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Cultural Organization

Skill shift: Automation and the future of workforce skills

Valerio Dilda – McKinsey & Company

Artificial intelligence and the next generation of competences : How Digital – and Artificial Intelligence will impact jobs and competences profiles?

The World Conference on Intellectual Capital for Communities

UNESCO, 11 & 12 July 2019



1 How has skills demand changed historically?

2 What skill shifts can we anticipate in the next 15 years?

3 How can companies and policy makers address the skill mismatch?



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SOURCE: Claudia Goldin, "America's graduation from high school: The evolution and spread of secondary schooling in the twentieth century," Journal of Economic History, volume 58, number 2, June 1998; National Center for Education Statistics; McKinsey Global Institute analysis

The World Conference on Intellectual Capital for Communities

All jobs now increasingly require digital skills

Intellectual Capital for Communities In the Knowledge Economy

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High¹ Medium¹ Low¹

Employment by levels of job digitization, 2002–2016



NOTE: Figures may not sum due to rounding; 1 Brookings defines a digital score based on 2 digital components of O*NET (overall knowledge of computers and electronics required by a job and the centrality of computers to the overall work activity of the occupation) as an index from 0 to 100. High score is above 60, medium score is between 33 and 60 and low score is lower than 33

SOURCE: Brookings analysis of Occupational Information Network (O*NET) and Occupational Employment Statistics (OES) data

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Looking ahead, by 2030 AI will alter the nature of most jobs



SOURCE: McKinsey Global Institute analysis

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Higher cognitive, socioemotional and tech skills will be in high demand



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Our unique bottom-up methodology is based on 3 input factors

We defined 5 workforce skill categories	We mapped workforce activities to skills	We collected qualitative inputs to corroborate our results
Physical and manual	Across all sectors	>3,000 business leaders
Basic cognitive		
Higher cognitive	10 activities for a retail sales person	From 7 countries
Social and emotional	Skills assessment	
Technological	25 skills in total	Across 14 sectors

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Al will require more technological, social and emotional skills...

-15

All sectors United States and Western Europe

Large portion time spent today in physical and basic cognitive skills... Hours in 2016



...but in the future, time spent on these skills is going to decrease while skills such as tech, social and emotional will grow Change in number of hours 2016-30, % -14



NOTE: Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom. Figures may not sum due to rounding

SOURCE: McKinsey Global Institute analysis

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The impact varies by sector



Skill with the second s





Despite concerns, there is a sizeable opportunity looming

But instead of being **anxious**, companies should be **optimistic** – there is a 1

trillion opportunity

Concerns

26% Employees won't upgrade skills fast enough

24%

Workers will not be adaptable enough

Repercussions

30% Financial performance will suffer

25% Will not achieve our growth aspiration

NOTE: Based on results of March 2018 study of more than 3,000 business leaders in 7 countries (Canada, France, Germany, Italy, Spain, United Kingdom, and the United States) and 14 sectors. Chart based on % of business leaders

SOURCE: McKinsey Global Institute analysis



Companies need to *adapt* their org, *build* their workforce and *partner* with other stakeholders

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HR will lead the change in org design to build the future workforce



SOURCE: McKinsey Global Institute

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Collaborations between companies and stakeholders have big impact

Labor agencies



Training vouchers for SMEs to upskill employees, raising participation by 2.5x

Estimate skill demands and provide upskilling funding, used by 6% of population



SOURCE: World economic forum; Accelerating Workforce Reskilling for the Fourth Industrial Revolution; McKinsey Global Institute analysis

SKILLFUL



"It is not the strongest of the species that survives, nor the most intelligent, but the one that is **most adaptable to change**."

Charles Darwin