

TEAM PPG (#5) - ALVINA, KRISTINA AND NICOLE

CLOSING THE GAP

AI-POWERED SOLUTION FOR GENDER PAY EQUITY





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BACKGROUND



WOMEN EARN

84 CENTS

FOR EVERY \$ EARNED BY MEN

WHAT IS IT?

- The gender wage gap represents the difference in average earnings between women and men, often reflecting systemic inequalities in pay, job types, and career advancement opportunities.
- Women experience a 32% wage gap in annual earnings compared to men.
 - This gap is equivalent to women working for **free** from September 5th

DISPARITIES AMONG MARGINALIZED GROUPS

- Indigenous women (35% gap)
- Women with disabilities (43% gap)
- Women of visible minority (up to 47% gap)

WHY DOES THE GAP EXIST?

- **Occupational segregation:** Women are overrepresented in the 5 Cs sectors—Caring, Clerical, Catering, Cashiering, and Cleaning—which are generally lower-paying.
- **Unpaid caregiving responsibilities:** Women are more likely to take unpaid leave or work part-time for family care.
- **Discrimination and bias:** Unconscious bias and lack of pay transparency prevent equitable compensation.

Only 30% of the gender wage gap can be explained by these measurable factors



BACKGROUND

70% of the wage gap remains unexplained

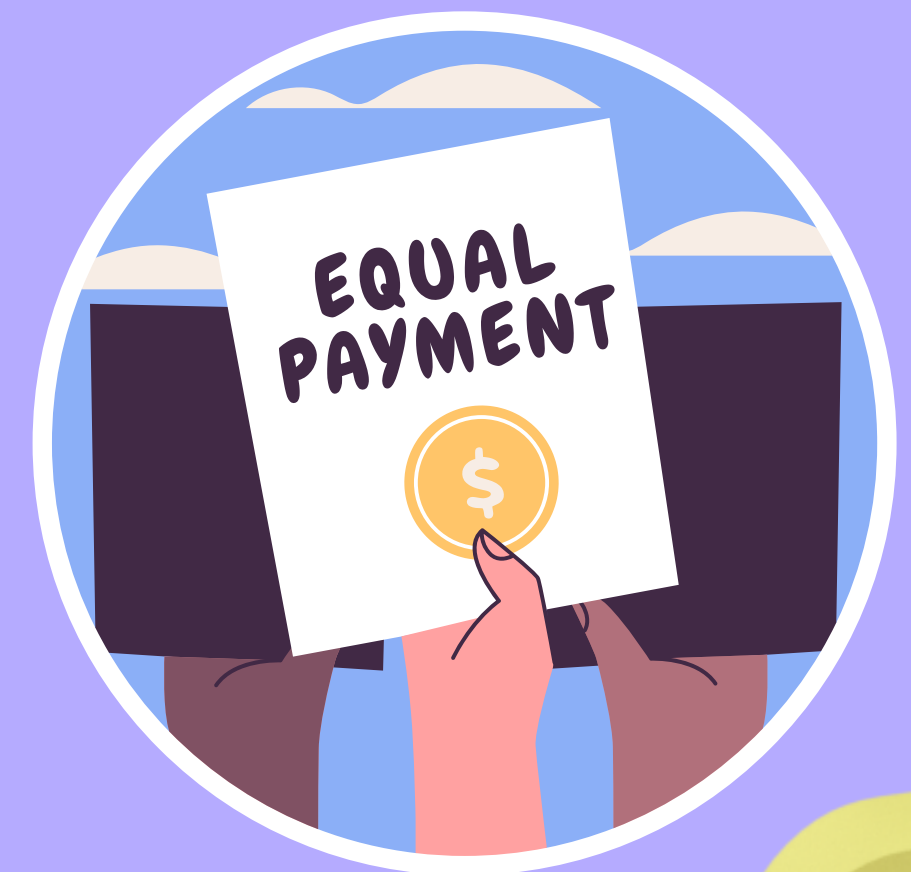
- Pointing to deeply embedded biases and structural barriers in the workforce
- Many organizations lack systems to identify and address these unexplained disparities.

The burden for equity is currently placed on individuals

- Women often take it upon themselves to ask for pay transparency, attempting to ensure they are being compensated fairly
- The problem needs to be addressed at an institutional level

Companies need systems that provide an analysis of pay gaps

- To address both explained and unexplained factors
- With the goal of offering actionable strategies to close the gap and ensure pay equity.



PROBLEM STATEMENT

Despite global progress, women continue to face wage disparities, with many organizations lacking the tools to fully understand and address pay inequities within their workforce.



SOLUTION

AI POWERED PLATFORM FOR A PROACTIVE APPROACH

The AI tool will be used by companies where:

- They can import employee salary payment data
- The tool will let them know if they are paying their workers fairly- and if not by how much

How Does It Work?

- 1 Salary Prediction:**
 - Utilizes a Random Forest algorithm to predict expected salaries and identify any unexplained wage gaps.
- 2 Benchmarking & Discrepancy Detection**
 - Calculates expected compensation based on the benchmark and flags discrepancies by comparing it to the employee's actual salary.
 - Employers can enter specific details—such as job title, education, and experience—to receive a direct comparison between the benchmark and actual pay for that role.
- 3 Highlighting Unexplained Differences**
 - Any discrepancies between the benchmark and actual pay are highlighted, enabling companies to address compensation gaps and work toward pay equity.
- 4 Model Transparency**
 - The tool uses SHAP and LIME to explain the model's predictions, helping organizations understand exactly which factors contribute to any detected pay disparities.



