The Post-COVID-19 Job Market: AI in Recruitment and Career Guidance Services

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By increasing scale, efficiency, equity, personalization of recruitment/career guidance, AI can make the difference.

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COVID-19 has dramatically accelerated the process of digitalization in developed economies, bringing a multitude of benefits to firms and workers alike. Career guidance and recruitment services are amongst those with great potential to benefit from these dynamics. However, few businesses in this area have capitalized fully on the opportunities offered by digitalization and, in particular, artificial intelligence. We argue that a hybrid model which combines digital and in-presence career support is displaying advantages in terms of efficiency and effectiveness of the services provided, and should be embraced more readily by firms offering recruitment and career guidance services to job seekers. This view is in line with the supposition that we are at the beginning of a transition into the so-called 'feeling economy', expected to become dominant within the coming two decades, whereby the *feeling* tasks of jobs will become the core responsibility of human workers, while the *thinking* task of jobs will be relegated to artificial intelligence (AI) (Huang et al., 2019). Recruitment and career service providers can engage with these changes by being more people oriented and honing their soft skills, while leaving the increasingly-complex data management tasks to AI. Furthermore, in the context of the post-COVID-19 economic environment, and the entry of Gen-Z to the workplace, there is ample scope for positive contribution from avant-garde career guidance and recruitment organization to a bruised and arguably fragile labor force.

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When guidance centers remained closed for months or operated at reduced service levels due to COVID-19, job candidates were left with insufficient support. COVID-19 has also negatively affected industries and worsened the economic recovery of young and unemployed people, generating large numbers of individuals needing career guidance and recruitment support. New and more complex challenges faced by job seekers, and by job recruiters and employers, cannot be addressed solely using the tools and approaches of the past, but should be tackled in a faster and a more personalized way through the newest digital and AI tools available. Precisely this is the primary goal of AI, which is usually described as a system with the "ability to interpret external data correctly, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation" (Haenlein and Kaplan, 2019). Within the Information, advice, and guidance (IAG) industry, and the greater ecosystem which includes recruitment firms and HR departments, the technical infrastructure to provide guidance and the recruitment services with the assistance of emerging technologies has been established to some degree, but what such service providers still lack is a more strategic vision on digitalization and integration of AI solutions, which promise to benefit all stakeholders in the industry. In this article, we first look at the post-COVID-19 labor market dynamics and a number of defining characteristics of the current labor force. Subsequently, we outline the key attributes of digital and AI solutions in the career guidance and recruitment service business model, drawing attention to the benefit that such solutions promise for both, service providers and job seekers.

Post-COVID-19 labor market dynamics

Figure 1 shows how the unemployment rate in the United States evolved from January 1994 to March 2023 differentiating between categories of un- or under-employed workers in addition to the standard measure of unemployment. Specifically, these include discouraged workers, e.g., individuals "not currently looking for work specifically because they believed no jobs were available for them or there were none for which they would qualify" (U.S. Bureau of Labor Statistics, 2023) or persons marginally attached to the labor force, e.g., "persons not in the labor force who want and are available for work, and who have looked for a job sometime in the prior 12 months" (ibid.), or involuntarily part-time employed workers "because of an economic reason, such as their hours were cut back or

