INTERPARES TRUST AI

INVESTIGATING THE USE OF AI TECHNOLOGIES IN THE REALM OF E-GOVERNMENT DEVELOPMENT

GROUP: CREATION AND USE BY ERIK BORGLUND

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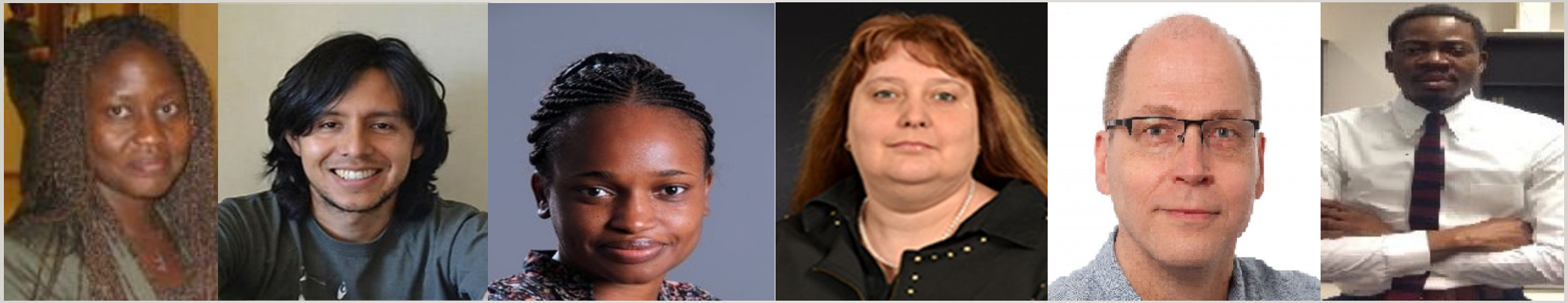
THE STUDY TEAM



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THE STUDY PLAN

- Carry out a systematic literature review to establish legislative and regulatory guidelines in the selected three countries (Sweden, Finland and South Africa) that inform e-government development pertaining to different AI technologies and the creation and use of records.
- Identify in the different countries, key trendsetters (national government agencies/municipalities) that utilise AI towards e-government development. The focus is to determine what, and the extent to which these trendsetting organisations utilise AI towards e-government.
- The third step is to be informed by step 1 and 2 and will identify recordkeeping challenges during the utilisation of AI within the realm of e-government development.

GLOBAL GOVERNMENTS

Global governments are engaged in e-government development, to ensure good quality services delivery and to promote transparency, access, and efficiency in public administrations. This development is expected to increase administrative cost-effectiveness, promote democratic values, and increase inclusion. Further, e-government requires government institutions to network with other societal actors especially where the development of complex e-services is concerned.

E-GOVERNMENT DEVELOPMENT

e-Administration – Improving government processes by using ICTs and government process management. No paperwork, each and every process need to be done via the use of ICT.

e-Government services – Delivering government services electronically to citizens, businesses, and government employees. Example- application for citizenship through the online system.

e-Democracy – Improving transparency and democratic decision making, as well as citizens' participation in public decisions. e-Voting is a perfect example here.

e-Governance – It is a development, deployment, and enforcement of the policies, laws, and regulations necessary for developing cooperation, networking and partnerships between government units, citizens and the business. Citizen will get government services using technology.

BENEFITS OF E-GOVERNMENT

- The following are the benefits of r-Government:
- Better provision of government services
- Improved interaction with different groups and citizen
- Citizen empowerment through access to information
- Efficient government management
- Easy implementation of Right to Information
- It is a two-way process from Government to citizen and vice versa.

AI AND PUBLIC SECTOR

Within the realm of e-government development, AI is also being deployed as a technology that will open opportunities for societies. It said to be transforming old ways of doing business and enabling organizations to be competitive. The public sector has also ceased this opportunity to harness technology to create efficiencies and to deliver high quality services to the citizens.

RESEARCH QUESTIONS

We identified three research questions to guide the review:

RQ1 What legal acts or guidelines regulate AI used in the creation of digital content for e-government exist in Finland, Sweden and South Africa?

RQ2 What recordkeeping challenges can be identified when AI is used?

RQ3 What AI technologies are being used in e-government for developing and providing digital records?

