



Closing Innovation and Intellectual Property Diversity Gaps: A Global Literature Review

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Introduction

This paper builds on earlier work on **inventor diversity**, notably by Holly Fechner and co-authors.

We expand the scope of those analyses with:

- more references,
- a global perspective, and
- a comprehensive annex of promising policies and initiatives.

The Gender Gap in Patenting

Data point: Gender parity in PCT applications is not expected until 2060 at the current rate.

IP rights are important tools enabling innovation, commercialization, creativity, collaboration, and other valuable endeavors. Our paper focuses on patents.

Unequal access to patents for women and other underrepresented groups means we are limiting the potential for innovation and economic growth. It is also a question of personal opportunity and fairness.

How do we tackle this multi-faceted problem?

Other Gaps

Work on gender is the thin edge of the wedge. Other gaps also persist.

Race: Most of the research on the racial background of inventors has been conducted in the US. **Racial minorities** in the United States, including African Americans, American Indians, Alaska Natives, and Hispanics, continue to be **underrepresented in patenting** in relation to their corresponding share of the population with the exception of Asian inventors.

Ethnicity: Research is currently restricted to historical studies of the US. However, emerging research in Europe indicates that **ethnic diversity can positively impact patenting rates**, particularly in highly innovative countries.

Income: Existing research on income disparity amongst patent filers is sparse. However, research from the US and Finland shows **parental income levels play a large role** in the ratio of patents filed.

Older people, people with disabilities, veterans, and others will also benefit from equal access to IP rights like patents.



Closing the Gender Gap

The gender IP gap requires political action to enable change globally.

WIPO leadership has been instrumental in raising awareness through fostering regional collaborative networks and exchanges (e.g. seminar series) to share evidence and advocate for action.

Our Analysis

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The research team undertook a **global literature review** about the gender gap in patenting. We found many promising approaches, but no **definitive best practices** with most programs not formally evaluated.

Research Questions

The research was structured around two central themes:

1. What are the **key barriers and challenges** that women and people from underrepresented groups face in the patenting process?
2. What **existing global policies and programs** effectively promote the participation of women in invention and patenting?

The research consistently pointed to the **need for sound data collection and analysis.**

Also, **evaluation of programs is essential** to ensure they are effective.

Findings: Data and Policymaking

- Data collection is essential for understanding and tackling IP gaps.
- Many offices –USPTO, Canadian IPO, IP Australia – are engaged in studying gender IP gaps. Legislation mandating data collection is important.
- Different approaches are being used, and there is scope for further coordination on data collection, methodology, and analysis.
- Faced with statistics and reports, policymakers may not know where to start.

Findings: Programs across Regions to tackle Gender Gaps

Sum of Number of items by Continent



One contribution of our paper is the extensive annex of programs and initiatives aimed at empowering women entrepreneurs and inventors.

Diverse Programs

Public, private, public-private, and other types of programs are contributing to efforts, across regions, to close the gender gap in patenting. We describe the different types of programs in our paper.

- Enhancing exposure to innovation
- Boosting access to STEM education
- Deliver “innovation education”
- Helping with family and career challenges
- Addressing differential access to capital
- Increasing diversity among patent agents

Examples of Promising Initiatives

- Inclusive innovation as a national economic priority:
 - The National Strategy on Gender Equity and Equality (USA) includes an effort to promote entrepreneurial skills as part of STEM research, apprenticeship, and training opportunities for women and girls.
 - Spain has established the Women, Science, and Innovation Observatory group, an inter-ministerial body dedicated to promoting gender equality in science.
 - In Australia, the Women in STEM Ambassador initiative connects business leaders, educators, and policymakers to mobilize resources to help women and girls to undertake STEM-related research and career development projects.

Examples of Promising Initiatives, cont'd.

- Access to STEM and innovation education :
 - The National Strategy on Gender Equity and Equality (USA) includes an effort to promote entrepreneurial skills as part of STEM research, apprenticeship, and training opportunities for women and girls.
 - In Australia, the Women in STEM Ambassador initiative connects business leaders, educators, and policymakers to mobilize resources to help women and girls to undertake STEM-related research and career development projects.



Examples of Promising Initiatives, cont'd.

- Mentorship and role models:
 - In Brazil, the Digital Girls Program, managed by the Brazilian Computer Society, incentivizes girls to pursue careers in computer science and STEM fields by connecting them with field experts and practitioners.
- Building the evidence base:
 - The IDEA Act would mandate the USPTO to collect demographic information from inventors listed on patent applications, including gender, race, military status, and other information. Previously, in the United States the SUCCESS Act endorsed such data collection and analysis. Spain has established the Women, Science, and Innovation Observatory group, an inter-ministerial body dedicated to promoting gender equality in science.
 - In 2022 the EPO published “Women’s participation in inventive activity”, providing valuable insights into the gender disparity in European patenting. Presenting and interpreting statistics helps a broader audience get involved in dismantling the gender gap in patenting.

Conclusions

Closing the gender IP gaps has emerged as a shared concern for the global IP community. This is not about a static snapshot of representation in the patent and other IP systems. **Inclusive innovation** has the potential to **catalyze dynamic changes** across entire sectors and economies, **contribute to economic growth**, and **deliver innovative solutions** to pressing public policy challenges – while also creating opportunities for individual innovators.

We recommend:

- **Build bridges** between data collection and policymaking
- **Develop common methodologies** for data collection and analysis
- **Build a community of practice**
- **Remember to consider all types of gaps**



Thank you.

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