they were unable to find full-time jobs" (ibid.). In this specific regard, the unemployment rate has jumped dramatically during the first wave of the COVID-19 pandemic (spring/summer 2020) exceeding the peak reached in the acute phase of the global economic and financial crisis (end of 2009/beginning of 2010). Furthermore, Figure 1 supports the view that the phenomenon of labor force marginalization, under-employment or abandonment of the labor force by discouraged workers is cyclical and (increasingly) extreme, impacting heavily on the labor market as well as recruitment and career guidance services.
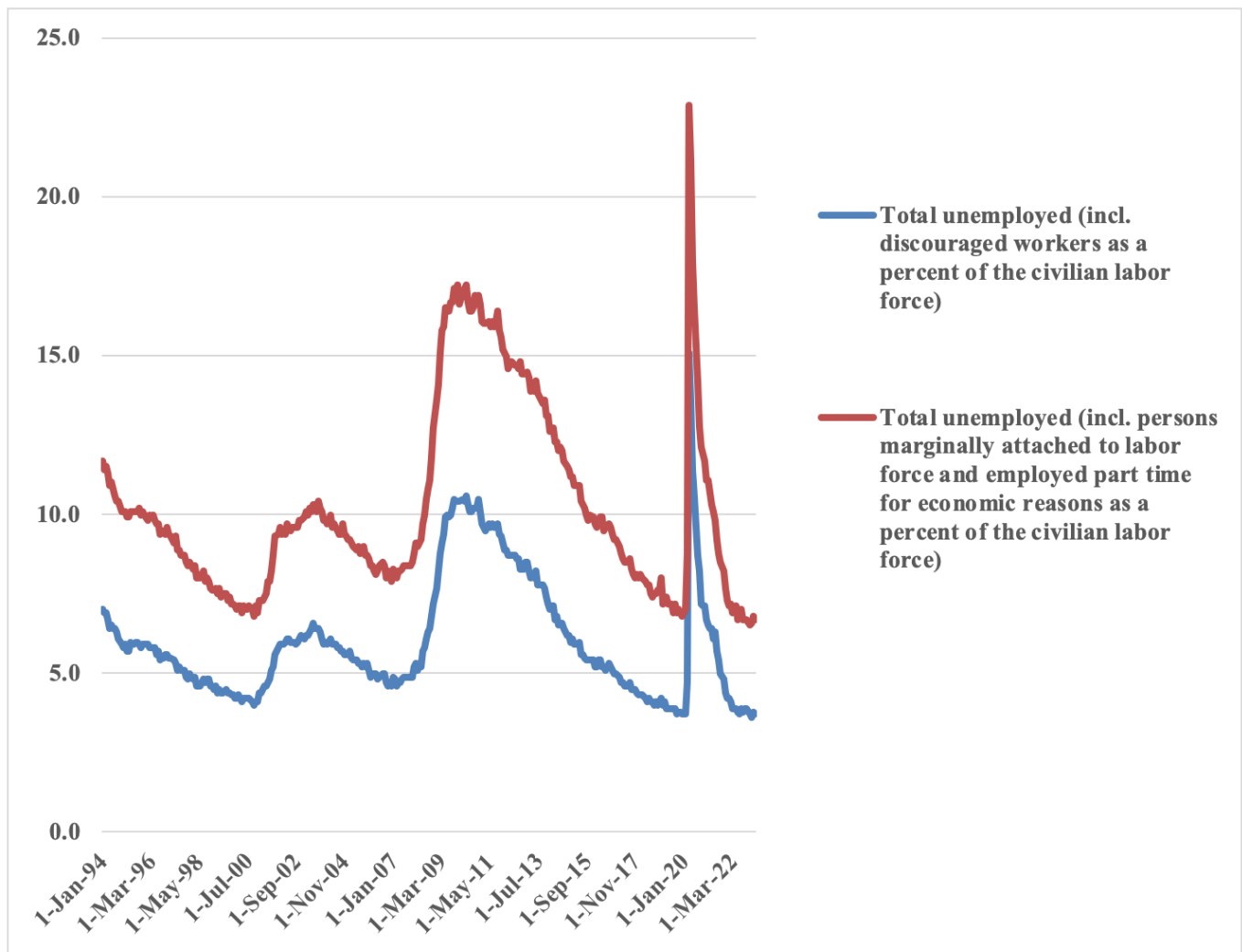

Figure 1: Unemployment rate after considering discouraged workers, marginally attached persons and employed part time for economic reasons), January 1994 - March 2023 (Source: own elaboration based on Federal Reserve Bank of St. Louis (2023))

This data pattern can be further elaborated on by considering two well-established labor market themes, which in turn highlight how AI-driven career guidance can provide support for both, the service providers as well as for job seekers:

- *the Great Resignation:* COVID-19 greatly increased the number of voluntary resignations as employees re-assessed their career priorities and choices (Groysberg et al., 2018). It is beyond scope to investigate in detail the underlying reasons for this trend, which may include disillusionment/discouragement, dissatisfaction with prior employment or a post-pandemic shift of values toward a better work-life balance, or a mutation of the so-called psychological contract, i.e., what employees expect of their employers, and vice versa (Schroth, 2019). However, Table 1 shows that individuals have increasingly (voluntarily) quit their jobs from the end of 2020 onwards. The Great Resignation poses an important challenge for the career guidance sector, which is now dealing with increasing volumes of job candidates with a great variety of expectations as well as professional and psychological profiles, for numerous job seekers on a quest for well-being and in search of new and better job opportunities, and for recruiters having to evaluate a glut of applications and to attract the most suitable applicants. As we will see, career guidance and recruitment services can capitalize on AI to improve effectiveness and efficiency of the service they provide, benefitting their own firms and candidates alike;