THE REVIEW PROCESS

We followed a well-established review process introduced in (Kitchenham, 2004), where six steps were followed:

- Definition of research questions (RQs)
- Definition of keywords based on RQs
- Definition of the selection/rejection papers criteria
- Database tests and keyword adjustment
- Data extraction from databases
- Data screening

CRITERIA FOR SELECTION AND REJECTION OF PAPERS

We established four criteria for selecting and rejecting papers:

Publication time between 2012-2022,

Article written in English language,

Accept only peer reviewed papers, and

Articles with mature results, no workshop, short papers, or *blue-sky* papers. Note that these criteria are general for gathering articles.

MANUAL ADDITION OF DOCUMENTS/ARTICLES

Given the nature of the review, we assumed that the number of publications in this specific subject could be lower than other types of systematic reviews, therefore, we added more resources (legal acts, guidelines for every country, etc.) to our review, after the systematic process described in (Kitchenham, 2004), we allowed documents such as Web pages guidelines from government or multilateral organizations, which potentially do not follow the aforementioned selection criteria.

KEYWORDS BASED ON RQS, AND KEYWORD ADJUSTMENT

Based on RQ1-RQ3, we defined a general set of keywords that we used in academic databases:

KEY1: (rule* OR guideline*) AND ("artificial intelligence" OR AI) AND (record* OR archive*) AND ("e-government" OR "electronic government")

Note that different academic databases (*e.g.*, Scopus, Web of Science, ACM, Emerald, etc.) have different method for adding queries, in some cases the original wording is different than others, producing different outputs.

ACADEMIC DATABASES

- We used four academic databases to evaluate the suggested databases. We found 484 potential papers as is presented in Table 1.

Database	Potential
ACM Digital Library	139
Emerald insight	343
Scopus	1
Web of science	1
Total	484

RESULTS

We selected 15 academic articles that were published between 2018 and 2022 and followed the procedure in (Kitchenham, 2004). For the manual search, we selected sources of well-established organizations such as the European Commission, the Organization for Economic Cooperation and Development (OECD), The Global Partnership on Artificial Intelligence (GPAI), among others as a summary of alternative sources for the review.

RESULTS CONT'D….

In our systematic review, we found that guidelines and legal frameworks (e.g., laws, acts, rules, etc.) for using specific approaches of artificial intelligence (AI) applied to e-government are a concern at Finnish, Swedish and South Africa national, regional, and multilateral level, such as the Organization for Economic Cooperation and Development (OECD), The Global Partnership on Artificial Intelligence (GPAI), and the European Union, among others.

RESULTS CONT'D….

Guidelines and recommendations for the use of AI, define codes of conduct for AI designers/developers, and users but have no mandatory commitment. However, the guidelines scope is broader than national or regional laws. On the other hand, laws and their proposals require higher specifications than guidelines.

AI LEGISLATION AND POLICY IN SOUTH AFRICA

- Currently, no specific AI legislation in South Africa
- Several legislative and regulatory guidelines for e-government development and AI use. e.g., Protection of Personal Information Act, Electronic Communications and Transactions Act, National Policy on Data and Cloud inform considerations towards the use of AI
- Policy development in progress.

PRESIDENTIAL COMMISSION ON 4IR IMPLEMENTATION

Integrated national strategy for South Africa's response to 4IR

Identifies policies, strategies, and procedures for leading role in 4IR

- **Issue**

Exclusion of records management specialists

AI USE IN SOUTH AFRICA

AI use increasing across various sectors

- Government
- Healthcare
- Finance
- Agriculture

AI SOUTH AFRICA - FINDINGS

AI technologies not explored in the management and preservation of records in the South African public sector

Issue:

- There is a need for knowledge on the application of AI technology for records management
- Lack of technical capacity among government officials to effectively implement and utilise AI technologies

AI SOUTH AFRICA - FINDINGS

- Draft AI Policy informed by several legislative and regulatory guidelines
- Need for records and archives professionals to be involved in the Presidential Commission on 4IR Implementation
- AI initiatives in government sector, healthcare, finance and agriculture
- AI technologies is not explored to manage and preserve records management in the South African public sector

CONCLUSION

- AI in South Africa is still in its infancy, but there are many opportunities for further development and implementation.

