

Advanced digital skills increase the likelihood of finding a job

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According to a comparative survey of Italy, Germany and the United Kingdom conducted by Irvapp-FBK and the Center on Social Inequality Studies-UniTrento, mastering advanced digital skills increases the likelihood of finding a job, in all countries analyzed. Nel Regno Unito, le competenze contano persino più della laurea. Non è così in Germania e in Italia, dove il titolo terziario ancora paga, accanto alle competenze digitali.

Mastering **advanced digital skills** significantly increases the likelihood of finding a job, for both managerial and technical positions, with effects of +7.6% and +6.7%, respectively, influencing recruiters' assessment more than having obtained a college degree (+3%). This is what emerges from the survey *"Digital economy, technological competencies and the job matching process"* conducted by Fondazione Bruno Kessler (Center for Evaluative Research on Public Policies – [IRVAPP](#)) and the University of Trento ([Center on Social Inequality Studies](#)) on three of the largest European labor markets, namely Italy, Germany and the United Kingdom.

Thus, it is not a matter of generic digital skills, such as business use of operating systems (Office or Windows), social networks and the Internet, but of **specific skills** such as: ability to use advanced programming languages, use of scientific-statistical software, project management and social media, cloud computing platforms and Big Data processing technologies, knowledge of algorithms, data structures and foundations of distributed systems.

Researchers from Fondazione Bruno Kessler's (FBK) Center for Evaluative Research on Public Policies and the Department of Sociology and Social Research at the University of Trento used a factorial experiment to study how recruiters within companies evaluate digital skills in the three countries surveyed. More than **700 recruiters and human resource managers per country** were involved and asked to assess four different job profiles and three different levels of digital skills mastery (advanced, intermediate and basic).

In particular, the study aimed to investigate **the impact of candidates' technology skills on recruiters' assessment of the hiring process** and the effects of digital skills themselves in the distribution of hiring opportunities for profiles with different levels of education, looking for high- or medium-skilled jobs.

Paolo Barbieri, a professor of Economic Sociology at the University of Trento and CSIS coordinator and promoter of the research, along with Professor Antonio Schizzerotto, said: *"This research on the role of digital skills in guiding firms' hiring choices is part of a broader collaboration between CSIS-Department of Sociology and FBK-IRVAPP that has analyzed the importance of digital skills both on the supply side of labor (i.e., workers) and the needs of firms. Our work sheds light on an issue long debated, unfortunately often from an ideological perspective linked to the supposed employment-destroying role of new technologies. Far from creating technological unemployment, innovation and digital skills help to create skilled jobs and facilitate the matching of labor supply and demand. This is an important result, from a policy perspective, because it provides clear indications of how relevant it is to provide our students (high school and college students) with those skills that will help them make their way in a job market that is not only increasingly global but also increasingly skilled."*

Alessio Tomelleri, FBK-IRVAPP researcher: *"In a candidate's profile, the mastery of digital skills is a determining factor for the success of the selection process. Especially in a global context where the number of companies using technology and investing in digital technologies is growing. By 2030, artificial intelligence will be worth 3.5% of global GDP, while jobs will go up in areas such as artificial intelligence, big data, coding, cybersecurity, internet of things and mobile app development."*

Researcher **Anna Zamberlan**, CSIS and Ludwig Maximilian University of Munich, was also involved in the survey and followed the experimental part. More than **2,000 professionals** were involved. To each of them, the researchers sent a questionnaire depicting four different profiles of applicants to be evaluated, each with randomly assigned characteristics (gender, age, educational qualification, job position, level of digital skills, previous unemployment). They were then asked to estimate how likely they would be to hire either candidate, if for either position, on a scale of 0 to 10 points.

The finding in all three countries is that **advanced digital skills always considerably increase the likelihood of hiring**, while intermediate skills only benefit in cases where the candidate is applying for a managerial role, and, in general (overall average effect in the three countries) – in terms of effects on the positive success of the selection process – they can be compared to holding a degree equal to a bachelor's degree.

The results also show greater effects of digital skills in the United Kingdom (+10.21%), a flexible labor market geared toward evaluating practical and specific skills and less toward valuing formal qualifications. Conversely, in continental Europe, educational qualification still plays a leading role

in the recruitment process-especially in Italy (+4.58%)-and skills only help when it comes to advanced digital skills.

Finally, digital skills prove to be a powerful compensatory tool in cases of educational-occupational *mismatch*, in favor of the candidate in the case of a gap between educational background and profession.

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