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Making Labour Market Information Useful Through Better Services and Online Tools: *A Case Study of Cedefop's Skills Panorama Platform and Guidance Resources*

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Abstract

Individuals require adequate information to manage their careers. Despite large amounts of labour market information publicly available, people may still find themselves without a rationale to make relevant career choices and act upon them. Drawing upon Cedefop's research this article explores how labour market information can be made critical to individuals, through the correct setup of careers services and integrated design of online tools. The support to the development of careers services provided by EU-based and funded online platform Skills Panorama and Cedefop's resources for guidance is explored.

Keywords: labour market information, lifelong guidance, career guidance, skills, Cedefop, online tools, Skills Panorama

Introduction

Labour market information (LMI) has become a hot policy topic in the last few years, being frequently presented as a panacea for both policy making anxieties and the career development issues of citizens. This increase in interest has largely been fuelled by the quick development of ICT tools and the popularisation of statistical time series analysis, leading to growing accessibility of complex LMI. Policy makers have learned in the last two decades to harness LMI's potential, but also to be careful in using it when setting expectations. Careers services, on the other hand, could still be taking the first steps in understanding both its potential and limitations.

Websites with LMI rich content are regularly created and marketed as miracle solutions for the lack of information individuals allegedly have about labour markets. The general driving argument behind these investments is that accessible information will prevent poor choices (e.g., choosing a weakly employable course, leaving school) which may lead to unemployment and unstable careers. This line of reasoning in public policy carries two potential dangers: (a) an underestimation of the role of the State in promoting the development of autonomy in career development, and (b) an ingenuous vision of the requirements of ICT based strategies to address early school leaving, unemployment, and other social issues.

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This article explores how appropriate use of LMI by individuals is intimately associated with the development of services which promote progressive autonomy in its exploration in a humanised fashion. It also discusses how ICT based practices aimed at citizen service, should be necessarily embedded in careers services and adapted to context. Two examples of initiatives of the European Union to support this type of development are presented.

Is LMI Relevant for People's Careers?

Yes… given the right conditions. LMI has been documented as holding potential for career decision making and job search by a number of authors (e.g. Bimrose & Barnes, 2010; Bimrose, Barnes, & Hughes, 2008; Borghans, De Grip, & Heijke, 1996), yet individuals' autonomy in exploring it tends to be limited. A review of meta-analysis of LMI provision (Savard & Michaud, 2005) has highlighted that the effect LMI has over individual career decisions tends to be negligible without the support of a careers practitioner. A number of studies on the comparative effects of LMI over career decision making with or without the assistance of practitioners further suggest significant differences (e.g., Savard, Michaud, Bilodeau & Arseneau, 2008; Savard & Michaud, 2005; Brown et al., 2003).

Further research has highlighted that individuals value the role of career guidance in making LMI understandable and meaningful (Offer, 2001). The fact that practitioners attempt to deliver impartial information in an objective and adjusted way is perceived by clients as particularly valuable and unique (Bimrose & Barnes, 2010). The value of professional support also extends to the design and operation of online services. Experimental research has shown that the engagement of careers professionals with tools designed for autonomous usage by clients increases the likelihood that users successfully understand and use the available information.

These studies also highlight that individuals value the expert delivery of information which has been analysed and interpreted and thereby converted into labour market intelligence (see particularly Bimrose, Hughes and Barnes, 2011). Labour market and skills intelligence is, in fact, what practitioners deliver and what can allow clients to gain insight into the way the labour market works. Clients mention (Bimrose, Hughes and Barnes, 2011) that the most useful support is the interpretation of employment and unemployment trends; skills demand, supply and mismatches; occupational and job context information; job vacancies and entry and progression in professions. Practitioners emphasise the need to access regional and local information whenever possible, to allow clients to ascribe a more concrete meaning and utility to the intelligence provided.

Are Clients Navigators or Lemmings?