- *entry into the labor market of Generation Z:* individuals born from 1995 to 2010 have grown up in an increasingly interconnected, digitalized world and expect seamless and technology-driven solutions in various spheres of their lives, including career guidance and job search (Twenge, 2017). Simultaneously, they are entering the job market with far less work experience than previous generations, possibly as a result of growing up in more affluent households or perhaps because they are forced to spend summers on extracurricular and preparatory activities, given the tougher competition for entry into institutions of higher education (Schroth, 2019). Furthermore, statistics paint a far-from-optimistic picture of the mental health and resilience of the Gen Z generation, which suffers from the highest rate of depression and anxiety, in spite, or perhaps precisely because of, having grown up in a 'culture of safety' and parental overprotection. At the same time, this psychosocial fragility translates into an increased sensitivity and passion for issues of social justice,

making Gen Z the generation most concerned with diversity, equity and inclusion (*ibid.*). AI-driven career guidance and recruitment platforms can assist in catering to the nuance and demanding expectations of this generation by offering personalized, more efficient and data-driven support, while leaving human career and recruitment agents the time and energy to support candidates through meaningful one-one-one interactions. Undoubtedly, job insecurity combined with the pressure to find fulfilling job opportunities can have a significantly negative impact on mental health (Paul and Moser, 2009). AI-driven career guidance can help to reduce stress by better streamlining the job search process and by assisting in the identification of employment opportunities aligned with evolving personal interests and values (Pentina and Tarafdar, 2014) of a sensitive, fragile, socio-conscious and complex generation of workers.

In such a multifaceted and rapidly evolving environment, AI-driven career guidance and recruitment has the potential to address key challenges involving employment volatility, the Great Resignation and unique needs of Generation Z. While forward-looking companies in the career support sector are committed to investing in innovation, the true challenge is reshaping the traditional career guidance and recruitment model based on low levels of cutting-edge technology into a new paradigm where sophisticated technology and individuals can effectively meet. This is what authors like Barnes et al. (2010) and Bårdsdatter Bakke et al. (2018) pioneeringly refer to as "e-guidance".

Table 1: total nonfarm quits (2001-2022) and the Great Resignation after COVID-19 (Source: own elaboration based on Federal Reserve Bank of St. Louis (2023))

	Total nonfarm quits (mln.)	Percent change from previous year
2001	2.9	-
2002	2.5	-12.4
2003	2.4	-7.4
2004	2.6	+8.8
2005	2.8	+9.6
2006	3.0	+5.8
2007	2.9	-2.4
2008	2.5	-12.7
2009	1.7	-31.1
2010	1.9	+6.4
2011	1.9	+6.2
2012	2.1	+5.7
2013	2.3	+9.8
2014	2.5	+10.8
2015	2.8	+10.6
2016	3.0	+6.6
2017	3.1	+5.2
2018	3.4	+6.8
2019	3.5	+4.5
2020	3.0	-14.9
2021	1.0	+33.0
2022	4.2	+6.1

This new approach envisages the provision of a more streamlined, comprehensive and cutting-edge career guidance and recruitment service in the absence of physical space constraints and traditional business hours. Personalizing these services (i.e., providing different services based on the varying needs of job candidates) and thus dramatically expanding the user base is crucial to sustaining the economic validity of the necessary investments in the underlying technological tools, use of which by definition expands the number of job candidates that can be supported and matched with suitable jobs (and vice versa) simultaneously.

Key attributes and benefits of the e-guidance model

As shown in **Figure 2**, the AI-driven career guidance and recruitment model has six core features that are key in the provision of added value to all stakeholders in the IAG and recruitment industry:

1. ***scalability:*** AI-based career guidance and recruitment can provide personalized advice and serve numerous job seekers simultaneously, while ensuring that they have access to any support needed through one-on-one meetings with counselors. AI is rapidly improving in its capacity to automate data-based 'thinking', or analytical, tasks, leaving room for human workers to engage in meaningful 'feeling' activities that require emotional intelligence and the interactive nuance in which human beings have an obvious upper hand (Huang et al., 2019), at least for the foreseeable future. Such scalability promises one step in the right direction to the ultimate aim of making IAG and recruitment services a right rather than a privilege, and ensuring that they are available to all individuals who require them, in line with the ambitious objectives set out by the International Labor Organization (ILO 2021);

2. ***real-time job market analysis:*** the current trajectory in AI capability development furthermore implies that real-time collection and analysis of large amounts of job market data will become ever-more accessible to career guidance and recruitment firms, allowing them to support job seekers more effectively by identify demanded skills and emerging industries, and adapting their advice accordingly;