AI TOOL DEMONSTRATION



SALARY PREDICTION TOOL

Job Title:

Seniority: 1

Education:

Using a Random Forest algorithm, this tool calculates a predicted average salary for the employee based on their job title, seniority and education..

SALARY DISPARITY TOOL

Job Title:

Seniority: 1

Education:

Actual Sala...

Using a Random Forest algorithm, this tool is able to give the difference between actual salary and average predicted salary. This tool takes the employee's job title, seniority and education is input, and the model will flag whether disparity exists or not.

SHAP AND LIME ARE USED FOR MODEL TRANSPARENCY

FINANCIAL IMPACT



Cost Savings and Operational Efficiency

- **Mitigating Pay Gap Liabilities:** Reduces legal risks and costs by addressing wage disparities.
- **Automated Salary Benchmarking:** Streamlines compensation analysis to enhance operational efficiency.
- **Savings from Wage Transparency:** Improves retention and reduces turnover costs through transparency.

Employee Retention and Engagement

- **Boosted Retention:** Equitable pay enhances trust and lowers turnover.
- **Increased Productivity:** Fair pay drives higher productivity and company performance.
- **Attracting Top Talent:** Transparent pay practices attract top-tier talent and positions the company as a leader in diversity and inclusion.

Economic Growth through Gender Equity

- Closing the gender pay gap can boost the Canadian economy by **\$110 billion annually** (BDC, 2024).

SOCIAL IMPACT

Empowering Marginalized Communities

- Addressing pay inequities empowers women and marginalized groups to achieve financial independence.

Fostering Inclusive Workplaces

- Equitable pay practices help create diverse and inclusive environments where all employees feel valued and gain a sense of belonging.

Advancing UN Sustainable Development Goals

- **SDG 5 - Gender Equality:** Our solution directly addresses gender pay inequities by promoting equal pay for equal work, ensuring that women receive fair compensation.
- **SDG 8 - Decent Work and Economic Growth:** Fair wages drive sustainable and economic growth.
- **SDG 10 - Reduced Inequalities:** Tackling wage gaps across demographics reduces systemic inequalities and promote an inclusive economy.



NEXT STEPS

An outline of our phased approach, starting with implementing the AI tool in an Ontario organization, gathering feedback, and scaling nationally and globally once the model is validated.

1. IMPLEMENT IN AN ONTARIO ORGANIZATION

Initial Rollout:

Launch the solution in a selected Ontario organization to detect wage disparities and set success metrics such as pay equity improvements, employee satisfaction and retention rates.

Feedback & Improvement:

Gather stakeholder feedback and track key metrics to evaluate the tool's effectiveness in driving wage equity.

2. VALIDATE AND REFINE THE MODEL

Model Validation:

Use feedback and collected metrics data to enhance the tool's accuracy and validate its impact and ability to drive meaningful changes in pay structures.

3. SCALE TO OTHER ONTARIO ORGANIZATIONS

Expand Across Ontario:

Scale the solution to other organizations in Ontario, guided by success metrics, and particularly in industries with significant wage gaps, using KPIs to ensure effectiveness.

4. PREPARE FOR NATIONAL AND INTERNATIONAL SCALING

National Rollout:

After validation in Ontario and proven success metrics, expand the solution nationwide, adapting it to regulatory and industry needs across Canada.

Global Scalability:

Eventually, scale the solution globally to address wage gaps in different regions and industries.

RISKS AND MITIGATION

These are potential risks to the implementation and scaling of our solution, along with the strategies developed to effectively mitigate each risk.

Risks	Mitigation
Data Privacy and Security	Implement encryption, strict access controls, and regular audits to ensure compliance with data protection regulations like PIPEDA.
Model Bias and Fairness	Conduct fairness audits, and use transparency tools like SHAP and LIME to minimize bias and promote fair outcomes.
Global Scaling and Market Conditions	Ensure the tool can take into account local economic factors, such as inflation and market-specific wage trends, by integrating regular updates to maintain accuracy across regions.
Product Adoption and Training	Provide comprehensive training to HR staff, user-friendly interfaces, and ongoing support to ease adoption and ensure effective use of the tool.

CONCLUSION

GENDER WAGE GAP PERSISTS

Wage inequities remain a significant issue, particularly for marginalized groups, impacting financial independence and workplace inclusivity.

AI-POWERED SOLUTION FOR PAY EQUITY

Our salary benchmark and salary disparity tools identify wage gaps and provide actionable insights to address pay equity.

LONG-TERM VISION

Achieving pay equity is a gradual process that requires consistent effort, adaptation, and collaboration. By starting at the organizational level and continual refinement, we aim to drive systemic change that builds lasting equity globally across regions and industries.

“Organizational change is a marathon, not a sprint, and making meaningful strides for women requires both hope and resilience. When leaders create a compelling vision of what’s possible, workplaces are better equipped to drive and sustain progress.”

Prof. Adam Grant, organizational psychologist and author of *Think Again*



THANK YOU!

ANY QUESTIONS?

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