The popular (wrong) conception of lemmings is that they are small rodents who march in line, blindly follow established tracks, and eventually commit mass suicide by throwing themselves off a cliff. A popular videogame in the nineties further extended this concept by ascribing to individual lemmings an occupation/function and a set of behaviours. This image is tantalisingly similar to a certain version of career development support. The trait and factor theories of career development in their simplest versions similarly tend to promote what was called elsewhere a pegs-and-holes approach (Law, 1996) linking people to suitable occupations and work placements. This type of perspective has been often criticised due to its low consideration of contextual factors, and can promote a directive use of LMI. Practitioners may be tempted to feed their clients with information which leads and co-opts individual choices rather than encouraging self-reflection and autonomous exploration.

In stark contrast with this extreme, we can conceive of practitioners as enablers of labour market navigation skills. People can be helped to develop skills and knowledge

which allow to select, filter, and analyse relevant LMI from both official and non-official sources. More refined versions of the trait and factor approach (e.g., Dawis, 1994) incorporate dynamic contextual factors. They are, in turn, complemented by other theories which emphasise individual self-concept (Super, 1957; Watts 1993), the effects of social opportunity structures and community interactions (e.g., Krumboltz, 1994), and emotion (e.g., Kidd, 1998) over career development. This type of approach invites practitioners to engage in a more complex process and relationship with clients.

The idea of self-directed navigation within experience-rich, interactive contexts is particularly strong in more contemporary theories such as the life-design approach (Savickas, 2012) and the co-careering theory (Kettunen, Sampson, & Vuorinen, 2015). Post-modern approaches and particularly the life design approach, due to its psychodynamic basis and loose indications regarding the way to incorporate external and systemic elements, can be seen as developing long term oriented metacognitive skills, rather than immediately usable career knowledge and skills. This accounts for the considerable criticism which it attracts regarding its utility in addressing critical situations efficiently (with timely and immediate impact). As presented elsewhere, there is much to gain in combining this type of approach with a more systematic treatment of information offered by modern approaches (Sampson, 2009).

The DOTS (Decision capacity, identification of career Opportunities, managing Transitions, Self-awareness) approach (Law, 1996; Law & Watts, 1977; Watts 1977) has notably strived to integrate theoretical perspectives into a synthesis model which conceives individual career development as a learning process, susceptible of pedagogical treatment. At its core it is easy to read the intention to support individuals in developing autonomy in the management of their career with a very clear emphasis on the role of information. Law's (1996) repertoire of career development capacities is illuminating. It emphasises individual capacity to gather information, sort it, use it to form judgements, and effectively understand it. At the highest levels of career development competence, individuals should be able to provide their own explanations and have a well-informed, anticipatory behaviour, aiming at exploration of career opportunities.

The DOTS approach discusses the role of distinct career guidance activities in addressing internal and external factors which affect career development. Its pedagogical reflection provides a rationale for the organisation of tailored career development support and career oriented learning. It accounts both for the nature of the issues faced by the individuals and their level of skill development. The cognitive information processing (CIP) theory, while being even more process oriented and mechanistic in its tone, retains a similar approach (Peterson, Sampson, Reardon, & Lenz, 2003). Its conception of a layered service delivery is based on the assessment of individual readiness for career decision making, the development of occupational knowledge, information processing and meta-cognitive capacities. In both cases, a theoretical synthesis points in the direction of integrating LMI in career guidance and careers education to support autonomous exploration. This is to be achieved by adopting a progressive approach which adjusts methods to individual capacity. Arulmani and Nag-Arulmani (2006) concurrently observed in Indian careers services across 15 distinct regions in India, that LMI integration should be progressive, with self-exploration and self-awareness development preceding exploration of LMI. Clients have requests which are linked to the labour market, but generally require practitioner support to clarify interests and aptitudes alongside progressive exploration of a broad range of LMI.

