improvement. 2) Talent Supply Growth: Making links with schools to build a steady supply of workers with AI skills. 3) Leader Training: Teaching top officials about digital changes and smart use of AI to guide change in organization. 4) Job Change: Changing job roles to mix in AI tools while focusing on tasks that need human thought and creativity. And 5) Encouraging Learning: Giving rewards, like raises and certificates, to push workers to join training courses.

Problems and Things to Think About Even with the possible good points of AI-powered human resource growth, some problems stay. Few resources, like money and access to online tools, limit training efforts. Opposition to change from workers and bosses is a big hurdle too. Also, dealing with moral issues, like fairness in algorithms and including everyone, is key for fair access to training chances.

AI is changing how people grow in jobs in Thailand's public area by changing what skills are needed and making chances for worker progress. By fixing skill shortages, using special training plans, and taking smart steps to adapt the workforce, the public area can create a strong and ready-to-go team. Good planning; sharing of resources, and fair thinking will be key to get the most out of AI in job growth while keeping up with lasting and inclusive change.

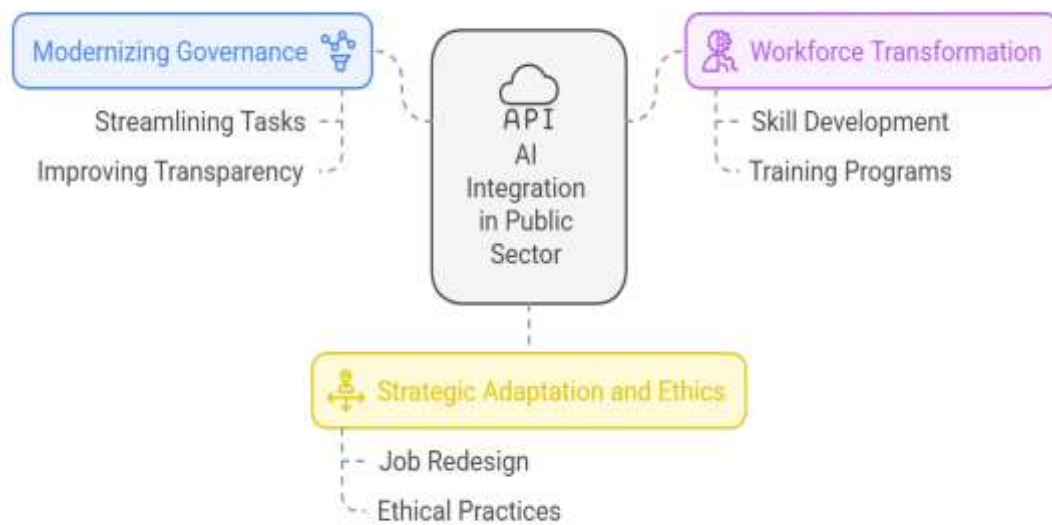
6. NEW KNOWLEDGE

The mix of smart machines into Thailand's public work brings big chances for rules and job growth, showing several fresh ideas about public management and people help in the online age.

Updating rules: AI helps make boring work easier has shown big promise for making things run better and using resources well. Tools like robot process automation (RPA) and smart data looking not only cut down on delays but also help with choices made by using data. This change lets public workers pay attention to harder and more important jobs, boosting the whole usefulness of public service giving. Also, AI uses, like blockchain for safe records, support clear actions and being responsible in rules, taking on old problems of cheating and wastefulness.

Work change: The use of AI has shown big skill holes among public workers, highlighting the need for better tech skills, online know-how, and people skills like being flexible and smart thinking. Full training plans that mix tech and people skill growth, backed by new tools like online learning sites and AI-fueled custom learning systems is key to filling these holes.

Adaptation and Ethics: Smart steps, like job changes, leadership growth, and partnerships between public and private groups, have come up as key ways to adjust to changes brought by AI. Also, good practices for AI—aimed at fixing privacy issues, bias in algorithms, and fair access—are important for making sure everyone is included and treated fairly when using AI. These ideas help us get a better grasp of how we can use AI to improve public work and ready a strong workforce placing Thailand's public side as a front-runner in lasting digital rules. Can be seen in picture 1.



Picture 1; AI Integration in Public Sector: Key Focus Areas

7. SUMMARY AND SUGGESTIONS

Using smart machines in Thailand's public service gives great chances to improve management and worker growth. This study shows two key points: the place of AI in changing Thailand's government jobs system and its effect on people's skills development. Together, these points stress how AI can update public work while fixing skill problems and helping workers adjust better.

Summary

1. Changing the Civil Service System; AI tools like robot work help, machine knowing, and guessing data make easy tasks quicker so workers can think about harder and important jobs. Machines have cut down on office hold-ups, helped people make choices better through facts from data, and made better use of resources especially in health care and transport. Online systems run by AI have also made things clearer by giving safe records and live access to government deals and projects which helps build public trust and answerability. Clever city plans and AI uses in public services have changed how cities are run and how resources are shared. But, problems like small online systems, fear of change and moral worries, such as data safety and unfairness in programs, need to be fixed to make sure fair results.

2. Human Resource Growth; The use of AI has shown skill holes in the public sector work crew. Workers need better tech skills (like coding, data study, machine smarts) and more digital know-how to work well with AI tools. Easy skills like flexibility, smart thinking, and good morals in AI are just as important. Full training plans are needed to fill these holes, looking at the basics of AI, tech abilities, and easy skills. Working with groups like NECTEC, online learning sites, and global teamwork has been found as good ways to boost training. Smart changes that include checking workers' needs, growing leaders, and changing jobs are key to getting a ready workforce for future.

Suggestions

Putting money in digital setup is very important for using AI well in public services. Money should go into fast internet, cloud help, and AI tools to make sure things work smoothly and can grow easily.

1. All-Inclusive Learning Plans; Learning ought to be suited to the varied needs of public sector workers. Plans should have basic lessons on AI ideas, higher-level tech training, and soft skills growth. AI-based custom learning systems and online practice can make these plans easier to access and work better?

2. Building Public-Private Teams; Working with private sector groups, schools, and global agencies can give the skills and tools needed for good job growth. These teams should pay attention to talent pipeline growth, sharing knowledge, and new ideas.

3. Boosting Fair AI Habits; Making strong fair plans is very important to lessen dangers like data leaks, program bias, and online unfairness. Rules from groups like ETDA (2023) should be added into AI control to make sure justice and being included.

4. Leader growth; Top workers should get special schooling in digital change and smart AI use to guide the taking on of these tools well. Leader classes should focus on managing changes, new ideas, and right choices

5. Citizen Involvement, to build trust and responsibility, governments must improve public knowledge of AI's good points and its part in ruling. Live, citizen-facing places can make sure taking part in governance and openness.

Keep an eye on and check; set up ways to often look at how AI projects affect service giving and worker work. Ongoing comments and improvements will be key to solve new problems and make the most of chances.

By using these plans, Thailand can tap into the power of AI to update its public service and create a strong, ready workforce. These actions will make sure that the government is set to handle the needs of the digital time while encouraging green and fair ruling

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