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A Maturity Model for Assessing Appraisal Readiness
for Integrating AI

ACA Virtual Conference   11-13 June 2024

June 12 2024

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Prof. Dr. Basma Makhlouf Shabou
Head of Master of Information Sciences
Head of ArchiLab
University of Applied Sciences and Arts Western Switzerland at
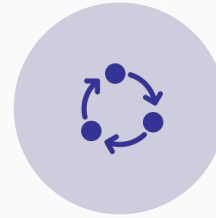Geneva School of Business Administration (HEG_HESSO)

Agenda

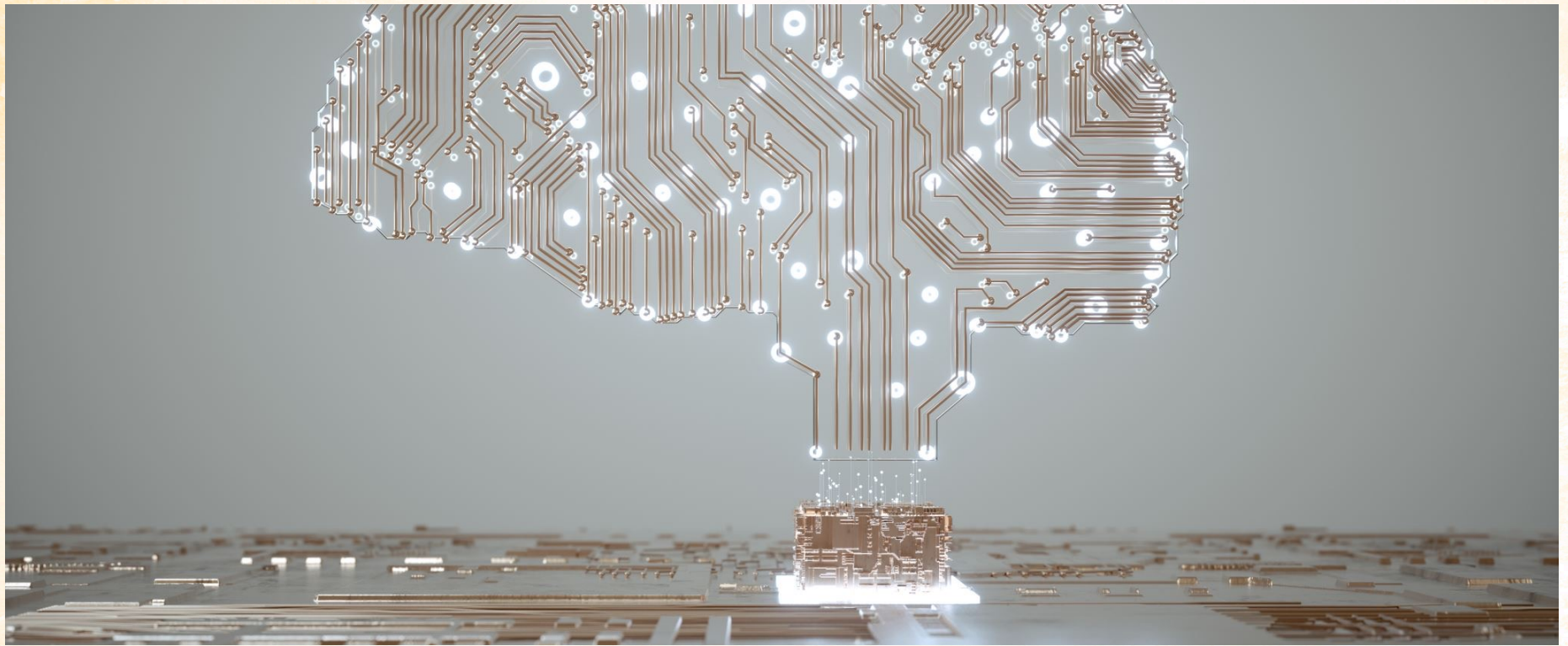CONTEXT   OBJECTIVES   METHODOLOGY   PRELIMINARY RESULTS

InterPARES TrustAI

InterPARES Trust AI - Artificial Intelligence

79 Total partners

39 Universities

7 Businesses

4 Cultural Heritage organizations

9 Government agencies/departments

5 International organizations

15 Archives

Over 200 researchers

30 Countries

50 Student research assistants

2 post docs based at UBC

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InterPARES Trust AI (2021-2026)