AI IN THE FINNISH PUBLIC SECTOR

Finland was one of the first EU countries to create a national AI strategy (2017)

- Especially health care and care for elderly need new solutions in a rapidly aging country
- Focus is on high level of co-operation between industry, research, and administration, and on adaptation, application, and commercialization

AI IN THE FINNISH PUBLIC SECTOR

There is no AI specific legislation so far, same general legal requirements apply as always:

- One needs to follow principles of good administration and GDPR, there is need for legality, legal protection, equality, data protection, and principle of publicity, and to making sure that officials bare responsibility for the legality for their actions

- Companies and public-sector actors are encouraged to introduce ethical self-regulation and to share best practices.

LIMITS FOR THE USE OF AI IN THE FINNISH PUBLIC SECTOR

Four categories suggested in a recent report according to AI's influence on people's rights and degree of AI autonomy:

- I category: influence and autonomy minimal (e.g., creation of visualizations, prediction of resource needs, supervision of infrastructure) – no limitations for use of AI
- II category (e.g. giving guidance, producing public services): need to follow principles of good administration, information governance, and data security – but no limitations for AI

LIMITS FOR THE USE OF AI IN THE FINNISH PUBLIC SECTOR

- III category: routine tasks which involve limited decision making – utilization of AI in decision making must be supported by legislation*
- IV category: decision making is intrusive from the perspective of individuals and requires broad deliberation – usage of AI conflicts with constitutional requirements for public authority and is not possible.

* *Finnish Tax Administration* and *Social Insurance Institution of Finland (Kela)* have implemented decision making systems whose legality has been questioned.

RECORDKEEPING AND USE OF AI IN FINLAND

- Not referenced explicitly
- Need for publicity and transparency are recognized
  - Transparency about using AI is noted
  - Granting access to AI source code mentioned as a possibility

SWEDEN AND AI

Sweden has a Committee that continuously delivers policy proposals to the Government and surveys the need to adapt regulatory frameworks. A reference group, including representatives from Government agencies, businesses, and organizations experienced in policy development, assists the Committee.

Sweden's stand on AI is that it should be regulated in a manner that respects values of democracy, privacy, inclusiveness but at the same time enable innovation, competitiveness and sustainable development that would improve all European's quality of life.

THE SWEDISH AI STRATEGY

In 2018 the Swedish government formulated an AI strategy which covered the following areas:

Education and research: A basic prerequisite for the whole of Sweden to benefit from AI is that enough people have the necessary knowledge to develop and use AI. This requires that AI be integrated into both education and basic research

Innovation and use: For companies in all industries, there is an opportunity to develop their competitiveness with the help of AI.

Frameworks and infrastructure: Sweden needs to develop rules, standards, norms and ethical principles in order to guide ethical and sustainable AI use (Regeringskansliet, 2018).

AI USE IN THE SWEDISH PUBLIC SECTOR

An area that is highlighted in this development is the role of data in promoting an understanding of the people, the society and the environment. Data offers possibilities and challenges to individuals, organizations and the public sector. This data is claimed to have an innovation and knowledge generating potential. The increased access to and use of data also poses challenges that require regulation and policy.

AI USE IN THE SWEDISH PUBLIC SECTOR

A data-driven society also poses challenges of the protection of the data, the integrity of individuals, issues of participation and equality. The areas that would be improved through data analysis include transport, health, agriculture, the military and the welfare to mention but a few.

SWEDEN AND OECD PRINCIPLES

- Inclusive growth, sustainable development and well-being
- Human-centred values and fairness
- Investing in AI R&D
- Fostering a digital ecosystem for AI
- Providing an enabling policy environment for AI
- Building human capacity and preparing for labour market transition

CONCLUSIONS

The management of records is not mentioned in the Swedish AI related literature. The emphasis is on the management of data.

EXPECTED DISSEMINATION OPPORTUNITIES

The 35th Swedish Artificial Intelligence Society (SAIS'23) annual workshop in Karlskrona, Sweden

- https://www.bth.se/forskning/forskningsomraden/datavetenskap/sais-23/

The 46th Information Systems Research Seminar in Scandinavia (IRIS2023) and the 14th Scandinavian Conference of Information Systems (SCIS2023) are organized in Finland 13-16 August 2023 under the theme: "Reflecting on the Nordic Approach to IS Research"

- https://www.aalto.fi/en/events/irisscis2023

THANKS FOR LISTENING!