

WILEY Closing the Digital Skills Gap

In this age of automation, labor markets are in dire need of professionals trained in digital skills. Broadly defined, these are the skills required in areas such as data science and analytics (DSA), artificial intelligence, cybersecurity, digital literacy, and skillsets for jobs that do not exist yet, using technologies that have not yet been invented. The digital skills talent shortage is severe enough to undercut competitiveness, constrain economic growth and delay industrial restructuring, a deficit that has resulted in billions of dollars in lost revenue annually.

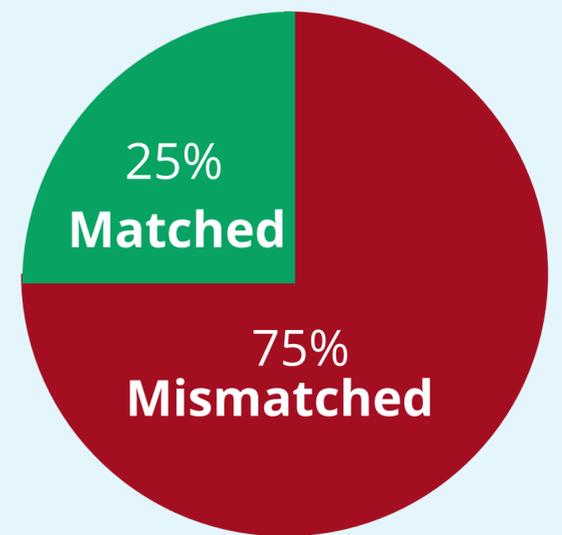
In response to the Asia Pacific Economic Cooperation's (APEC) policy goals on human capital development, APEC Project DARE (Data Analytics Raising Employment) developed and implemented a set of industry-driven recommended actions to strengthen digital competencies and bridge the gap between workforce skills and employer demand.

APEC Project DARE brings together business, government and academic leaders in common purpose: to align curricula, courses and programs to address this critical shortage of employees with digital skillsets.

This online survey, "Closing the Digital Skills Gap", was conducted between January and April 2019, with 123 respondents from 16 APEC economies, including stakeholders from academia (35%), employers (30%), governments (23%), and others (12% NGOs, nonprofits and associations).

1. Job seekers' talents are not fit for purpose in the digital world

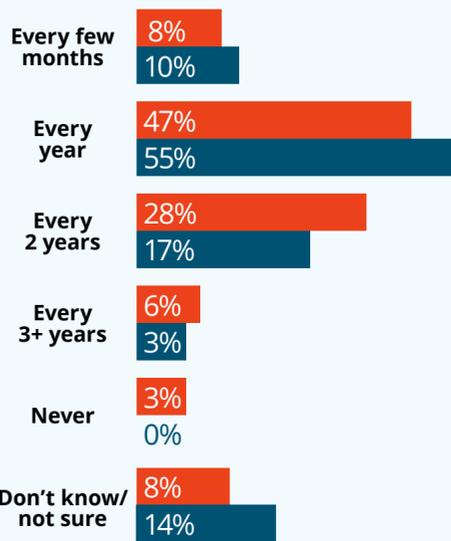
How would you characterize the digital skills match between employers' needs and job seekers' talents?



2. Most stakeholders are working hard to keep pace with changing digital needs...



How often do you review employers' needs for digital skills to update your curriculum?

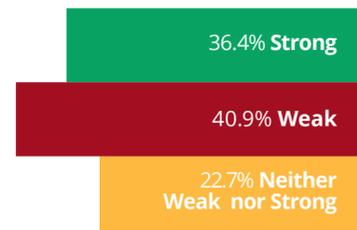


How often are job requirements updated for digital skills?



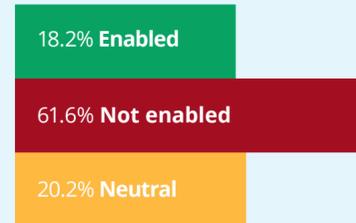
3. ...but government and government policy are less responsive

How would you rate your government's understanding of the digital skills landscape?