InterPARES Trust AI (2021-2026) is a multi-national interdisciplinary project

The I Trust AI goals are to:

1. Identify specific AI technologies that can address critical records and archives challenges;
2. Determine the benefits and risks of using AI technologies on records and archives;
3. Ensure that archival concepts and principles inform the development of responsible AI; and
4. Validate outcomes from Objective 3 through case studies and demonstrations.

see: InterPARES Trust AI - Artificial Intelligence

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AI & Appraisal

« Appraisal for managing records is the recurrent process of evaluating business activities to determine which records need to be created and captured as well as how and how long the records need to be kept.»
(ISO/TR 21946:2018, p. v)

Maturity Assessment for Appraisal in the AI Age (2023-2025)

The study aims to identify the archival, technical, technological, cultural, and strategical barriers and facilitators to effectively apply AI tools for appraisal processes.

This study will develop a model to assess the appraisal readiness for AI
- consistency and reproducibility of appraisal decisions
- Requirements for integrating AI into a given appraisal practice
- Maturity of data and archives processing for automatic and/or "smart" appraisal
- Complementary actions for improving appraisal practices to integrate AI

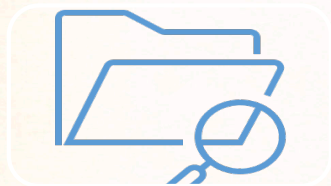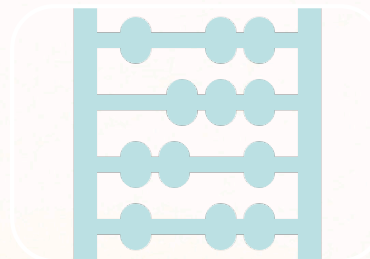Dr. Basma Makhlouf Shabou *Maturity Assessment for Appraisal in the AI Age (AA02)*

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Methodology

Applied research

Qualitative

Systematic literarture

Focus group

Likert Scale Survey
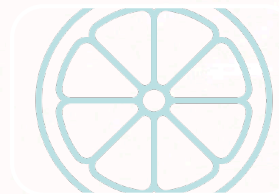
Case studies

Literature Review

Australia
- **Appraisal & records continuum**
- Investigating the possibilities of artificial intelligence for archival appraisal

Canada
- Development of an integrated, cross-cutting approach to appraisal that reconciles **macro and micro appraisal**

France
- Exploration and analysis tools to facilitate appraisal, such as **ArchiFiltre**
- Project to develop the automation of the transfer of intermediate archives in electronic archiving solutions such as **VITAM** or **EDITIC**

Germany
- Combination of two approaches to appraisal: one vertical (administrative hierarchy) and one horizontal (between administrative units)

Netherlands
- Reflection to develop a **Green Archiving Model** based on three pillars, two of which are linked to appraisal: Archival Retention Levels (ARL) and Information Value Chain (IVC)

South Korea
- Analysis of foreign appraisal policies (AU, CA, UK, USA) to revise the appraisal **strategy of Korean public archives**

Sweden
- Research to develop a coherent **model for digital records appraisal**

Switzerland
- Development of a forward-looking approach to appraisal for specialized applications within the federal government
- **Archiselect** at Neuchatel State archives

United Kingdom
- Development of exploration and analysis tools to facilitate appraisal, such as DROID
- Investigating the possibilities of artificial **intelligence for archival appraisal at UK National Archives**

USA
- New evaluation approaches, such as the **incorporation of Big Data in the appraisal of ESI** (Electronically stored content), business process analysis (BPA) or **digital forensics**

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Based on an initial model developped with State archives of Wallis_Switzerland (2022-2023)

- Scientific consultation and validation

- Professional feedbacks

THE NATIONAL ARCHIVES

UNIVERSITÉ DE GENÈVE

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
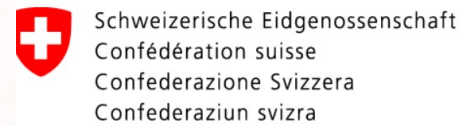
Archives fédérales suisses

archives de l'état du valais
staatsarchiv wallis

ARQUIVO NACIONAL

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الأرشيف الوطني
وزارة شؤون الرئاسة
NATIONAL ARCHIVES
Ministry of Presidential Affairs

Archives Nationales de Luxembourg

Archives Cantonales Vaudoises
canton de vaud

Ajuntament de Girona

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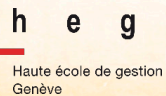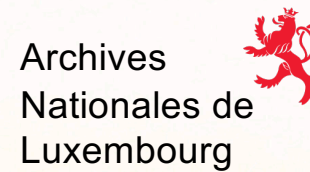
Test Protocol

Objective

This Excel questionnaire aims to explore the level of maturity with archival appraisal metrics.

