

Algorithmic Impact Assessment Results:

Version: 0.9.1

Project Details

1. Name of Respondent

MEDOUNE BOYE

2. Job Title

Senior Economic Analyst / Business Strategies Consultant

3. Department

Employment and Social Development (Department of)

4. Branch

Benefits and Integrated Services Branch (BISB)

5. Project Title

Classification of Employment Insurance (E.I) claim recalculations using Machine Learning

6. Project ID from IT Plan

N.A

7. Departmental Program (from Department Results Framework)

Employment Insurance Program

8. Project Phase

Implementation

[Points: 0]

9. Please provide a project description:

In order to reduce a backlog of older claim recalculations, a one-shot machine learning model has been used to triage them.

The model classifies claim recalculations into three categories of outcomes:

Increase in benefit rate,

Decrease in benefit rate,

No Change in benefit rate.

This will allow the program to close claim recalculations which have no impact on the claimant and prioritize claim recalculations which have a greater likelihood of resulting in a change of benefit for the claimant.

Business Driver / Positive Impact

10. What is motivating your team to introduce automation into this decision-making process? (Check all that apply)

Existing backlog of work or cases.

About The System

11. Please check which of the following capabilities apply to your system.

Content generation: Analyzing large data sets to categorize, process, triage, personalize, and serve specific content for specific contexts

Risk assessment: Analyzing very large data sets to identify patterns and recommend courses of action and in some cases trigger specific actions

Section 1: Impact Level: 2

Current Score: 27

Raw Impact Score: 27

Mitigation Score: 27

Section 2: Requirements Specific to Impact Level 2

Peer Review

At least one of:

Qualified expert from a federal, provincial, territorial, or municipal government institution.

Qualified members of faculty of a post-secondary institution.

Qualified researchers from a relevant non-governmental organization.

Contracted third-party vendor with a related specialization.

Publishing specifications of the Automated Decision System in a peer-reviewed journal.

A data and automation advisory board specified by Treasury Board Secretariat.

Notice

Plain language notice posted through all service delivery channels in use (Internet, in person, mail or telephone).

Human-in-the-loop for decisions

Decisions may be rendered without direct human involvement.

Explanation Requirement

In addition to any applicable legal requirement, ensuring that a meaningful explanation is provided with any decision that resulted in the denial of a benefit, a service, or other regulatory action.

Training

Documentation on the design and functionality of the system.

Contingency Planning

None

Approval for the system to operate

None

Other Requirements

The Directive on Automated Decision-Making also includes other requirements that must be met for all impact levels.

Contact your institution's ATIP office to discuss the requirement for a Privacy Impact Assessment as per the Directive on Privacy Impact Assessment.

Section 3: Questions and Answers

Section 3.1: Impact Questions and Answers Risk Profile

1. **Is the project within an area of intense public scrutiny (e.g. because of privacy concerns) and/ or frequent litigation?**

Yes

[Points: +3]

2. **Are clients in this line of business particularly vulnerable?**

No

[Points: +0]

3. **Are stakes of the decisions very high?**

No

[Points: +0]

4. **Will this project have major impacts on staff, either in terms of their numbers or their roles?**

No

[Points: +0]

Project Authority

5. **Will you require new policy authority for this project?**

No

[Points: +0]

About the Algorithm

6. The algorithm used will be a (trade) secret

No

[Points: +0]

7. The algorithmic process will be difficult to interpret or to explain

No

[Points: +0]

About the Decision

8. Does the decision pertain to any of the categories below (check all that apply):

Social assistance (E.I., disability claims, etc)

[Points: +1]

Impact Assessment

9. Will the system only be used to assist a decision-maker?

No

[Points: +0]

10. Will the system be replacing a decision that would otherwise be made by a human?

Yes

[Points: +3]

11. Will the system be replacing human decisions that require judgement or discretion?

No

[Points: +0]

12. Is the system used by a different part of the organization than the ones who developed it?

No

[Points: +0]

13. Are the impacts resulting from the decision reversible?

Reversible

[Points: +1]

14. How long will impacts from the decision last?

Impacts are most likely to be brief

[Points: +1]

15. Please describe why the impacts resulting from the decision are as per selected option above.

It is a one-time single decision whether or not to recalculate the benefit of older claims. These claims are no longer active and don't have any impact on current or future claims.

16. The impacts that the decision will have on the rights or freedoms of individuals will likely be:

Little to no impact

[Points: +1]

17. Please describe why the impacts resulting from the decision are (as per selected option above).

The only impact would be a variation in benefit owing or owed.

18. The impacts that the decision will have on the health and well-being of individuals will likely be:

Little to no impact

[Points: +1]

19. Please describe why the impacts resulting from the decision are (as per selected option above)

The age of claims is quite old, and the amount involved are not large enough to have a significant impact.

20. The impacts that the decision will have on the economic interests of individuals will likely be:

Little to no impact

[Points: +1]

21. Please describe why the impacts resulting from the decision are (as per selected option above)

The probability of a change is quite low, around 10%. The model identifies claims with No Change with an accuracy of 90%.

The worst-case scenario would be if the claim was entitled to a higher benefit rate and classified as No Change.

In these cases, the estimated losses would be either \$300 (median) or \$900 (average).