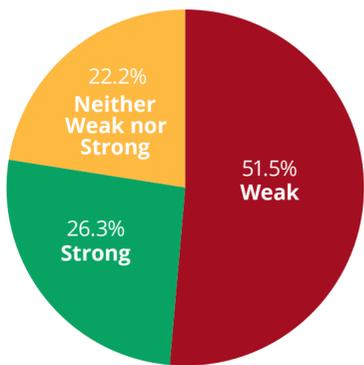
And faculty and teachers are still not getting enough support

How well are teachers and faculty enabled to incorporate data science and analytics in classrooms?



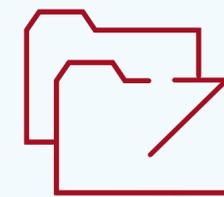
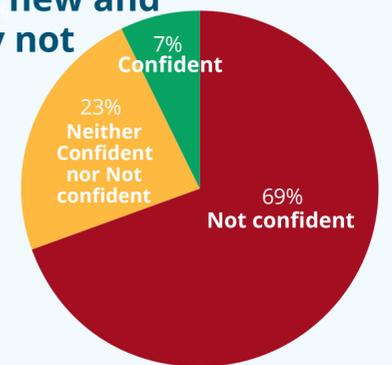
4. There is a lack of coordination between government, employers and academia to close the digital skills gap

How would you rate the coordination of government, employers, and academia to close the digital skills gap?



5. The Digital World is relatively new and rapidly changing—consequently not many professionals know how to work with data ethically

Are you confident that today's workers are equipped to handle data ethically?



6. The most pressing ethical concerns are: #1 False information, #2 Opaque algorithms, #3 AI bias

Which of the following ethical issues relating to AI are the most critical?



ranked Machine learning & false information - the first, second or third most critical issue - How can we slow the spread of false information, and who will get to decide which news count as "true"?



ranked transparency of AI - the first, second or third most critical issue - algorithms that cannot be publicly scrutinized, or ones that are obscure even to their creators



ranked biases in AI - the first, second or third most critical issue - the danger that machine learning will reflect, or even magnify, biases in the base data



ranked supremacy of AI - the first, second or third most critical issue - who should have the final word on important decisions: AI or humans

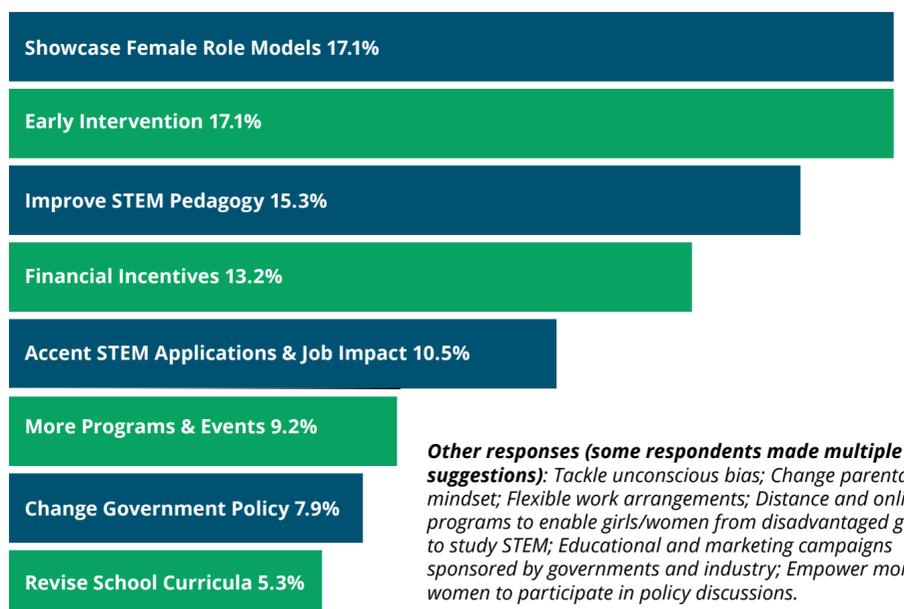


ranked Privacy vs Surveillance - the first, second or third most critical issue - integrated with AI, CCTV cameras are being used to monitor the location of citizens



7. Strong participation by women is vital to bridging the skills gap...

What can be done to encourage more girls/women to enter STEM fields?



Other responses (some respondents made multiple suggestions): Tackle unconscious bias; Change parental mindset; Flexible work arrangements; Distance and online programs to enable girls/women from disadvantaged groups to study STEM; Educational and marketing campaigns sponsored by governments and industry; Empower more women to participate in policy discussions.