Process

Three steps needed for the realization of this test.

1. Before the test: each institution should perform the following tasks

    * Selection of repondents: archivists (or comparable profile) with good knowledge and experience of archival appraisal processes, criteria and tools (+/- 5 years experience).

    * Time to complete: this test could take the archivist about 2 to 3 hours to complete;

2. The test:

    * Complete the columns J, K and L on the worksheet "Model"

    * <u>J column</u> is your institution's maturity assessment. For each metrics you will provide the level-found, your analysis, your sources supporting your answer and potential recommendations to improve your maturity.

    * <u>Columns K and L</u> are used to evaluate the relevance of the criteria presented. This allows you to give us feedback on them.

3. After the test:

    * Once finalized, please submit your form on the link below (the file will be stored in Switzerland and your data will be treated confidentially):

    https://drive.switch.ch/index.php/s/lGZEJzPckCRWMGw

Some issue with the file? You can find the original file with this link (will expire on Nov. 23):
    https://hessoit-my.sharepoint.com/:x:/g/personal/aimee_noirjean_hes-so_ch/Ed-OikXJmD5FvJ4IgGILUpgB084DSsLRPlCqUu8GT_h7ZA?e=Z419UU
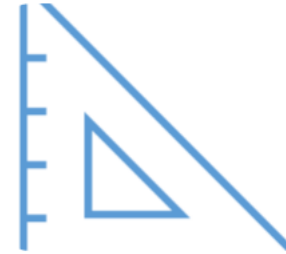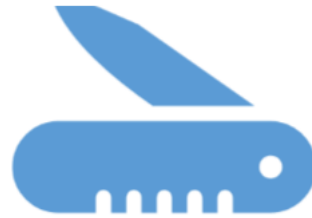
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Principles

Vision strategic frame

Compliance

Methodology and related processes

Tools

Metrics

Principles	Vision	Compliance	Methodology	Tools	Criteria
1. Accessibility 2. Life cycle 3. Respect of funds 4. Multidimensionality 5. Centrality of value 6. Contemporaneity 7. Sustainability (ecological and chronological sustainability) 8. Reappraisal 9. Prospecting 10. Inclusivity / documentary diversity	1. Policy 2. Adequacy with the different jurisdictional levels 3. Appropriateness with audiences 4. Consideration of trends, innovative approaches and good practices	1. Legal compliance 2. Regulatory compliance 3. Administrative compliance 4. Normative compliance	1. Appraisal process 2. Reappraisal process 3. Long term preservation 4. Disposal process	1. Document identification tool 2. Content identification tool 3. Vital records tool 4. Information assets identification tool 5. Retention and disposition tools 6. Profiling tools	1. Preservation 2. Sampling 3. Disposal 4. Digitation 5. Disclosure

6 dimensions and 5 levels for progression

1	2	3	4	5
Non-existent	In development	Satisfying	Avanced	reproductible and/or automatic

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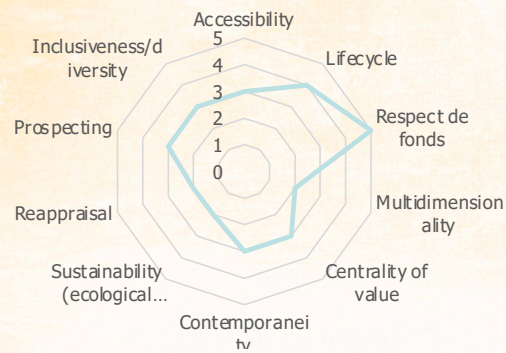Genève

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Prof. Dr Basma Makhlouf Shabou: basma.makhlouf-shabou@hesge.ch V. 05.04.2023 | Tested by: .....