Achieving Successful Integration of LMI and ICT

Three conclusions follow from the discussion in the two previous sections: (a) To be useful, labour market information needs to be accessible and adapted to users' needs; (b) LMI usage by individuals is more successful and effective when supported by careers professionals; and (c) LMI tools and contents should serve the needs of careers professionals and enable a progressive approach towards autonomous exploration. Cedefop's recent research (2015-17) on LMI and ICT in lifelong guidance explored the meaning of these conclusions and what they practically mean in terms of the policy definition and the organisation of careers services.

Quality in LMI Integration

In 2015-16 Cedefop developed a study (Cedefop, 2016) aimed at identifying practices which displayed effective use of LMI in career development support and understanding their main success factors and transferability potential. Via expert consultation, 12 cases which displayed rich usage of LMI in the provision of lifelong guidance services to both young people and adults were selected. The cases comprised 11 European countries including Austria, Belgium, Croatia, Czech Republic, Denmark, England, Estonia, Finland, Germany, Greece, The Netherlands, and one additional benchmark study in Canada. Only services with national or regional scope were included. Practices included a wide range of activities, methods, and tools, including self-help portals, tools to support counselling sessions, and experiential methodologies. The analysis looked into the way LMI was gathered, analysed, transformed into usable intelligence, and finally how it was embedded in career development support. Particular aspects scrutinised included competencies of staff, role of stakeholders, usage of technology, and the connection of these services to core policy strategies in education, training, youth, and employment. The study produced very clear cut results, highly consistent with the conclusions of previous research highlighted in the earlier section:

1. *The quality of the information and intelligence made available to clients is important, but the intervention of qualified guidance practitioners is a necessary ingredient.* Cases such as the Foreammatti (https://www.foreammatti.fi) in Finland, the Pathfinder centres in Estonia or the BIZ and BiWi (https://www.wko.at/site/Biwi/BiWi-Berufsinformationszentrum-der-Wiener-Wirtschaft.html) services in Austria have shown that participation of practitioners in the production, update and transmission of intelligence must exist alongside a powerful database.

2. *The LMI production, selection, and usage tend to work better when they are client-driven.* As with other aspects of lifelong guidance, most effective practices rely on thorough screening and partial anticipation of clients' needs to adjust information contents and its method of delivery/embeddedness in support. The Danish e-guidance portal (https://www.wko.at/site/Biwi/BiWi-Berufsinformationszentrum-der-Wiener-Wirtschaft.html) provides a clear example of how even services which are strongly web-based can rely on careful individual screening and case-management to guarantee client satisfaction.

3. *LMI integration in career support appears to be more effective if framed by a pedagogical approach.* Successful cases plan individual LMI exploration according to individual screening and monitoring, adjusting activities to assessed career management skills (CMS). A number of countries are making decisive investments on early development of CMS, with integration of LMI framed within a learning process, to allow for later autonomous exploration of career related information. Important examples include digitally assisted experiential information on occupations in Belgium, and careful development of individual portfolios and workplace information to setup work experience periods for secondary level students.

4. Forward looking information proves useful when it is used critically, encouraging reflection rather than as matter-of-fact information. Forecasts of labour offer and demand are quite popular, but they do not always display the best quality, as they are taken at face value. Productive use of forecasts in guidance is a tricky business (see Moreno da Fonseca, 2016), and requires both an understanding of the value of the data available and how to best employ it to support critical speculation about the future. The Austrian production and utilisation forecasting data provides interesting examples of how statistical forecasts are combined with vacancy data and qualitative information on sector and occupational evolution, which is selectively used by practitioners.

5. Successful LMI integration depends on practitioners and managers of careers services who are prepared to make the most out of available LMI. Staff of careers services need to have minimum training about available sources, types of LMI, and its interpretation. They also need to be capable of adapting relevant methods to better benefit from the available intelligence. Most of the cases showed a great degree of investment in staff training and investment in the development and adaptation of work methods. Besides practitioners' needs, the cases identified severe lack of knowledge and skills amongst service managers, who tended to have little insight into how to best integrate LMI.

