GOING DIGITAL: THE FUTURE OF WORK FOR WOMEN?

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The Future of Work: What do we do?
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What if…?

If 50% of CEOs were women
Generation XX: January 2069
How the business world finally reached a milestone—and what had to change along the way

DIGITAL TECHNOLOGIES ARE ENABLING DEEP TRANSFORMATION

founded in 2009
1bn users, acquired for 19bn in 2014
some 60 employees
Employment rate among mothers vs share of mothers who worked from home at least once over the past 12 months, 2014/2015

Management of SMEs registered on Facebook, by gender, April 2018

- Mainly female: 47%
- Balanced: 29%
- Mainly male: 24%

So far the risk of automation is similar for men and women.

20 industries with the greatest number of jobs at risk

<table>
<thead>
<tr>
<th>Industry</th>
<th>Male share (average risk of automation)</th>
<th>Female share (average risk of automation)</th>
<th>Employment share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food and beverage service activities</td>
<td><img src="image1" alt="Male share" /></td>
<td><img src="image2" alt="Female share" /></td>
<td><img src="image3" alt="Employment share" /></td>
</tr>
<tr>
<td>Retail trade, except of motor vehicles and motorcycles</td>
<td><img src="image4" alt="Male share" /></td>
<td><img src="image5" alt="Female share" /></td>
<td><img src="image6" alt="Employment share" /></td>
</tr>
<tr>
<td>Wholesale and retail trade and repair of motor vehicles</td>
<td><img src="image7" alt="Male share" /></td>
<td><img src="image8" alt="Female share" /></td>
<td><img src="image9" alt="Employment share" /></td>
</tr>
<tr>
<td>Land transport and transport via pipelines</td>
<td><img src="image10" alt="Male share" /></td>
<td><img src="image11" alt="Female share" /></td>
<td><img src="image12" alt="Employment share" /></td>
</tr>
<tr>
<td>Manufacture of food products</td>
<td><img src="image13" alt="Male share" /></td>
<td><img src="image14" alt="Female share" /></td>
<td><img src="image15" alt="Employment share" /></td>
</tr>
<tr>
<td>Manufacture of fabricated metal products</td>
<td><img src="image16" alt="Male share" /></td>
<td><img src="image17" alt="Female share" /></td>
<td><img src="image18" alt="Employment share" /></td>
</tr>
<tr>
<td>Specialised construction activities</td>
<td><img src="image19" alt="Male share" /></td>
<td><img src="image20" alt="Female share" /></td>
<td><img src="image21" alt="Employment share" /></td>
</tr>
<tr>
<td>Wholesale trade, except of motor vehicles and motorcycles</td>
<td><img src="image22" alt="Male share" /></td>
<td><img src="image23" alt="Female share" /></td>
<td><img src="image24" alt="Employment share" /></td>
</tr>
<tr>
<td>Manufacture of motor vehicles, trailers and semi-trailers</td>
<td><img src="image25" alt="Male share" /></td>
<td><img src="image26" alt="Female share" /></td>
<td><img src="image27" alt="Employment share" /></td>
</tr>
<tr>
<td>Manufacture of machinery and equipment</td>
<td><img src="image28" alt="Male share" /></td>
<td><img src="image29" alt="Female share" /></td>
<td><img src="image30" alt="Employment share" /></td>
</tr>
<tr>
<td>Insurance, reinsurance and pension funding</td>
<td><img src="image31" alt="Male share" /></td>
<td><img src="image32" alt="Female share" /></td>
<td><img src="image33" alt="Employment share" /></td>
</tr>
<tr>
<td>Residential care activities</td>
<td><img src="image34" alt="Male share" /></td>
<td><img src="image35" alt="Female share" /></td>
<td><img src="image36" alt="Employment share" /></td>
</tr>
<tr>
<td>Legal and accounting activities</td>
<td><img src="image37" alt="Male share" /></td>
<td><img src="image38" alt="Female share" /></td>
<td><img src="image39" alt="Employment share" /></td>
</tr>
<tr>
<td>Manufacture of computer, electronic and optical products</td>
<td><img src="image40" alt="Male share" /></td>
<td><img src="image41" alt="Female share" /></td>
<td><img src="image42" alt="Employment share" /></td>
</tr>
<tr>
<td>Financial service activities</td>
<td><img src="image43" alt="Male share" /></td>
<td><img src="image44" alt="Female share" /></td>
<td><img src="image45" alt="Employment share" /></td>
</tr>
<tr>
<td>Human health activities</td>
<td><img src="image46" alt="Male share" /></td>
<td><img src="image47" alt="Female share" /></td>
<td><img src="image48" alt="Employment share" /></td>
</tr>
<tr>
<td>Social work activities without accommodation</td>
<td><img src="image49" alt="Male share" /></td>
<td><img src="image50" alt="Female share" /></td>
<td><img src="image51" alt="Employment share" /></td>
</tr>
<tr>
<td>Public administration and defence</td>
<td><img src="image52" alt="Male share" /></td>
<td><img src="image53" alt="Female share" /></td>
<td><img src="image54" alt="Employment share" /></td>
</tr>
<tr>
<td>Computer programming, consultancy and related activities</td>
<td><img src="image55" alt="Male share" /></td>
<td><img src="image56" alt="Female share" /></td>
<td><img src="image57" alt="Employment share" /></td>
</tr>
<tr>
<td>Education</td>
<td><img src="image58" alt="Male share" /></td>
<td><img src="image59" alt="Female share" /></td>
<td><img src="image60" alt="Employment share" /></td>
</tr>
</tbody>
</table>