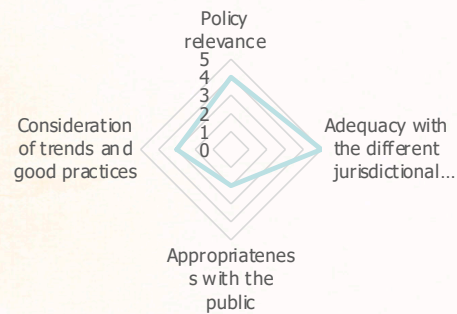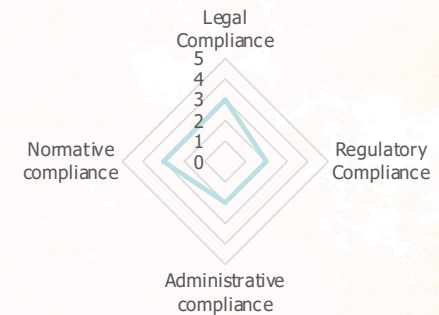| Axes	Measurement items	Description	1	2	3	4	5	
Principles	Accessibility	The appraisal promotes, as far as possible, the opening of data and archives and contributes to their sharing and communicability.	The appraisal does not take into account the accessibility of data and archives (and therefore does not contribute to their sharing and communicability).	The appraisal considers accessibility (openness of data and archives), but communicability is not sufficiently established.	The appraisal is satisfactory because it allows the opening of data and archives (transparency).	The appraisal is advanced: it takes into account the opening of data and archives and contributes to their sharing and communicability.	The appraisal is in application: it takes into account the opening of data and archives, contributes to their sharing and communicability with regular updates.	Level found : Analysis : Source(s): Recommendation
	Lifecycle	Retention periods and final disposition are articulated according to a life cycle starting from creation/capture. The lifespan of the data and archives as well as the different major actions should be predefined.	The consideration of the life cycle in the appraisal is... retention... accor...	The consideration... isal is sat... a and the...	...sideration... anced: th... are pred...	The life cycle consideration in the appraisal is in application: the... defined as... dition, ret...	Level found : Analysis : Source(s): Recommendation
	Respect de fonds	The appraisal focuses on the composition and/or completeness of a collection and on increasing its usability.	Lack of *respect de fonds* in the appraisal	The taking into account of the respect *de fonds* during the evaluation as well as the increase of its exploitation potential are under development.	The consideration of the respect de fonds during the appraisal and its potential for exploitation are satisfactory (clear guidelines).	The consideration of the *respect de fonds* during the evaluation and its potential of exploitability are advanced: the guidelines clearly defined.	The consideration of the respect de fonds during the appraisal and its potential of exploitability are in application: clearly defined and regularly updated.	Level found : Analysis : Source(s): Recommendation
	Multi-dimensionality	The evaluator bases himself on the extrinsic (use and creation) and intrinsic (content, aesthetic value, etc.) dimensions, which are combined and evaluated in a balanced and pragmatic way.	Lack of multidimensionality in the appraisal	Multidimensional appraisal is under development.	The appraisal is multidimensional, but it is not balanced.	Multidimensional appraisal is advanced: it is balanced and systematic.	The multidimensional appraisal is in application: balanced, pragmatic and potentially automatable.	Level found : Analysis : Source(s): Recommendation
	Centrality of value	The life cycle and its elements are based on the concept of value.	Absence of value centrality in the life cycle and its elements	The consideration of value centrality in the life cycle and its elements is under development.	The consideration of value centrality in the life cycle and its elements is satisfactory (it is well motivated).	The consideration of value centrality in the life cycle and its elements is advanced because it is well documented.	The consideration of the centrality of value in the life cycle and its elements is in application: it is widely documented in the selection criteria.	Level found : Analysis : Source(s): Recommendation
	Contemporaneity	The evaluator bases himself on the context of creation and use and the value scale of that time. In this way, he or she controls his or her judgement, opinions and perception and strives for objectivity.	Lack of consideration of contemporaneity in the appraisal	The evaluator's consideration of contemporaneity is under development.	The consideration of contemporaneity is satisfactory: the evaluator takes into account the context of creation, use and scale of value of that time, but is not objective in his judgment, opinions and perception.	The consideration of contemporaneity is advanced: the evaluator takes into account the context of creation, use and scale of value of that time and remains objective in his judgment, his opinions and his perception.	The consideration of contemporaneity is in application: the evaluator takes into account the context of creation, use and scale of value of that time, remains objective in his judgment, his opinions and his perception that he motivates and that he reviews regularly.	Level found : Analysis : Source(s): Recommendation
	Sustainability (ecological and perennial)	The evaluator stipulates his decisions by estimating the ecological impact of these decisions. In this respect, the evaluator is led to respect the balance between his technological and ecological needs and ambitions. This principle also echoes medium and long-term conservation schemes.	Lack of consideration of ecological sustainability and durability in the appraisal	The consideration of ecological sustainability and durability is under development.	The evaluator takes into account ecological sustainability and durability, but does not respect the balance between needs, technological ambitions and ecological ethics.	The evaluator takes into account the ecological sustainability and durability while respecting the balance between its needs, technological ambitions and ecological ethics.	The evaluator takes into account ecological sustainability and durability, respects the balance between needs, technological ambitions and ecological ethics. All this on the basis of clearly defined and regularly adapted guidelines.	Level found : Analysis : Source(s): Recommendation
	Revaluation	The appraisal and its tools are subject to review and adjustment. Decisions on conservation and/or disposal can be reviewed as necessary.	No reappraisal	Reappraisal is ad hoc or under development.	Reappraisal is satisfactory because it is documented (existence of guidelines) and carried out in a timely manner.	Reappraisal is advanced because it is documented (existence of clear guidelines) and carried out in a systematic way.	Reappraisal is in place: it is documented and systematic, guidelines are regularly reviewed, and the process is potentially automatable.	Level found : Analysis : Source(s): Recommendation

