Impact Case Study
Australian Women in Cyber Security

Introduction

Cyber security plays an increasingly critical role in government, business and education sectors. A key factor to achieving a thriving, robust cyber security sector includes having a diverse and inclusive workforce, representing a wide range of social, cultural and professional experiences. This is particularly important currently with ongoing skills shortages and high demand in this field.

However, a recent analysis of the 2021 Census indicates only 17% of Australia's cyber security workforce are women. Until this data was available, no accurate study demonstrating women's under-representation in the sector had been undertaken.

Background

The Australian Women in Security Network (AWSN) is a not-for-profit association and network of people aimed at increasing the number of women in the security community through building connections and providing support.

However, without a full picture of gender representation in the sector – from the types and numbers of roles women hold, to a view of what support women have or the barriers they face in joining the industry – it has been difficult to address imbalances or effectively measure any programs or initiatives aimed at doing so.

AWSN partnered with RMIT University to undertake this sector analysis to develop its baseline knowledge and inform their future activities.

The Research

RMIT Centre for Cyber Security Research & Innovation (CCSRI) in partnership with RMIT Centre for Organisations and Social Change (COSC) brought together a multi-disciplinary team of academics with backgrounds in cybersecurity, organisational psychology, economic, management and human resources to examine the multi-dimensional issues of this subject.

The team began with a review of existing literature about women in the cyber security workforce and an analysis of data from the previous three ABS censuses. They then analysed the newly released 2021 Census data, which included occupational categories specifically for the cyber security sector. This study was the first to provide this gender analysis of Australia's cyber occupations.

> "If Australia's cyber security sector can foster a genuine willingness to change and invest in an authentic appreciation of the gains that can be achieved through greater gender equity, diversity and inclusion, it will be well on its way to creating a more dynamic, vibrant and high-performing sector." Gender Dimensions of the Australian Cyber Security Sector

Next, the team undertook a national survey to hear directly from people of all genders about their personal experiences, perceptions and attitudes in the sector. The survey included people who had worked in a security-related role in the previous five years. Respondents answered questions about their current job, education and training, their inspirations, role models and mentors, and their perceptions of the industry.

The key findings were:

- Women comprise around 17% of Australian cyber security occupations in 2021
- Although underrepresented in the sector, the number of women in specialist ICT security roles increased fourfold from 2016 to 2021, compared to a threefold increase for males
- Women in cyber security come from a wider spectrum of educational backgrounds than their male colleagues
- About half of female respondents had IT qualifications, compared to two-thirds of their male counterparts
- Only 27% of women in the sector reported having a role model or mentor of the same gender, compared to over 50% of men who reported having a male equivalent.

To help address these gender imbalances, the report presented evidence that when different stakeholders cooperate (such as employers, professional organisations, industry groups, educators and the media) they can foster a more inclusive culture and shift stereotypical perceptions about the sector.

Project Outcomes

The *Gender Dimensions of the Australian Cyber Security* report was launched in April 2023, supported by the Minister for Cyber Security, the Hon. Clare O'Neil.

- https://www.rmit.edu.au/news/ccsri/understanding-gender-dimensions-project-study

The report importantly provides an evidence-based benchmark 17% figure of the proportion of women in cyber security against which to measure future initiatives.

It also recommends actions businesses, industry groups, organisations, government, education, media and the wider community can take to achieve greater gender equity. Actions include:

- conduct data collection and analysis on gender equity, diversity and inclusion in the organisation
- develop and implement appropriate policies and programs that target workplace culture
- adopt duty-of-care approaches to eliminate workplace toxicity
- use recruiting and promotion practices to address implicit biases in existing systems, such as using a language decoder to remove gendered language in job advertisements.
- role model a willingness to learn,
- demonstrate commitment to a zero-tolerance approach to sexual harassment.
- ensure committees, boards and panels are inclusive and representative
- analyse educational content for gender bias and stereotypes.
- call out gender stereotypical images/terminology.

Overview of the Impact

Jacqui Loustau, Executive Director and Founder of AWSN, found the research valuable in both validating the organisation's work to date, and in sparking new initiatives to address both intake and retention of women into the cyber security sector.

"This study was really important to create a benchmark, so that we can understand whether or not we're progressing and whether more effort is needed in a particular area," says Ms Loustau. "That 17% has been important as a talking point, and as a metric to build on. That's already been a game-changer. It also confirmed that women are starting to leave the sector from their 40s, and we need to do more about that."

The report confirmed for the AWSN community that they have invested time and effort into programs that are addressing the needs of women in security. It also gives them the means of measuring growth and success in areas such as mentoring women to enter and to stay in the industry, mentoring leadership, and supporting greater diversity. AWSN can also share the report with its stakeholders, to show how they can contribute to change.

"It's a whole-of-industry effort," says Ms Loustau. "I think collectively we are making a difference and you can see that in the data, which is really powerful."

Furthermore, the team was recognised for outstanding work on their delivery of this project at the 2023 AISA Cyber Security Awards.

Funding Support and/or Institutional Support

RMIT's Centre for Cyber Security Research and Innovation partnered with the AWSN to undertake this analysis. The Australian Signals Directorate, Australia's leading cyber security agency, provided support for the AWSN's involvement.

Next Steps
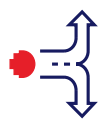
AWSN's connections with government have grown stronger as result of the study, which will allow the organisation to advocate more effectively.

Along with validating AWSN's current programs, the Gender Dimensions of the *Australian Cyber Security Sector* report also highlighted how the cyber security sector "has an image challenge". AWSN had planned to increase their focus on attracting younger women to the industry, but this initiative has been brought forward, says Ms Loustau.

"We plan to get into high schools to change how the sector is seen and make sure young women know that there are careers in cyber security for them."