The study also highlighted the importance of stakeholder cooperation and networking to gather and critically use relevant LMI. The importance of sourcing local information, including informal workplace and vacancy descriptions, anecdotes or newspaper articles was also highlighted. Useful labour market information is local in nature and frequently tacit. Available jobs, workplaces, and opportunities are often transmitted only by word of mouth and within closed circles. This reality is particularly acute in environments where informal and non-declared activities dominate the economy, such as the case of India. Networking and engagement of local employers and professional groups with careers services is highly advisable to obtain information to complement official sources.

The Role of ICT in Infusing LMI and Further Empowering Career Support

One of the most important issues in focus was the usage of digital technologies. The initial research produced insights on ICT usage and how it affects LMI integration in lifelong guidance. These insights were debated in an international workshop in Thessaloniki (http://www.cedefop.europa.eu/en/events-and-projects/events/workshop-labour-market-information-lmi-lifelong-guidance) and provided the launch pad for the second stage of research, dedicated to the role of ICT in career development support. The first insight the LMI study generated regarding ICT usage was that single points of access with comprehensive, reliable and easy to use information are highly valued by practitioners and clients alike. Apps and support services created using the data portal LMI for All (http://www.lmiforall.org.uk/) in the UK provides the perfect example. The portal gathers all relevant data for careers services, standardises it, and make it available in open access, easy to use blocks of information which can easily be integrated in careers information websites or practitioners' tools. The British initiative also demonstrates how digital technologies can be used to provide coherence to information sources which are frequently fragmented.

The second insight was that ICT based services need to account for different levels of digital competence to be successful. Not only people have different levels of digital competence, as the ones in the lower levels also tend to have more complex needs and can be the most vulnerable. It follows that digital platforms need to offer easy to access contents and, more importantly, alternatives in accessing information and support. The Danish e-Guidance is the perfect example of a friendly service which provides alternative

channels (multi-channelling) of information and support, such as telephone, chat, and email.

This brings us to the third insight: High quality digital services are well embedded in professional career development support and offer adaptive, scalable support. The idea of standalone digital services as replacements for professional careers services was generally dismissed by all interviewees as an ingenuous belief. Practices in Denmark, Sweden, Finland, Belgium, the Netherlands, and the Czech Republic display as a common success factor the fact that, careers practitioners not only update contents on websites, but also provide an integrated service. Clients can begin their contact via a webpage, but generally have access to direct practitioner support. Furthermore, the results of self-assessment exercises and initial online contacts lead to an adaptation of the option available to the client, reflecting a planned layered service, which allows for scalability of interventions.

These powerful insights point to clear targets for the successful integration of ICT in guidance, but the way to reach them is less clear. The second stage of research (2016-17) was, for that reason, dedicated to understand the way in which successful digitalisation and integration of rich LMI had been achieved and to develop tools which could support transfer and adaptation of successful approaches. The core aspects of this work are reflected in the Handbook for the Transfer of ICT Based Practices (Cedefop, 2018).

Pace of Change and Local Capacity

The second stage of research comprised a comprehensive inventory and analysis of all national level ICT-based practices which could be identified in the EU and in-depth case studies of cases, reflecting the variety of services offered (e.g. portfolios, matching, CMS development modules, co-careering, occupational information, multi-channelled support). Drivers, conditions and technical requirements of services were analysed, as well as underlying provision logic (e.g. strategy, entitlement, screening, theoretical basis). The second stage of research generated two additional insights and three sets of support tools for service capacitation (these are described in the next section).