1 Non-existent
2 In development
3 Satisfying
4 Avanced
5 reproductible and/or automatic

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MMA Application
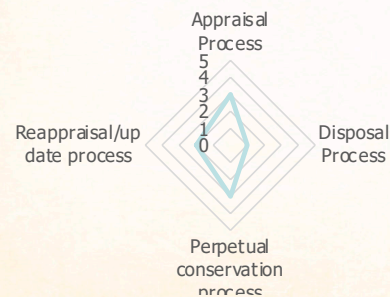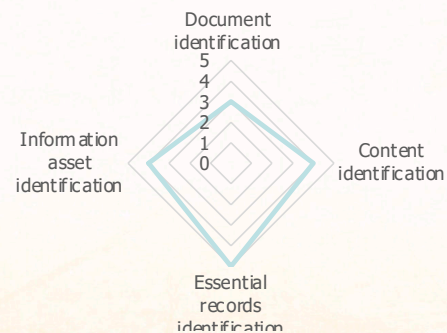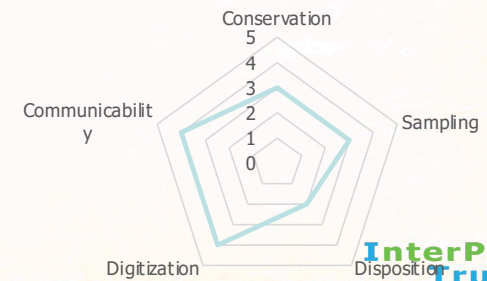
1) systematic literature review to better understand the state of progress of practices on the principles, automation tools and AI technologies applied to the processing of archives. (advanced)

2) the MAA is designed in six dimensions. For each subdimensions and measurements are defined, pretested in the context of State archives of Wallis in Switzerland. MAA and its related metrics are tested to verify its feasibility, its coherence, and the accuracy of related measures. (completed)

3) The tested MAA was translated from French to Spanish, Portuguese, and English to allow its testing widely in different archival context. (advanced)

4) Consultation using Likert scale questionnaire with professionals and academics to explore their agreement level with the MAA dimensions and their measurements (advanced).

5) Case studies based on tested MAA in different context with different languages (French, Portuguese, English) (advanced).

6) Using the results of literature and based on AI specialist of the study we will suggest technical, ethical recommendations and specific actions to support the potential integration of AI tools. Recommendations will be designed for each of six dimensions of the developed MAA. (initiated).

- **Completed: 100% of tasks are completed;**
- **advanced: 80% of tasks are completed;**
- **initiated: 20% of tasks are completed.**

Thank you !

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