22. The impacts that the decision will have on the ongoing sustainability of an environmental ecosystem, will likely be:

Little to no impact

[Points: +1]

23. Please describe why the impacts resulting from the decision are (as per selected option above)

N.A

About the Data - A. Data Source

24. Will the Automated Decision System use personal information as input data?

Yes

[Points: +4]

25. Have you verified that the use of personal information is limited to only what is directly related to delivering a program or service?

Yes

[Points: +0]

26. Is the personal information of individuals being used in a decision-making process that directly affects those individuals?

Yes

[Points: +2]

27. Have you verified if the system is using personal information in a way that is consistent with:

a) the current Personal Information Banks (PIBs) and Privacy Impact Assessments (PIAs) of your programs,

or b) planned or implemented modifications to the PIBs or PIAs that take new uses and processes into account?

Yes

[Points: +0]

28. What is the highest security classification of the input data used by the system?

(Select one)

Protected A

[Points: +1]

29. Who controls the data?

Federal government

[Points: +1]

30. Will the system use data from multiple different sources?

Yes

[Points: +4]

31. Will the system require input data from an Internet- or telephony-connected device? (e.g. Internet of Things, sensor)

No

[Points: +0]

32. Will the system interface with other IT systems?

No

[Points: +0]

33. Who collected the data used for training the system?

Your institution

[Points: +1]

34. Who collected the input data used by the system?

Your institution

[Points: +1]

About the Data - B. Type of Data

35. Will the system require the analysis of unstructured data to render a recommendation or a decision?

No

[Points: 0]

Section 3.2: Mitigation Questions and Answers

Consultations

1. Internal Stakeholders (Strategic policy and planning, Data Governance, Program Policy, etc.)

Yes

[Points: +1]

2. Which Internal Stakeholders have you engaged?

Data Governance Legal Services Program Policy Communications

Access to Information and Privacy Office

3. External Stakeholders (Civil Society, Academia, Industry, etc.)

No

[Points: +0]

De-Risking and Mitigation Measures - Data Quality

- 4. Do you have documented processes in place to test datasets against biases and other unexpected outcomes?**

This could include experience in applying frameworks, methods, guidelines, or other assessment tools.

Yes

[Points: +2]

- 5. Is this information publicly available?**

No

[Points: +0]

- 6. Have you developed a process to document how data quality issues were resolved during the design process?**

Yes

[Points: +1]

- 7. Is this information publicly available?**

No

[Points: +0]

- 8. Have you undertaken a Gender Based Analysis Plus of the data?**

No

[Points: +0]

- 9. Is this information publicly available?**

No

[Points: +0]

10. Have you assigned accountability in your institution for the design, development, maintenance, and improvement of the system?

Yes

[Points: +2]

11. Do you have a documented process to manage the risk that outdated or unreliable data is used to make an automated decision?

Yes

[Points: +2]

12. Is this information publicly available?

No

[Points: +0]

13. Is the data used for this system posted on the Open Government Portal?

No

[Points: +0]

De-Risking and Mitigation Measures - Procedural Fairness

14. Does the audit trail identify the authority or delegated authority identified in legislation?

Yes

[Points: +1]

15. Does the system provide an audit trail that records all the recommendations or decisions made by the system?

Yes

[Points: +2]

16. Are all key decision points identifiable in the audit trail?

Yes

[Points: +2]

17. Are all key decision points within the automated system's logic linked to the relevant legislation, policy, or procedures?

No

[Points: +0]

18. Do you maintain a current and up to date log detailing all of the changes made to the model and the system?

Yes

[Points: +2]

19. Does the system's audit trail indicate all of the decision points made by the system?

Yes

[Points: +1]

20. Can the audit trail generated by the system be used to help generate a notification of the decision (including a statement of reasons or other notifications) where required?

No

[Points: +0]

21. Does the audit trail identify precisely which version of the system was used for each decision it supports?

Yes

[Points: +2]

22. Does the audit trail show who an authorized decision-maker is?

No

[Points: +0]

23. Is the system able to produce reasons for its decisions or recommendations when required?

No

[Points: +0]

24. Is there a process in place to grant, monitor, and revoke access permission to the system?

No

[Points: +0]

25. Is there a mechanism to capture feedback by users of the system?

No

[Points: +0]

26. Is there a recourse process established for clients that wish to challenge the decision?

Yes

[Points: +2]

27. Does the system enable human override of system decisions?

Yes

[Points: +2]

28. Is there a process in place to log the instances when overrides were performed?

Yes

[Points: +1]

29. Does the system's audit trail include change control processes to record modifications to the system's operation or performance?

No

[Points: +0]

30. Have you prepared a concept case to the Government of Canada Enterprise Architecture Review Board?

No

[Points: +0]

De-Risking and Mitigation Measures - Privacy

31. If your system involves the use of personal information, have you undertaken a Privacy Impact Assessment, or updated an existing one?

Yes

[Points: +1]

32. Have you designed and built security and privacy into your systems from the concept stage of the project?

Yes

[Points: +1]

33. Is the information used within a closed system (I.E., no connections to the Internet, Intranet, or any other system)?

Yes

[Points: +1]

34. If the sharing of personal information is involved, has an agreement or arrangement with appropriate safeguards been established?

Yes

[Points: +1]