The first insight was that successful ICT integration respects heritage and enacts progressive change. All successful cases were based on progressive, planned change, with strong technical support. There is also an understanding that digitalisation may also impose strains linked to increased connectivity between different services which may require an effort to generate shared understandings and tools. Generous time was allocated to staff training, administrative adaptation, coordination of strategies, and stakeholder mobilisation. Methods were not changed overnight or kept untouched, rather being adapted via practitioner discussion, linked to reflexive training, and skill development exercises. Management was actively engaged in change and organisational resources at large were mobilised. A better understanding of successful change was identified as a major need in many EU countries.

The second insight was that digital services are successful inasmuch as they respond to users' needs, which are local in nature. Services created out of digital "hype" are generally doomed to failure. Close analysis of practices revealed that the ones with greater take-up are based on previous assessment of potential user groups' needs and cooperation with local/regional stakeholders. Labour market or training-offer issues tend to be local or regional in nature and digital services must provide a geographically adapted service. To better achieve that sourcing of local/regional LMI and career related activities such as local guidance services, available job tasters, fairs, internships is key, even if the service is nationally managed. This further refines the idea of embeddedness of ICT in service provision, highlighting its networked character at local level.

The research also highlighted that an integrated strategy for the development of digital services for citizens is a great advantage, such as the one which exists in Estonia. This type of strategy establishes clear targets associated with citizen rights with a cross cutting vision that permeates all government strategies, including education, employment, and economic development. In this context, access of citizens to LMI and career support becomes a right which is supported by digital services. It also allocates specific resources to the development of a shared culture across services, which encompasses the development of shared frameworks, tools and records. This approach is encouraged and supported in the EU through the European Pillar of Social Rights (https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights_en) and the EU e-government strategy (https://ec.europa.eu/info/business-economy-euro/egovernment_en).

Cedefop's Initiatives in Supporting ICT and LMI Integration

Cedefop has recently developed a set of initiatives aimed at helping Member States address some of the issues highlighted in the previous sections. The agency is in a privileged situation to do so due to its comparative knowledge of national lifelong guidance systems and its unique position as a producer of European level labour market intelligence. The work of these activities is, in turn supported by its specialised networks of national experts in guidance and careers education, CareersNet (http://www.cedefop.europa.eu/en/events-and-projects/networks/careersnet), and in labour market information, SkillsNet (http://www.cedefop.europa.eu/en/events-and-projects/networks/skillsnet). The consolidation of the work of these activities has led to relevant developments in the Skills Panorama (http://skillspanorama.cedefop.europa.eu/en), the EU platform for LMI, and in the resources available to support national capacitation of lifelong guidance.

Tailoring Complex LMI for Guidance Use: The Skills Panorama Online Platform

In the 2008 Communication 'New Skills for New Jobs' (http://ec.europa.eu/social/main.jsp?catId=1223) the European Commission underlined the importance of tackling skills challenges that the EU Member States faced and identified the need to improve the EU's capacity for skills assessment, anticipation and matching.

The Skills Panorama online platform (https://skillspanorama.cedefop.europa.eu/en) (See Box 1) was introduced in the 'New Skills for New Jobs' Communication to offer users with high quality LMI aiming to support users in making informed decisions on education, training, and employment issues. The objective was to also facilitate users in finding relevant LMI in one place only; thus, the Skills Panorama was developed to function as a single entry point to skills and labour market intelligence in the EU.

The platform combines a wealth of quantitative and qualitative information drawn from high-quality and well-established sources/organisations, such as Cedefop, Eurostat, and the OECD. Using the latter data sources provides a robust basis for ensuring continued data availability. The Panorama also serves as a unique access point of research outcomes for relevant Cedefop output, offering access to research projects developed specifically for the Skills Panorama (such as occupational analytical highlights, the European Skills Index, mismatch occupations by country) that are not available elsewhere. In the near future, it is expected that the Skills Panorama will also host the results of Cedefop's Big Data analysis from online vacancies. Through collection and analysis of relevant big data and machine learning the project is expected to deliver valuable knowledge about skills and jobs in the EU, highlighting what employers actually look for. A fully-

fledged EU-wide system to collect and analyse data on skill demand using online job postings is envisaged by the end of 2020, while the first preliminary data will be available in 2019.