3. ***efficient job matching and personalization:*** in addition to identifying in-demand skills and emerging industries, AI-driven career guidance platforms can rapidly identify relevant job opportunities based on a job seeker's detailed profile, suggesting that the job search process can be dramatically sped up and personalized, and chances of a candidate finding a suitable position improved. AI's absolute advantage over human counterparts in handling large amounts of data suggests that candidate profiles can be made more elaborate by taking into account their skills, interests, values and personal circumstances, without necessarily compromising a candidate's chance of

finding suitable employment. Smart technologies can provide additional and up-to-date market intelligence information to support job seekers in identifying the most suitable source of employment in terms of location, company, job requirements (i.e., skills etc.) or benefits (i.e., wage, contract typology etc.). Since collecting, categorizing, filling out and re-elaborating information on vacancies and training opportunities from multiple sources is a relatively simple task for a well-instructed machine, AI-technology allows career guidance practitioners to focus on added-value in providing support to job seekers through mentoring, motivating and otherwise advising job candidates. As the Feeling Economy (Huang et al., 2019) becomes more obviously dominant in the future, human agents in the guidance and recruitment process will be left with more resources to focus on building constructive and supportive intra-personal relationships with candidates. AI's major impact thus consists of complementing and increasing the human abilities of guidance practitioners. Digitalization can guarantee a more sustainable practitioners-to-job-seekers ratio without hampering service quality, squeezing private sector margins or increasing public expenditure.

4. *enhanced self-assessment:* on the basis of powerful AI analytical capacity, e-guidance platforms can provide more comprehensive and objective self-assessment tools for candidates, allowing job seekers to gain a better understanding of their strengths and weaknesses, and to undertake self-analysis in the spirit of the SWOT approach (strengths, weaknesses, opportunities and threats) frequently utilized in business processes (Agrawal et al., 2018);

5. *bias reduction:* the importance of reducing bias in the job market and of incorporating the less advantaged labor market participants into mainstream jobs has been a focal discussion in management literature for decades; see, for instance, the seminal work of J. L. Koch, published in the *California Management Review* in 1974. The topic is likely to gain increasing attention in future as the new generation enters the workforce. As mentioned previously, for Gen Z issues of diversity, equity and inclusion are more conspicuous than for any previous generation (Schroth, 2019). While the reiteration of biases is a well-established concern surrounding the topic of artificial intelligence in decision making, it is worth noting that carefully-designed AI can actually contribute to the reduction of such biases, as for example in the career guidance and recruitment services. AI-based career guidance can potentially reduce

human biases (Moore, 2017) characterizing "traditional" career counseling and lead to job search outcomes perceived by job seekers from heterogeneous backgrounds as more objective. As effectively summed up by Windley (2022), "AI doesn't get tired or accidentally ignore a qualified candidate. On the contrary, every candidate is given an equal and fair look, regardless of the time of day, the stress level of the hiring manager or any number of human conditions that can create variants when reviewing résumés". AI-based career guidance can be a powerful tool in reducing the digital divide while fostering the inclusion of minorities, neurodiverse individuals, or women facing societal barriers;