Source: OECD Secretariat calculations based on the Survey of Adult Skills (PIAAC) 2012 and 2015 and Arntz et al. (2016), [http://dx.doi.org/10.1787/5jlz9h56dvq7-en](http://dx.doi.org/10.1787/5jlz9h56dvq7-en)
BUT THE SPEED OF DIGITAL DIFFUSION ACROSS SECTORS WILL SHAPE FUTURE TRENDS

Digital penetration of sectors over time, growth rate, 2001-15

Source: OECD calculations based on Calvino et al. (2018)
Women must play a greater role in shaping the digital transformation

Share of females among start-up founders

Note: Percentage of females in the sample of founders of companies less than ten years old and for whom gender is known.
Women remain underrepresented in innovation…

Patents invented by women, 2010-2015
As a percentage of total IP5 patent families invented, G20 countries

Note: The indicator is overestimated for China and Korea.
...AND RARE IN THE SOFTWARE WORLD...

Co-authorship network of top R package authors
By gender, data related to top 1000 package authors

Composition of inventors’ team by gender, G20 area

Percentage of IP5 patent families by gender composition of inventors’ team

Note: The indicator is based on whole counts of IP5 patent families by inventors’ country.
Women currently lag in ICT training

Share of women in graduates of ICT studies, by educational attainment, 2015

Source: OECD computations on data from *OECD Education at a Glance 2017: OECD Indicators*.
Additional labour market returns for various types of skills in digital intensive industries, 2012 or 2015

Note: Data for 31 OECD countries and partner economies. Source: OECD calculations based on PIAAC 2012 and 2015.
WOMEN APPEAR LESS ENDOwed WITH SKILLS FOR DIGITAL INTENSIVE INDUSTRIES...

Difference in standardised skill scores between men and women, 2012 or 2015

Average difference

Note: Data for 31 OECD countries and partner economies. Source: OECD calculations based on PIAAC, 2012 or 2015.
Labour market returns to skills by gender, digital-intensive industries, 2012 or 2015

Note: Data for 31 OECD countries and partner economies.
Building blocks for an integrated strategy for growth and well-being in the digital transformation:

1. Access
2. Use
3. Innovation
4. Jobs
5. Society
6. Trust
7. Market openness
Taking Action on Skills, Access....

- Promote female participation in STEM study
- Facilitate women's access to STEM-related jobs through apprenticeships
- Remove barriers to lifelong learning
- Stress acquisition of "digital" skills

- Tackle affordability barriers for women's access to and adoption of digital technologies
- Competitive market environment for national connectivity
Promote diversity in entrepreneurship & within teams of researchers and inventors

Pursue more gender balance in financing, e.g. public VC

Foster networking and gender inclusion in entrepreneurial and innovative activities

Boost awareness of socio-cultural norms, biases and stereotypes

Remove gender bias in curricula and parental attitudes

Enhance visibility of women in STEM and high-tech sectors

Increase collection of gender-disaggregated data
THANK YOU

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OECD Going Digital website: www.oecd.org/going-digital

STI newsletter: www.oecd.org/sti/news.htm

Twitter: @OECDinnovation
Further reading