Box 1

The Skills Panorama is an initiative of the European Commission. The Directorate-General for Employment, Social Affairs and Inclusion ensures the strategic steering to the Skills Panorama, in line with EU policy objectives and has given mandate to Cedefop (the European Centre for the Development of Vocational Training) for the technical development of the site and the provision of data and information. A prototype of the Skills Panorama website was launched in December 2012 by the European Commission. Under Cedefop's responsibility, a completely redesigned and interactive platform was designed and launched in 2015.

Currently, Cedefop coordinates and manages the work on both the content and technical development. The Agency produces data and evidence on skill supply and demand and analyses of skill mismatch that can be used to inform education and training as well as employment and migration policies in Europe. Cedefop has hence built a unique expertise on skills needs in the labour market.

But the mere offer of LMI to users does not necessarily suffice as an ally in making informed choices: LMI should be meaningfully synthesised and aggregated for users to make the best of it. The Skills Panorama was formed and continues to be developed around the axiom: its innovative element consists in offering skills intelligence, which regards blending quantitative data with qualitative information, meaningfully synthesised in order to enhance users' understanding of the impact of factors such as economic and sectoral trends, demographic change and technological advancements on jobs and skills.

Clear, reliable, open, and relevant quantitative data and qualitative information per EU Member State, economic sector and occupation, as well as skills-relevant thematic areas are selected and presented on the platform so that users can keep up with the latest developments, make useful comparisons or identify anticipated changes. In that way, Skills Panorama addresses issues of high-level importance in the EU, such as skills shortages and gaps, as well as high unemployment.

By disseminating research findings and skills-pertinent news through online marketing campaigns and social media, the Skills Panorama also aims to potentially reaching the wider public; hence, even support end-users in making informed choices on education and training as well as employment in EU countries.

The 2015 version of the platform was designed to primarily serve policy-makers and policy-experts. Acknowledging the importance of supporting career guidance choices, the Skills Panorama was reshaped to progressively satisfy the needs of researchers and guidance practitioners, too. This led to a revamped version of the platform in June 2018. By blending complex LMI and delivering it in formats that enable the users' backgrounds and aspirations, while bringing skills intelligence to users' fingertips with its online and open access, the Skills Panorama can be a valuable supporting tool, fortifying the counsellors' "arsenal" to help people making informed education and career choices.

Improving Services for LMI and ICT Integration: Cedefop Guidance Tools

The second stage of research on ICT and LMI generated three outputs aimed at supporting countries in developing capacities in LMI integration and ICT usage. The first output was the Handbook of ICT practices for guidance and career

development (Cedefop, 2018), which is available as an interactive online tool (http://www.cedefop.europa.eu/en/toolkits/resources-guidance/handbook-transferability/welcome) and a pdf format publication. The handbook provides a description of the most important LMI rich lifelong guidance practices with an online digital support. It allows readers to access in-depth descriptions, with thorough assessments of challenges, success factors, technical requirements, and transferability potential. The handbook also provides a self-assessment tool to help potential adopters to evaluate their needs, strengths, and challenges and to help reflect on priorities on their development strategies. The self-assessment tool will be available as a fully automated resource which will provide tailored reports in 2019. High level policy recommendations are also provided.

The second output is a toolkit (http://www.cedefop.europa.eu/en/toolkits/resources-guidance/toolkit) for guidance practitioners on the appropriate usage of LMI. The toolkit provides tips on LMI usage and operates as a hub of resources and information. It is linked to a set of practitioners' training modules (see below) and provides links to European and national resources. It is integrated with Cedefop's databases and has a certain level of interoperability with the Skills Panorama. The LMI available is partially powered by the Skills Panorama and aims at addressing specific needs of practitioners (the project is in ongoing development).