6. ***continuous learning and improvement:*** AI agents can learn from social interactions, increasing their understanding of a given context and the people within it, and consequently producing more meaningful and suitable output (Krishna et al., 2022). This capability can be capitalized on in the context of career guidance and recruitment, whereby AI-based platforms learn from user interactions and continuously improve their career and job recommendations over time.
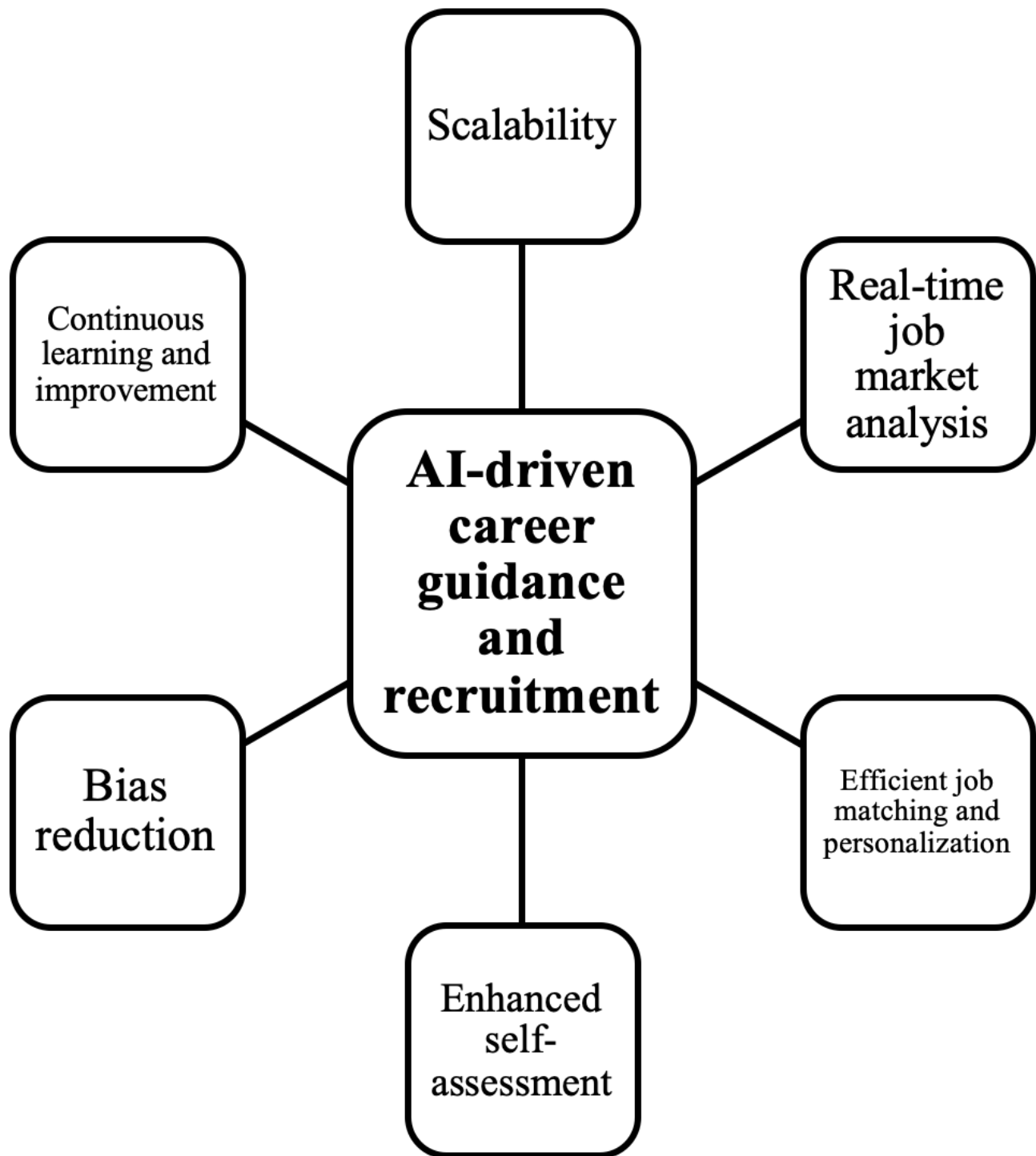
Figure 2: Main opportunities of AI-driven career guidance for job seekers.

In sum, job seekers need interfaces reflecting their daily use of online technologies and would benefit from an integration of AI in career guidance and recruitment platforms. Such platforms should offer intuitive and straightforward user interfaces to ensure that job seekers do not suffer unnecessary technology-induced stress that may negatively impact on their motivation levels during the inherently challenging job search process. If wisely

implemented, AI-driven e-guidance presents the potential to provide personalized, scalable, data-driven, continuously improving support to job seekers, while reducing potential biases based on race/ethnicity, gender and sexual orientation, age, disability, religion, neurodiversity and economic status.

Final considerations

From the perspective of job seekers, one of the major challenges of ongoing digitalization is the phenomenon of the "digital divide". An increasing degree of digitalization in the IAG and recruitment industry can be highly beneficial for people with basic digital skills and access to the necessary infrastructure, because it enables faster connectivity to more efficient and effective services. For instance, individuals suffering from some form of isolation (e.g., geographical, health-related etc.) or facing significant time constraints (e.g., as a result of burdensome care responsibilities toward relatives), can benefit by avoiding lengthy commutes. Digital connectivity and skills are interconnected with socioeconomic status and, therefore, it is essential to carefully evaluate the pros and cons of digitalization for different target groups. Moreover, it seems necessary to design differentiated strategies of interaction with job seekers, which might best cater to increasingly heterogeneous needs. Introducing digital career-guidance and recruitment tools in parallel to in-person services represents the solution to reach new levels of efficiency, capacity and effectiveness of the services provided. However, excessive reliance on digital services at the expense of in-person relationships represents a significant, not-to-be-neglected risk, especially for individuals without digital infrastructure and/or skills, who are also amongst the most vulnerable job seekers needing support in re-entering the rapidly changing and increasingly complex job market. This is precisely why AI-driven platforms, by increasing scale, efficiency and equity, and by enriching the information content, and thus upscaling personalization, of recruitment and career guidance advice, can make a positive difference.

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