The third output consists on a set of training modules (http://www.cedefop.europa.eu/en/toolkits/resources-guidance/training-modules/objectives-target-groups) and skill development activities to help practitioners and service managers develop LMI and ICT related skills. The modules focus on the development of reflexive attitudes and provide suggestions for specific skills development activities. The aim of the modules is successful integration of information and technology with service provision, rather than digital or statistical skills development. A special role is attributed to the development of the attitudes of management. Topics include understanding the benefits and challenges of online LMI, the requirements of using ICT, network development, digital strategies, selection of online tools, client support, and copywriting.

Conclusions

This article explored critical aspects contributing to the successful integration of LMI and the correct use of ICT in career guidance and counselling services. Cedefop's online tools have been developed to support users in EU Member States, but they could inspire relevant initiatives in different settings, as well.

While the development of rich automated career development tools, single points of access to LMI, career information, online portfolios, matching services and others may be highly desirable, a number of key aspects must be taken into account.

High quality data, sourced from well-known and respected among users databases are one of the main pillars. To allow for comparability among countries, regions or sectors, the data have to be harmonised and follow coherent methodologies. As shown by Cedefop's Skills Panorama platform, it is the blend of quantitative data with qualitative information, what is called skills intelligence, that maximises the benefits for users. In turn, selecting the more suitable qualitative analysis and meaningfully synthesising it with quantitative data is what empowers an online tool on LMI. Collaboration with experts in the specific country/region/sector/occupation/skills-relevant topic can enhance the collection of high quality and relevance analysis and/or the validation of information collected. However, there is often abundance of both quantitative and qualitative input on several topics relevant to LMI. An online tool that is appealing to navigate and use should offer skills intelligence tailored to its visitors: user experience should be one of the drivers for decisions on and

approaches to developing such tools or platforms. Therefore, it is not always the volume of information that matters but the offering of selected and relevant information, presented in a visually attractive format and accompanied by explanatory text that is adjusted to the level of expertise and expected focus of the users.

Cedefop's research has reinforced and expanded on insights highlighted by several authors. Firstly, analysed cases clearly document that best practices in the use of LMI have integrated it in both face-to-face methods and online tools in a pedagogical fashion. End users tend to have difficulties in interpreting LMI and successfully acting upon it without assistance. Contents are adapted to users' needs and capacities, which are carefully assessed, while the logic of service is also adaptive, responding to clients' progress in levels of career related knowledge and skills i.e. they are client driven.

Secondly, successful online services are backed by professional careers services, frequently holistic in nature with the possibility of tailored, multi-channelled delivery. Staff is qualified, continuously trained in key aspects related to distance delivery and LMI exploration and tends to have a multidisciplinary nature (e.g., IT, economics, psychology). Availability of complex and rich LMI does not guarantee its successful interpretation – it needs to be used deliberately and carefully.

Thirdly, enacting effective change and promoting innovation requires attention to a number of key variables. Practitioners, managers and organisations need time and training to adapt to new service logics, ways of using digital tools and allow for durable impacts over everyday operation. As in many other activities, change needs in most cases to be progressive, respecting heritage (habits, procedures, expectations). Good innovations are frequently blended into existing services assuring practitioner and manager participation in service and tool development. Successful cases also display a high degree of local adaptation of innovation, acknowledging existence of local LMI sources, work contexts and occupational structures. New technologies cannot simply be plastered over pre-existing services or quite simply replace them altogether.

Overall policy analysis suggests that the existence of an integrated strategy for the development of digital services, aligned with digital citizenship development and national skills strategies is desirable. Cedefop's resources for guidance and the Skills Panorama platform attempt to support policy makers, managers of careers services and practitioners respond to the challenges of LMI and ICT integration. The online resources allow assessment of national development needs and transferability potential of successful practices and provide support in the development of service capacities. While many challenges still lay ahead, these tools lay a path for the support to the continuous improvement of careers services in a world of continuous change, mainly driven by technology and the globalisation of markets.

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